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Chapter I: Introduction

Where is the understanding we have lost in knowledge? Where is the knowledge we have lost in information?

George Elliot, 1934

1.1 Introduction

It is estimated that over half of all planned organisational change events either fail or do not achieve the expected benefits (Meaney & Pung, 2008; Michel, By, & Burnes, 2013). Failure rates in organisations delivering health care are no exception (Rothlin, 2013; Weiner, Amick, & Lee, 2008). For the publicly funded health system in New Zealand these failures represent a significant waste of resources at a time when its component healthcare organisations are facing financial constraints, an ageing population with associated rise in demands and workforce shortages (A. B. Martin, Probst, Shah, Chen, & Garr, 2012; Rothlin, 2013; Touré, Poissant, & Swaine, 2012). Organisations delivering health care are expected to do more with less and this will inevitably involve change processes (Colville & Millner, 2011). However, as failure rates attest, change is difficult and often poorly implemented (Rafferty, Jimmieson, & Armenakis, 2013; I. Smith, 2005).

District Health Boards (DHB) in New Zealand are complex, labour intensive organisations and it is the people within such organisations who are the drivers and implementers of planned change (Pare, Sicotte, Poba-Nzaou, & Balouzakis, 2011; Rafferty et al., 2013; I. Smith, 2005; Weiner et al., 2008). Service delivery teams or work groups in organisations such as DHBs are specialised and often consist of members from different professional backgrounds with varying functions, attitudes, beliefs and agendas (Rafferty et al., 2013; Weiner et al., 2008). The internal and external environment and contexts in which DHBs operate are also complex. DHBs are impacted by government policy, regulatory frameworks, professional boards and societies and consumer groups (Bridgeforth, 2005; Ellis & Herbert, 2011; W B Rouse, 2008) and these impacts are mediated through people, also with varying aims and perspectives. When the diversity of these external and internal groups and

individuals are considered, the complexities relating to successfully implementing change become apparent (Rafferty et al., 2013; I. Smith, 2005).

Since the early 2000s there has been an increasing focus on the development of readiness to implement planned change successfully (Rafferty et al., 2013; Stevens, 2013), with the creation and maintenance of change readiness identified as critical to the success of planned change events (Holt, Armenakis, Feild, & Harris, 2007; Rafferty et al., 2013; Stevens, 2013; Weiner et al., 2008). Thus, understanding the variables influencing change readiness and assessing readiness to implement a planned change event successfully are recognised as important to the successful management of change (Colville & Millner, 2011; Rafferty et al., 2013). This study focuses on enabling the emergence of change ready attitudes and behaviours within the complex adaptive system that is a DHB. In doing so, the research explores the application of Systems Theories, performance management frameworks, constructs of the change readiness concept and the assessment of change readiness to develop understanding of the enablers of change ready attitudes and behaviours. The study aims to identify contingency variables influencing change readiness and the corresponding responses that maximise change readiness in the DHB setting. It also aims to use these and other findings to develop a State of Readiness Tool (SoRT) that provides organisations such as DHBs with a means to assess, create, build, monitor and reassess change readiness to implement planned change events. In other words, the SoRT aims to enable a continuous cycle of readiness development that leads to a successful change event and realisation of the expected benefits.

The context for this research is the planned adoption and assimilation of the *interRAI* Home Care comprehensive geriatric assessment (*interRAI-HC*) tool by the six DHBs participating in this study. The *interRAI-HC* tool blends complex technology and process with a requirement for its users to think differently about the assessment of the disability support needs of the older person. In developing a State of Readiness Tool to aid the successful implementation of change events, this study seeks to address three research questions:

1. What does success look like in relation to implementation of new systems or technology (*interRAI*) from the perspective of: (i) national policy makers; (ii) local executive management; (iii) local policy managers; (iv) operational managers; and (v) users?
2. What are the characteristics that determine successful implementation of new processes or technology in complex health systems using *interRAI* as a case study?
3. How can a State of Readiness Tool support implementation of new processes or technologies in the context of introduction of *interRAI* across six District Health Boards?

This chapter addresses three areas of context relevant to this study. First, the chapter provides an overview of New Zealand's publicly funded health system and the major factors driving changes in the way services are delivered. Second, the role of Needs Assessment and Service Coordination (NASC) services and the nature of the *interRAI*-HC tool are described. Finally, the chapter concludes with an outline of the study undertaken.

1.2 The publicly funded health system in New Zealand

Following the election of a Labour Party led coalition government in 1999, the New Zealand health system was restructured for the fourth time in 12 years (Gauld, 2003). The Labour Party's view was that the competitive model of health care characterised by Hospital and Health Service providers bidding for contracts with a central purchaser (the Health Funding Authority) had failed to deliver effective, efficient and integrated health services (Gauld, 2003). The new government wanted to decentralise and allow local decision-making around service planning and resource allocation (Cumming & Mays, 2002; Gauld, 2003). Consequently, collaboration and service integration were given renewed focus (Devlin, Maynard, & Mays, 2001; Gauld, 2003). The Health Funding Authority was disestablished and the Ministry of Health (MoH) became chief health policy adviser, funder and director of the publicly funded health sector. A total of 21 DHBs were created in 2000, though this number was reduced to 20 in 2010 following the amalgamation of the Otago and Southland DHBs to form the Southern DHB. Each DHB is funded by the MoH, is based around existing hospital and health and disability services and assumes accountability

and responsibility for funding, delivering and monitoring community and hospital based health services for a geographically defined district (Gauld, 2003). DHBs are expected to encourage collaboration and service integration and develop strategies to improve the health of their respective populations (Cumming & Mays, 2002; Gauld, 2003). These organisations fund and deliver four major categories of publicly funded health and disability support services; public health services and programmes, mental health services, personal health services and disability support services (Cumming & Mays, 2002; Gauld, 2003). The MoH is responsible for developing national policy and strategies to support service provision and sets health goals and targets against which the performance of DHBs is measured (Devlin et al., 2001; Gauld, 2003), while DHBs develop and implement local strategies and plans to support national direction. Each DHB is led by a Chief Executive Officer who is the overall leader and principal manager of the DHB. The Chief Executive Officer is accountable to the organisation's board for the performance of the organisations and services owned by the DHB.

1.3 Funding the public health sector in New Zealand

Most publicly available health care in New Zealand is funded through the Population Based Funding Formula (PBBF), developed by the MoH to enable a population level approach to health service delivery (King, 2000). The formula was introduced in 2003 to allocate funding from Vote: Health (the predominant component of the New Zealand Government's annual budget) to DHBs, such that funding is aligned with the relative needs of the populations each serves. To do so, the formula is weighted by demographic factors demonstrably linked to health need, health costs and the distribution of these factors amongst the DHBs. These factors include the costs of service provision to rural areas, to older people and addressing the unmet health needs of Māori, Pacific Peoples and deprived communities (Ministry of Health, 2004b, 2011b). Funding allocations for 2011 reveal PBBF varied by as much as 25 percent between DHBs, reflecting that the populations served by some DHBs attract higher levels of funding than others (Ministry of Health, 2011a, 2011b). It is noteworthy that despite the application of cost weightings, Penno and Gauld (2013) identify funding as an issue of deep concern to the Chief Executive Officers of all DHB, as these organisations are required to operate within their funding allocation.



1.4 Pressures for change in the health system

The inclusion of a cost weighting for the number of older people in a DHB's population in constructing the PBFF shows the MoH recognises that the population of older people is a driver of expenditure on health care (Ministry of Health, 2004b). Moise and Jacobzone (2003) investigated the age profiles and health expenditure of OECD countries and found the per capita health expenditure on those aged 65 years or more averaged three to five times more than that on those aged 15 to 64 years. Simoens (2011) contends that population ageing will continue to be the major driver of health care costs in developed countries.

Population projections indicate New Zealand's population will grow from 4.18 million in 2006 to 5.57 million in 2061 (Bascand, 2012). However, the proportion of older people in New Zealand's population is forecast to grow to 25 percent by the late 2040s (Bascand, 2012), with the number of those over 65 years of age estimated to increase from 510,000 in 2006 to 1.44 million by 2061 (Bascand, 2012). In particular, the number of older people aged 85 years or more is expected to grow from an estimated 55,000 in 2000 to 320,000 by 2050 (Cornwall & Davey, 2004). It is this group that are particularly high users of health and disability support services (Ministry of Health, 2004a).

Ageing populations will impact the economies of many countries (Bloom, Canning, & Fink, 2010). In OECD countries such as New Zealand, population ageing is expected to increase the costs of health care, causing Gross Domestic Product to fall as more people retire (Bloom et al., 2010) and increase expenditure on social security while reducing government revenues (Carone et al., 2005; F. A. Kluge, 2013). This demographic change is also expected to cause increasingly severe health workforce shortages (World Health Organization, 2006), with reports indicating that workforce shortages and imbalances are already causing lengthening waiting lists, crowded emergency departments and understaffed wards in developed countries (Dubois & Singh, 2009; Organisation for Economic Co-Operation and Development, 2004). At the same time, there are concerns about the quality of health workforce training, preparation, competence and capability to adopt and assimilate technology,

particularly health information technologies (Dubois & Singh, 2009; Hersh, 2010; Hersh & Wright, 2008; Pruitt & Epping-Jordan, 2005).

The relationships between ageing, health status, health expenditure and technological innovation were investigated by Dormont, Martins, Pelgrin, and Suhrcke (2007). These authors argue that individual preferences for longer life and the increasing rate of technological progress and not demographic shifts are the major drivers of rising health care expenditure in developed countries. Thus, well informed populations, increasingly aware of available treatments and technology are demanding high quality health services, adding cost pressure to health systems (Al-Balushi et al., 2014; D. Carpenter, 2011). Vos, Goss, Beg, and Mann (2007) have identified advances in technology as a significant non-demographic factor influencing health care expenditure in countries within the European Union. G. F. Anderson, Frogner, Johns, and Reinhardt (2006) and Barbash and Glied (2010) cite technological innovation as an important driver of health care cost growth. Expenditure on health information technology in particular is seen as a driver of health expenditure in the United States of America (G. F. Anderson et al., 2006; Hersh, 2010).

1.5 The *interRAI* assessment toolkit

Ageing populations are driving both the prevalence of disability in developing and developed nations and the impact of disability on health services (Hirdes et al., 2008; Simoens, 2011). In these countries, services to frail elderly people are usually provided by a number of health and social service agencies such as home support, rehabilitation and residential care services, each with different information systems (Hirdes et al., 2008). The provision of a variety of services to a client by multiple agencies is considered a risk to service continuity because different information systems may lack compatibility and failure to share information between agencies may lead to undetected functional decline and duplication of assessment, impacting clients and their families (G. I. Carpenter, 2006). An integrated, multi-agency approach to the assessment of older persons with complex care needs addresses this issue (G. I. Carpenter, 2006; Hirdes et al., 2008).

In the 1990s an international collaboration of gerontology researchers known as *interRAI* (international Resident Assessment Instruments) undertook the development of a multi-agency approach to the assessment of older people. These researchers used aggregated individual level assessment data to improve service efficacy and care planning, develop quality indicators and plan and budget for services at a population level. The collaboration resulted in a new suite of assessment tools that both support individual clients and capture the population level benefits obtained from recording data from a consistently administered comprehensive assessment (Hawes et al., 1997). The first *interRAI* assessment tool was developed in the early 1990s to assess the needs internationally of residents in aged care (Fries et al., 1997). Subsequently a number of other tools to assess older people in various settings of care were developed and evaluated. These include the *interRAI* Acute Care (G. I. Carpenter et al., 2001), the *interRAI* Post-Acute Care (Gindin et al., 2007), the *interRAI* Mental Health (Hirdes et al., 2000) and the *interRAI* Palliative Care assessment tools (Steel et al., 2003). The *interRAI* Home Care comprehensive geriatric assessment (*interRAI*-HC) tool was developed in 1996. It is used to assess the disability support needs of older persons requiring care services post discharge from hospital or long term care while living at home (Landi et al., 2000; Morris et al., 1997).

Each *interRAI* assessment tool is designed to support activities such as assessment, care planning, client outcome measurement, service development, quality improvement and resource allocation (Hirdes et al., 2008). The *interRAI* suite of tools has an extensive evidence base and in evaluation across 12 countries the tools were shown to possess high reliability within and across care settings, allowing their deployment as part of an integrated health information system (Hirdes et al., 2008). The electronic nature of the *interRAI* tools enables assessment data to be accessed, stored and updated at any point of care by any authorised health professional. This reduces the need for multiple assessments of the client and enables data collection for service improvement, forecasting and budgeting at both the client and the population level (Hirdes et al., 2008).

In 2003, the MoH in New Zealand commissioned the New Zealand Guidelines Group (NZGG) to evaluate a number of tools used internationally for the assessment of the disability support needs of older people. This evaluation resulted in the NZGG recommending the use of *interRAI* suite of assessment tools for the assessment of older people in New Zealand, mainly because of the strong evidence base associated with these tools (New Zealand Guidelines Group, 2003).

1.6 NASC services and disability support services for older people

Older people access both disability support services and personal health services at high rates (Simoens, 2011). In New Zealand, an older person is considered disabled when they have one or more of a physical, intellectual, sensory, psychiatric or age-related disability (Ministry of Health, 2004a). To access disability support services in New Zealand, an older person must be assessed as possessing one or more of these disabilities. Their disability must be assessed as likely to endure for at least six months and to result in functional loss requiring on-going support (Ministry of Health, 2004a). The identification and assessment of an older person's disability support needs is performed by a Needs Assessor, usually located within in a Needs Assessment and Service Coordination (NASC) service or agency. Assessment is performed using a specified assessment tool, for example the *interRAI-HC* assessment tool. Thus Needs Assessors determine access to disability support services. In addition to undertaking assessment, the Needs Assessor usually allocates and coordinates services to meet the client's assessed needs. However, in some NASC services, the assessment and coordination functions are not performed by the same person. NASC services for older people are usually owned and operated by DHBs, though in a few cases these services are provided by external organisations contracted to DHBs. Disability support services for older people are mainly delivered in the community by private or not-for-profit providers. The main types of publicly funded disability support services are shown in Table 1 (Ministry of Health, 2002).

Table 1: Categories of Publicly Funded Disability Support Services

Service	Description
Age Related Residential Care	These are residential services for older people with intellectual, physical or sensory disabilities. They include rest home, community hospital care and secure facilities for those with dementia or requiring psycho-geriatric care.
Assessment, Treatment and Rehabilitation (AT&R) Services	These are specialist hospital based community outreach services that aim to support improvements in older people's physical and mental function and keep them in their communities.
Carer support	These services support an older person's unpaid informal carer, often a family member. Services include residential respite care enabling the carer to have a break from care duties.
Environmental support	These services provide equipment and facilitate modifications to homes and vehicles that support older people to live at home and in their community.
Home care (Home & Community Support Services, HCSS)	These include personal care (e.g. bathing) and household management services to older people living with disabilities in the community.

1.7 The phases of research

This research was conducted in three phases, the first involving semi-structured interviews with national policymakers and participants at various organisational levels across the six participating DHBs. These DHBs are the only ones to have attempted the implementation of the *interRAI-HC* tool in New Zealand. Interviews were designed to capture an understanding of the *interRAI-HC* tool, how it was implemented, implementation experiences, perspectives relating to the meaning of successful implementation and the general views on the implementation of complex technology and process into DHBs. The data was used to identify contingency variables influencing change readiness to implement the *interRAI-HC* tool and develop a practical, easy to use State of Readiness Tool (SoRT) to enable the continuous creation, assessment and development of change readiness throughout the phases of a change event. Existing tools to assess change readiness do so at a point in time only and are cumbersome to administer in complex settings such as

DHBs (Stevens, 2013; Weiner et al., 2008). In the second phase, the draft SoRT underwent a review by an expert focus group to evaluate its construct validity, content and utility. The third phase involved a test of the diagnostic ability of the finalised SoRT through its retrospective application to the implementation of the *interRAI-HC* tool at the six DHBs participating in the study. The research methods employed were case study and general inductive analysis of transcripts of the semi-structured interviews and focus groups, with the emerging themes used to identify contingencies influencing change readiness and to develop the SoRT.

1.8 Study participants

This research involved participants at various organisational levels from six DHBs implementing the *interRAI-HC* tool, the Minister of Health at the time of these implementations and the manager of the MOH's Health of Older Peoples' Policy Team. A brief description of the role of each organisational level represented by participants is provided in Table 2.

Table 2: Study participants by organisational level

Participants	Role description
Minister of Health	Set national (government) policy direction for the publicly funded health system, negotiate health system budget with cabinet colleagues.
Ministry of Health	Develop national policy, vision and strategy to guide the health system, provide funding to DHBs and other organisations delivering health care, monitor performance against accountabilities and performance indicators and provide leadership to the system.
DHB executive managers	Provide regional and local vision and strategy in support of national policy intent, provide leadership, act as stewards of the system, oversight of all DHB activity.
Local DHB policy managers	Develop regional and local policy in the light of national, regional and local strategy and goals, responsible for planning, contracting and funding health and disability support services. Service providers may be internal or external to the DHB.
DHB operational managers	Oversight and management of the day-to-day activities of various health services. This group includes Managers of Needs Assessment and Service Coordination (NASC) Services.
Needs Assessors and service co-ordinators (NASC)	Assessors perform assessments of clients' disability support needs. Service coordinators develop appropriate packages of carer (services) to address assessed needs, monitor service delivery to clients, and coordinate service delivery between different health service providers.
Geriatricians, allied health professionals, home based support service providers	Receive assessment reports and provide health and disability support services to clients

1.9 Thesis organisation and contribution to knowledge

This thesis contains eight chapters. The first introduces the study and the second contains a review of the literature considered most relevant to the study and available to the researcher. Chapter three reviews and defends the methodology employed in the study and chapter four describes the methods used. Chapters five, six and seven present the findings related to the research questions. Chapter five deals with the question of the meaning of successful implementation of the *interRAI-HC* tool to participants at various levels in the health system from the Minister of Health down

to needs assessors providing services to clients. The findings presented in chapter six are used to identify the contingency factors impacting change readiness to implement the *inter*RAI-HC tool and construct the SoRT, which is the main product of this study. Chapter seven deals with the study findings related to SoRT content validity and utility and to how the SoRT can support the creation of change readiness. The final chapter provides an elaboration and discussion of the research findings and their implications.

The study conclusions are first that change readiness is a process which is not static over time. Second, a number of contingencies influence organisational, work group and individual change readiness in different and changing ways throughout the process of implementing a change event. Third, this study resulted in the development of a State of Readiness Tool. This tool was judged by a stakeholder focus group with considerable experience in implementing change within DHBs as possessing content validity and as useful in creating and assessing change readiness within the DHB setting. The study also presents a number of implications for the health system, for healthcare organisations and for policy development with respect to the implementation of complex change events, particularly those with a national flavour.

The study findings resulted in four incremental contributions to knowledge with respect to the construct and assessment of change readiness. First, the multi-level construct of change readiness (Rafferty et al., 2012) can be extended to include an extra- or supra-organisational level of change readiness to accommodate key stakeholders external to an organisation (DHB) that are impacted by a change event. Second, the process construct of change readiness (Stevens 2013) can be applied to the creation of work group and organisational as well as to individual change readiness. Third, these two constructs can be combined to create a multi-stakeholder, multi-perspective process construct of change readiness. The fourth and most significant contribution is the development of a State of Readiness Tool, based on this third construct, that can be used to assess, create, build and re-assess change readiness at all organisational levels continuously throughout the planning and implementation of a change event.

Chapter 2: Literature review

There is nothing more difficult to plan, more doubtful of success, nor more dangerous to manage than the creation of a new order of things.

Niccolo Machiavelli, 1513

2.1 Introduction

There are three parts to this chapter. The first explores the nature of systems and examines health care and the District Health Boards (DHB) within the health system as complex adaptive systems. DHBs are organisations that contain multiple components or agents that interact and influence one another. This indicates that Systems Theory and particularly Complex Adaptive Systems Theory provides a tool for interpreting and understanding behaviour within DHBs and encouraging the emergence of change readiness, demonstrated by change ready behaviours on the part of organisational members.

The second part of this chapter explores the application of Contingency Theory (an offshoot of Systems Theory) and performance management in the context of change. Contingency Theory provides insights into the best ways to manage events to achieve desired outcomes, such as change readiness, through the study of recurring situations. The recurring situations relevant to this study are the six separate implementations of the *interRAI* Home Care comprehensive geriatric assessment (*interRAI-HC*) tool at each of the six DHBs participating in this study. Performance measurement and management act as enablers of change readiness by providing feedback to stakeholders on the achievement of desired goals. Accordingly, this chapter will review literature regarding performance management including the multi-stakeholder, multi-dimensional view of performance relevant to the complexity of DHBs.

In the final section, this chapter reviews literature regarding the importance of change readiness to the success of change events, the factors influencing change readiness at the various organisational levels, the constructs of change readiness and

instruments used to assess all or part of an organisation's state of readiness to implement change, including examples developed for the healthcare industry. This section also outlines the development of a State of Readiness Tool for use in complex health care settings (the main product of this research). First, however, definitions of the more commonly used terms in the thesis are outlined.

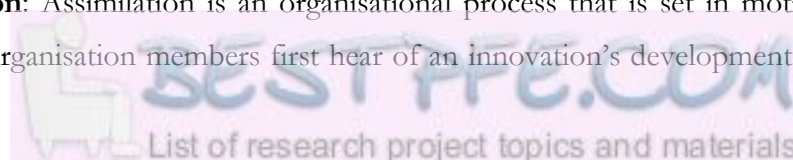
2.2 Definitions and terms

Adoption: This study will consider adoption (or introduction) of an innovation, new technology, process or practice by an organisation as a discrete organisational decision to accept an innovation or change event (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004). Such adoption by an individual shall be considered as the decision of an individual to make full use of innovation or change as the best course of action available (Rogers, 2003). Adoption or introduction of a change event into an organisation or service may not lead to its assimilation into normal daily working routine.

Ageing in place: The concept of 'ageing in place' is linked to policy responses to an ageing population such as those contained in the following statement by health and social policy ministers of the OECD in 1994, "elderly people, including those in need of care and support should, wherever possible, be enabled to continue living in their own homes, and where this is not possible, they should be enabled to live in a sheltered and supportive environment which is as close to their community as possible, in both the social and geographical sense." (Organisation for Economic Co-operation and Development, 1994, p. 3).

New Zealand's policymakers have described ageing in place as "the ability to make choices in later life about where to live, and receive the support to do so" (Dalziel, 2001, p. 10). Contextually, this description refers to an older person's ability to remain living in the community, including within retirement villages but it explicitly excludes living in residential care.

Assimilation: Assimilation is an organisational process that is set in motion when individual organisation members first hear of an innovation's development, can lead



to the acquisition (adoption) of the innovation and sometimes comes to fruition in the innovation's full acceptance, utilisation and institutionalisation (A. D. Meyer & Goes, 1988).

Carer or Care Giver: This study uses the definition of “carer” provided by the Ministry of Health in New Zealand: “a person, usually a family member, who looks after a person with a disability or health problem and who is unpaid for providing this service” (Ministry of Health, 2002, p. 78).

Change recipient: In this study, this term refers any person impacted or affected by a planned change event.

Complex Adaptive System: A complex adaptive system is a collection of individual agents with freedom to act in ways that are not always predictable and whose actions are interconnected so that one agent's actions changes the context for the other agents (Plsek & Greenhalgh, 2001, p. 25).

Disability support services: In New Zealand, disability support services constitute a range of services for people with disabilities and their families to increase independence and participation in the community (Ministry of Health, 2004a). Services include residential care, assessment, treatment and rehabilitation services (AT&R), carer support, environmental support and home care services.

Health care: The World Health Organization (WHO) broadly defines health care as: “The purpose of health services is to promote health; to prevent, diagnose and treat diseases - whether acute or chronic, whether physical or mental in origin - and to rehabilitate people incapacitated by disease or injury” (Abel-Smith, 1963, p. 24). Health care is described by the Organisation for Economic Co-operation and Development (OECD) as “The sum of activities performed either by institutions or individuals pursuing, through the application of medical, paramedical and nursing knowledge and technology, the goals of: promoting health and preventing disease; curing illness and reducing premature mortality; caring for persons affected by chronic illness who require nursing care; caring for persons with health related

impairment, disability, and handicaps who require nursing care; assisting patients to die with dignity; providing and administering public health; and providing and administering health programmes, health insurance and other funding arrangements” (Organisation for Economic Co-operation and Development, 2000, p. 42).

Health System: A health system is the combination of resources, organisation, financing and management that culminate in the delivery of health services to the population (Roemer, 1990). In New Zealand, publicly funded healthcare is mainly funded or delivered by District Health Boards. By 2015 there were 20 DHBs in New Zealand’s publicly funded health system. These organisations are Crown entities, accountable for planning and funding health and disability support services to meet the needs of the population within a specific geographic area.

***inter*RAI-HC tool super-user:** This is a person who has undergone extensive training in the use and interpretation of the *inter*RAI-HC assessment tool and who has considerable experience in its use and application to service coordination and allocation.

Older People or Older Person(s): The Oxford English Dictionary ("Old," 2007), defines old as “Having lived or existed for a relatively long time” (p. 1993). Tinker (1993) contends there is little agreement with respect to a specific age at which people should be considered ‘old’. In New Zealand, the retirement age is 65 years and those reaching this age are often considered ‘old’. At this age a person can access disability support services funded by District Health Boards. Therefore, in this study the terms ‘older people’ or ‘older person(s)’ shall refer to those aged 65 years or more.

Personal Health Services: These are services provided by health professionals to treat or advise on health conditions and include district nursing services provided in the community, general practitioner services and hospital inpatient and outpatient services (Ministry of Health, 2004b).

Support Allocation (SPA) Tool and Support Needs Level Assessment (SNL)

Tool: These are tools used nationally in New Zealand to assess the disability support needs of older people. These tools were replaced by the *interRAI* Home Care comprehensive geriatric assessment (*interRAI-HC*) tool in District Health Boards participating in this study.

Technology and Process: This study is about the creation of readiness to implement complex process into organisations, principally DHBs, delivering healthcare in New Zealand. While new processes often involve the introduction of new technology, the word ‘technology’ is hard to define because it is used to describe a variety of things, actions, processes, methods and systems (S. J. Kline, 1985; Liagouras, 2010). Most narrowly, the term refers to the interaction between the research and development department and other departments in a firm (S. Kline & Rosenberg, 1986). More broadly, ‘technology’ is the sum of technical knowledge in an economic unit such as an organisation, region or country and more broadly still ‘technology’ encompasses the totality of technical *and* organisational knowledge in an economic unit (Liagouras, 2010). It is in the widest sense that the term ‘technology’ is used in this study.

Similarly, numerous definitions of the word “process” have been proposed (Palmborg, 2009). Hammer (1990) and Davenport (1993) describe a process as beginning with an input or inputs and resulting in an output, defining a process as a structured set of activities designed to produce an output. However, Sandhu and Gunasekaran (2004) view processes in horizontal and cross functional terms and Isaksson (2006) describes the components of a process as a set of repeatable interrelated activities, involving the use of resources and offering purpose or value to customers. Cascini, Rissone, and Rotini (2008) view business processes as technical systems that generate value by converting available resources into products or services. Palmborg (2009) provides a definition of the term ‘process’ as a horizontal sequence of activities that transforms an input (need) to an output (result) to meet the needs of customers or stakeholders. It is with reference to (Palmborg, 2009) definition that the term process is used in this study, noting that technology or technical know-how is usually an input into a process.

It is noteworthy that when first introduced to DHBs, the *interRAI*-HC tool was regarded as new technology. This was because of the electronic nature of the tool. However, once assimilated into normal business activity, 'new' technology is generally considered a component of a process. Likewise, the *interRAI*-HC tool is now seen as process rather than technology by study participants and the wider health system. That is, it is seen as the new process for assessing the disability support needs of older people. This illustrates the potential inter-changeability of the terms technology and process, particularly over time. When referring to 'new' processes or 'new' technology, the term 'new' with respect to this study means that it is new to the organisation(s) in question, in this case the six participating DHBs. It may not be new to the health or any other system or organisation.

2.3 Literature search

An electronic literature search was performed to obtain journal articles and other manuscripts for this study. The search covered a variety of databases relevant to the disciplines of management, medicine, nursing, allied health, psychology, education, defence, strategic and military science and the science of systems. Most articles were obtained from the following databases: Ovid Medline(R), Embase, Economic Literature database, Emerald Management Xtra, Health Improvement and Innovation Resource Centre, Cochrane Library, MEDLINE Ovid SP, Psyc/INFO and Sage Full Text Journal Collections. Manual literature searches were undertaken in the Philson library at the University of Auckland and the library of the Ministry of Health in Wellington, New Zealand. Additional online searches were undertaken using the Google (<http://www.google.com>) and Google Scholar (<http://scholar.google.co.nz>) search engines. Searches used key words and phrases such as 'blue ocean', 'contingency' 'adopting and assimilating', 'new technology', '*interRAI*', 'adopting/assimilating', 'change readiness' 'process', 'implementation', 'technology', 'diffusion', 'innovation', 'state of readiness', 'human factors', 'Systems Theory'. 'Complex Adaptive Systems', 'healthcare', 'health systems' 'funding', 'ageing population', 'change management', 'social change', 'health care reform', 'health policy', 'learning organisation' , 'service improvement', 'implementation success factors' 'organisational culture', 'organisational performance' and 'balanced scorecard'.

2.4 The scope of the literature review

This study is principally concerned with the creation and emergence of (change) readiness to implement planned change events in DHBs and similar complex organisations or (social) systems delivering healthcare. Organisations delivering health care can be considered complex systems to which systems thinking can be applied to understand behaviour (R. Atun, 2012). The idea of the emergence of adaptive behaviour within organisations in response to a particular set of conditions such as those associated with a planned change is a central concept of Systems and Complexity Theories (R. Atun, 2012; Ellis, 2011) and more particularly that branch of Systems Theory concerned with Complex Adaptive Systems (Ellis, 2011). Consequently, a review of Systems Theory, Complexity and Complex Adaptive Systems Theory will be a focus of this Chapter. Another branch of general Systems Theory of interest to this study is Contingency Theory. Contingency approaches to the management of organisations involve the study of recurring situations and observing how different strategies, processes and structures affect the desired outcome. These approaches aim to identify the responses that best deliver the desired outcome (for example maximising readiness to implement a planned change) in a given situation. Contingency Theory provides a useful bridge between Systems Theory and performance management. Organisational, group and individual responses to contingencies affect both the emergence and regression of change readiness and improvement and deterioration in organisational performance. Performance management is regarded as a key enabler of change (Colville & Millner, 2011; A. de Waal, A., 2003).

Many other areas of literature can inform the creation of change readiness and the successful implementation of planned change events. These include organisational environment and structure (McNulty & Ferlie, 2004; van der Voet, Groeneveld, & Kuipers, 2014), organisational psychology (Hanbury, Wallace, & Clark, 2011), organisational culture (Youngwerth & Twaddle, 2011), organisational development (Dückers, Wagner, Vos, & Groenewegen, 2011), learning organisations and organisational learning (Bess, Perkins, & McCown, 2011; N. O'Connor & Kotze, 2008), education and training (Balisi, 2014; Reed & Vakola, 2006; Sharma & Sahoo, 2014; Steele-Johnson, Narayan, Delgado, & Cole, 2010) organisational culture and

behaviour (Jimmieson, Peach, & White, 2008; Mannion, Davies, & Marshall, 2005), the social sciences (Maurer, Bartsch, & Ebers, 2011), the study of teams (Bajnok, Puddester, Macdonald, Archibald, & Kuhl, 2012; Holleman, Poot, Mintjes-de Groot, & van Achterberg, 2009), leadership theory (Fulop & Mark, 2013; Lahera, Holzman, & Robinson, 2014; van der Voet, 2014, 2015), the adoption and diffusion of innovation (Blumenthal, 2009; Enz, 2012; Fleuren, Wiefferink, & Paulussen, 2004; Melas, Zampetakis, Dimopoulou, & Moustakis; Peres, Muller, & Mahajan, 2010), knowledge management (Dabestani, Taghavi, & Saljoughian, 2014; F. Rusly, H., Corner, & Sun, 2012), the implementation of evidence based practice (Davey, Davey, Tubbs, Savla, & Anderson, 2012; Fulford, 2011), communication (Sharma & Sahoo, 2014; Suchan, 2014) human resource management (Choi & Ruona, 2011) and scenario planning (Grier, 2012). While these literatures shed some light on the creation of change readiness, they do not have the creation or emergence of change readiness (the specific areas of interest in this study) at the centre of discussion, so they are not elaborated on in this chapter. However, the contribution of these literatures is recognised and referred to when appropriate within this thesis.

Part 1: Health care as a complex system

2.5 Defining a system

The term 'system' has many definitions: "a set of interacting units or elements that form an integrated whole intended to perform some function" inferring that a system is any structure that demonstrates order, pattern and purpose (Skyttner, 1996, p. 12); "the organised collection of men, machines and material required to accomplish a specific purpose and tied together by communication links" (Skyttner, 1996, p. 14); "a set of entities with relations between them", implying the transfer of information (Langefors, 1996, as cited in Backlund, 2000, p. 444) "an assembly or set of related elements" (Van Gigch, 1991, p. 30); and "a set of interacting units with relationships among them." (J. G. Miller, 1995, p. 17).

Klir (1991) defines a system in mathematical terms, " $S = (T,R)$ " where 'S' represents a system or set of things or elements, separate within 'S', 'R' denotes the relations between the elements and 'T' the number of elements (p. 5). Ackoff (1971) too takes a more scientific approach, describing 'system' as a set of two or more elements meeting the following conditions: (i) the behaviour of each element has an effect on the behaviour of the whole; (ii) the behaviour of the elements and their effects on the whole are interdependent; and (iii) however sub-groups of the elements are formed, all have an effect on the behaviour of the whole but none has an independent effect on it. Backlund (2000) describes a system as incorporating at least two elements with relationships existing between them. While placing no limit on the nature of the relationships, Backlund considers their direction and contends relationships determine what is part of a system. For example, in his view, a system exists if it contains the elements x, y and z , where x borrows from y and z borrows from y . Backlund contends that the nature of relations in a system, the properties of its elements and the properties of the relations in the system should be specified. He argues that the relative strengths of the relations between elements in a system may influence the behaviours observed within the system and between the system and its environment. Backlund (2000) also suggests that it is possible to represent a well-defined system both mathematically and by constructing a network diagram, where nodes represent the elements and lines the relationships between elements. Such

diagrams may contain symbols or annotations that show properties of both the elements (such as size) and the relationships between elements (such as strength). Such a view is useful in considering the health system or its component DHBs where multiple elements with various properties and multiple relationships with various strengths and tensions exist.

2.6 General Systems Theory and organisations

The idea of a systems approach to improving understanding and sense making of our world dates back to Aristotle's declaration that "the whole is more than the sum of its parts" (Von Bertalanffy, 1972, p. 43). However, classical science as developed by Newton and others ignores this approach. Instead it attempts to understand complex problems and events by breaking them down into component parts and considering the relationship between two or only a few contributing components or variables (Frants, Shapiro, & Voiskunskii, 1997; Von Bertalanffy, 1972). Von Bertalanffy (1972) argues classical science ignores questions relating to the presence of relationships between many variables, citing the complex science of living things. However, in the early 20th century, ideas concerned with the teleological or purposeful behaviour of living things, the gestalt theory of psychology and concepts related to sociology challenged the reductionist paradigms of classical science and led to a rediscovery of Aristotle's concept of 'wholeness' (Von Bertalanffy, 1972; Weaver, 1948). In the 1930s, using the concept of wholeness, Von Bertalanffy began to develop the general principles, characteristics and mathematical descriptions of General Systems Theory, applicable to systems in general and related to the concept of the 'whole' (Von Bertalanffy, 1972). Von Bertalanffy was mainly concerned with developing the theory of 'open systems', characterised by the exchange of matter between the system (such as an organism) and its environment. Consideration of not only isolated systems but also systems in a collective sense led to the notion that a collection of elements with relationships between them can be considered as a system in one case and as part (a sub-system) of a larger (supra-system) system in another (Frants et al., 1997). For example a NASC service can be considered both a system and a sub-system of the DHB within which it operates, which in turn can be considered both a system and a sub system of the publicly funded health system, which is itself a sub-system of society. Though General Systems Theory makes use

of mathematics (Mesarovic, 1972; Mulej et al., 2004), it is basically a mental tool for solving problems. Its application requires clear definition of the boundaries of the system and its elements or members, including all important factors impacting the case under study (Mulej et al., 2004). Skyttner (1996) makes the point that General Systems Theory aims to create understanding, with its qualitative and descriptive nature enabling its application to problems beyond the scope of traditional reductionist thought.

The generally accepted key concepts of General Systems Theory were summarised by Kast and Rosenzweig (1972) and these are set out in Table 3. Table 3 shows that publicly funded health care in New Zealand reflects these general concepts and related characteristics and therefore can be considered a system. DHBs, hospital departments and other organisational units or staff providing clinical or administrative services also show these characteristics of a system. These elements of the health system are themselves both systems and sub-systems within the overall health system. Along with the first order characteristics of systems shown in Table 3, many second and third order characteristics have been identified that describe continuous interactions between layers of systems. These include feedback loops and levels of control (Ellis & Herbert, 2011; Kast & Rosenzweig, 1972; J. G. Miller, 1965). However, many of these characteristics are more relevant to systems other than social organisations. Because this study views the health system and the organisations and services within it as social systems, which are often regarded as complex adaptive systems, only those characteristics applicable to complex adaptive systems will be elaborated. Complex adaptive systems are defined by Plsek and Greenhalgh (2001) as “a collection of individual agents with freedom to act in ways that are not totally predictable, and whose actions are interconnected so that one agent’s actions changes the context for other agents” (p. 625).

Table 3: Key Concepts of General Systems Theory: Application to Health Care

Concept	Description	Health care as a system
Sub-systems or components	Every system (mechanical, biological or societal) is composed of inter-related parts or elements. Every system has at least two parts.	The health care In New Zealand is composed of many parts: the Minister of Health, Ministry of Health, District Health Boards, Hospitals, private and not for profit health care providers, a plethora of health professionals and support staff and administrators. Each of these can be considered a sub-system of the “whole”
Holism, Synergism, Organicism and Gestalt	The whole is not just the sum of its parts: the system itself can only be explained in its totality. Holism is the opposite of elementarism, which views the total as the sum of its individual parts.	The large number of elements of essentially human composition, each with the capacity of free will mean the number and variability of inter-relationships render a conventional scientific approach to understanding inadequate.
Open Systems View	Systems can be considered in two ways: (1) closed or (2) open. Open systems exchange information, energy or material with their environments. Biological and social systems are inherently open systems; mechanical systems may be open or closed. The concepts of open and closed systems are difficult to defend in the absolute. Open-closed can be considered as a dimension i.e. systems are relatively open or relatively closed.	Health care is “open”, interacting with the supra-system of wider society in New Zealand and with other health care systems internationally.
Input / Transformation / Output Model	The open system can be viewed as a transformation model. In a dynamic relationship with its environment, it receives various inputs, transforms these inputs in some way and exports outputs.	At its most basic level, health care seeks to transform people who are sick into people who are healthy

Table 3: Key Concepts of General Systems Theory: Application to Health Care (continued)

Concept	Description	Health care as a system
System Boundaries	It follows that systems have boundaries which separate them from their environments. The concept of boundaries helps us understand the distinction between closed and open systems. The relatively closed system has rigid, impenetrable boundaries; whereas the open system has permeable boundaries between itself and a broader supra-system. Boundaries are relatively easily defined in physical and biological systems but are very difficult to delineate in social systems such as organisations.	The health care system has a number of boundaries: political boundaries through Ministerial responsibilities, physical boundaries through buildings and financial boundaries through funding mechanisms. However, these boundaries are permeable, allowing interaction with other social systems (e.g. government departments) and society at large.
Negative Entropy	Closed, physical systems are subject to the force of entropy which increases until eventually the whole system fails. The tendency towards maximum entropy is a movement to disorder, complete lack of resource transformation and death. In a closed system the change in entropy must always be positive; however, in an open biological or social systems, entropy can be arrested or even transformed into negative entropy - a process of more complete organisation and ability to transform resources - because the system imports resources from its environment.	The health care system imports financial, technological and human resources from wider society in order to maintain and improve its transformation processes.
Steady state, Dynamic Equilibrium and Homeostasis	The concept of steady state is closely related to that of negative entropy. A closed system eventually must attain an equilibrium state with maximum entropy – death or disorganisation. However, an open system may attain a state where the system remains in dynamic equilibrium through the continuous inflow of materials, energy and information.	The continuous inflow of resources from New Zealand society facilitates the maintenance of a dynamic equilibrium.

Table 3: Key Concepts of General Systems Theory: Application to Health Care (continued)

Concept	Description	Health care as a system
Feedback	The concept of feedback is important in understanding how a system maintains a steady state. Information concerning the outputs or the process of the system is fed back as an input into the system, perhaps leading to changes in the transformation process and/or future outputs. Feedback can be both positive and negative, though the field of cybernetics is based on negative feedback. Negative feedback is an informational input which indicates that the system is deviating from a prescribed course and should re-adjust to a new steady state.	The health care system is managed through feedback processes as it operates within an accountability and reporting framework, providing information to wider society. This information is used to make adjustments to the health system itself.
Hierarchy	A basic concept in systems thinking is that of hierarchical relationships between systems. A system is composed of sub-systems of a lower order and is also part of a supra-system. Thus there is a hierarchy of the components of the system.	The Health system operates through a number of hierarchical relationships. It is accountable to society through government and operates through both managerial and clinical hierarchies.
Internal elaboration	Closed systems move towards entropy and disorganisation. In contrast, open systems appear to move in the direction of greater differentiation, elaboration and a higher level of organisation.	As an open system, the health system moves towards service differentiation and greater clinical specialisation.
Multiple Goal-Seeking	Biological and social systems appear to have multiple goals or purposes. Social organisations seek multiple goals, if for no other reason than they are composed of individuals and sub-units with different values and objectives.	The health system seeks to accomplish multiple goals: amongst these are financial viability, efficiency, effective service delivery, healing the sick, service improvement and performing research

Table 3: Key Concepts of General Systems Theory: Application to Health Care (continued)

Concept	Description	Health care as a system
Equifinality of Open Systems	In mechanistic systems there is a direct cause and effect relationship between the initial conditions and the final state. Biological and social systems operate differently. Equifinality suggests that certain results may be achieved with different initial conditions and in different ways. This view suggests that social organisations can accomplish their objectives with diverse inputs and with varying internal activities (conversion processes).	The health system demonstrates equifinality. For example the 20 DHBs in the health system have similar goals but structures, inputs and transformation processes are not prescribed – varying inputs and transformation processes are used to achieve their goals.

Note. Adapted from (1972). "General systems theory: Applications for organization and management," by F. E Kast, and J. E Rosenzweig, 1972, *Academy of Management Journal*, 15, p. 450. Copyright 1972 by the Academy of Management.

Some characteristics of DHBs as systems are of particular interest to this study. DHBs are open systems, importing financial resources from society through Government and interacting with Ministers, the MoH, other Government departments, Professional Boards and Societies, their local populations and other providers of health care. While DHBs may not have a strong relationship with the MoH or Professional Boards and Societies, these external elements can be powerful modifiers of DHB behaviour. Despite local autonomy, the MoH establishes accountabilities for the health system and as funder can provide strong incentives to influence the adoption of national policy. However, health professionals within DHBs are more likely to act in ways aligned to their Professional Boards (on which they depend for registration), their Professional Societies (which provide practice guidelines) and their peers than in accordance with the instructions of DHB management where discrepancy exists. These factors are both threats and opportunities for national policymakers and executive managers and for those deciding local policy within DHBs. The lack of prescribed, standardised processes renders the enforcement of evidence-based practice difficult and facilitates, and may encourage, deviant behaviour. On the other hand DHBs display the property of equifinality, which is facilitated by the lack of prescription. That is, they can produce similar outputs and accomplish similar outcomes using different structures, inputs and processes. Highlighting and employing these differences enhance opportunities to experiment, observe and learn from others and share experience in the best ways to achieve desired outcomes.

Modern systems theories have developed from the concepts of General Systems Theory (Francois, 1999; Gregory, 2000; Hargreaves & Podems, 2012; Skyttner, 1996) leading to the establishment of multiple schools of Systems Theory (Gregory, 2000; Hargreaves & Podems, 2012). These include Cybernetics, Systems Dynamics, Control Systems, Soft and Critical Systems, Complexity Theory, Complex Systems Theory, Network Theory and Learning (Gregory, 2000; Hargreaves & Podems, 2012; Mulej, Kajzer, Potocan, Rosi, & Knez-Riedl, 2006). Mulej et al. (2006) consider many, if not all, systems theories interdependent as they each cover various aspects of the concept of holism. Scientific holism argues, like Aristotle, that a system is greater than the sum of its components (Verdon, 2006) and that the

interconnectivities between components may be hard to establish in a social system (Dorner, 1997) so that the behaviour of a system cannot be predicted accurately (Von Bertalanffy, 1950).

According to Wilson (1988) three principles of scientific holism are translatable to social systems. First, such ecosystems are complex. Second, though descriptions of patterns can lead to the establishment of correlations between variables, these patterns cannot explain how the larger system works. Third, social systems contain a metaphysical hierarchy by which the causal relationships between variables can be understood without breaking the system down to sub-systems. Holism is important in studying social systems because it produces explanatory theories, while reductionist, empirical theories only make predictions about correlated variables. While empirical theories cannot fully explain our environment because they cannot predict the unexpected, explanatory theories provide system-wide knowledge which enables the prediction of future system states (Trivedi & Misra, 2015).

Systems-thinking is multidisciplinary in nature and is found in literature relating to a variety of disciplines. These include: ecology and environmental studies (Certomà, 2006); creativity (Hieronymi, 2013); military science (Skyttner, 2005); anthropology (Kassner, 1989); education (Axley & McMahon, 2006); biology, physiology, chemistry, sociology, public policy (Gregory, 2000); and organisational management (Hargreaves & Podems, 2012; Simons, 1991, 1995; A. C. T. Smith, 2005; Sullivan, 2004). In line with Aristotle's philosophy and with Von Bertalanffy's work, these various schools of Systems Theory share the concept that sense of the world is made by "seeing it in terms of wholes and relationships rather than breaking it into its component parts and looking at each in isolation" (Hargreaves & Podems, 2012, p. 234). The complexity of systems thinking is reflected by (Snowden & Boone, 2007) "little is simple and much is either complicated or complex" (p. 19). Systems thinking utilises three concepts in making sense of observations and events: the dynamic, non-linear, interconnected and contextual nature of relationship structures, processes and patterns; consideration of the perspectives of different groups of stakeholders involved in the observation or event, their assumptions, values and

world views; and questions relating to considerations of where and how to bound a focus of research (B. Williams & Hummelbrunner, 2009).

General Systems Theory contends that systems are organised (Manson, 2001; A. C. T. Smith & Graetz, 2006; Von Bertalanffy, 1972). W. G. Scott (1961) drew on this idea to develop the relationship between Systems Theory and organisation theory, suggesting that qualities linked to organisation theory such as its conceptual-analytical base, its reliance on empirical research data and its integrating nature indicate that the only meaningful way to study an organisation is to study it as a system. Importantly, Rapoport and Horvath (1968) make a distinction between “organisation theory” and “the theory of organisations” (p. 45). These authors argue that while organisation theory deals with general organisational principles to which mathematics can be applied, the theory of organisations is considered a social science, with human organisation at its heart. More explicitly, the theory of organisations can be considered a branch of sociology when considering structure, a branch of psychology when studying individual or group behaviour and as a branch of political science when researching power and control. Additionally, as they are essentially human in nature, social organisations or systems may be viewed as containing sub-units possessing free will and acting with purpose. Thus, in contrast to organisms that respond to environmental inputs and maintain a steady state through feedback mechanisms, social organisations can achieve change and adaption from within. While explaining change from within using concepts of feedback and steady state alone is difficult, viewing social organisations from the perspective of a number of systems theories is helpful (Mulej et al., 2006; Sullivan, 2004). Several authors have concluded that organisations, particularly social organisations, are complex adaptive systems (Axley & McMahon, 2006; Campbell-Hunt, 2007; Ellis & Herbert, 2011; Karwowski, 2012; McDaniel, 2007; A. D. Meyer, Gaba, & Colwell, 2005; M. Schneider & Somers, 2006). Consequently, this study will take a Systems Theory perspective, viewing the social organisations or elements of New Zealand’s publicly funded health system and the system itself as complex adaptive systems. It will apply the lenses of Complexity Theory and Complex Adaptive Systems Theory to the research questions and problems investigated. Complementary to this approach will be the application of Contingency Theory. This is because the literature associated

with this theory suggests that internal and external factors (contingency factors) are likely to influence change readiness and the successful adoption and assimilation of new process or technology by social organisations such as DHBs (Dedman & Filatotchev, 2008; Gallagher & Gallagher, 2012; Melan, 1998; Örténblad & Koris, 2014; Redding, 1976; Walter, Kellermanns, Floyd, Veiga, & Matherne, 2013) and because complexity itself has been cited as one of these factors (Thomé, Sousa, & do Carmo, 2014).

2.7 Complexity and Complexity Theory

Defining the nature of complexity is problematic (Manson, 2001). The adjective 'complex' is used to describe structures, networks and processes and its meaning depends on the perspective that is applied (Manson, 2001). While complexity can be investigated on a discipline-by-discipline basis, Complexity Theory is best understood by separating complexity research into three main divisions: algorithmic, deterministic and aggregate complexity (Manson, 2001). Algorithmic Complexity Theory and information theory as expressed mathematically view the complexity of a system as the difficulty of describing the system characteristics. The key problem in applying algorithmic complexity to social systems is that of equating data with knowledge because a great deal of human experience and its meaning cannot be expressed algorithmically (Manson, 2001; Murray, 2003). Deterministic Complexity Theory contends that the interactions and influences of a small number of key elements can cause essentially stable systems to come close to collapse. The theory can be applied to systems characterised by chaotic or catastrophic states and which are sensitive to small changes in key variables, such as ecosystems (Manson, 2001). In contrast to algorithmic and deterministic complexity research, aggregate complexity moves away from mathematics underpinned by assumptions made about the way complex systems work and focuses instead on how individual elements interact to create systems displaying complex behaviour (Manson, 2001). Aggregate complexity highlights the relationships between the components of a complex system rather than their number, recognising the number and characteristics of these relationships are usually highly variable and non-linear and cannot be entirely followed by simple feedback or modelled by conventional methods (Manson, 2001).

In contrast to Manson's inclusion of mathematical approaches to complexity, a number of authors have questioned the relevance of positivistic views of complexity (García de la Cerda & Saavedra Ulloa, 2014; Horton, 2012; Phelan, 1999; Richardson, 2004). In common with Systems Theory, Complexity Theory focuses on anti-reductionism, interconnectedness and holism (García de la Cerda & Saavedra Ulloa, 2014; Horton, 2012; Manson, 2001; Mulej et al., 2006; Richardson, 2004). Complexity Theory builds on General Systems Theory by considering the non-linear relationships between elements and entities and the qualitative characteristics of systems (García de la Cerda & Saavedra Ulloa, 2014; Horton, 2012; Manson, 2001; A. C. T. Smith & Graetz, 2006). Research into complexity explores how complex behaviour emerges from the local influences and interactions between a system's elements over time. The focus is on a system's emergent or synergistic properties that limit a positivist view of complexity (Phelan, 1999; Richardson, 2004) and can only be understood by considering the relationships between a system's elements (García de la Cerda & Saavedra Ulloa, 2014; Richardson, 2004; A. C. T. Smith & Graetz, 2006).

Complex systems are nourished by relationships with their environment. Boundaries between such system and their environments are usually highly permeable, enabling the exchange of resources, energy and information. Such systems actively anticipate, respond to and may seek to change their environments (Horton, 2012; Manson, 2001; A. C. T. Smith & Graetz, 2006), as the continuity of their internal structure enables "memory" and adaptive learning (Holland, 1992; Horton, 2012; A. C. T. Smith & Graetz, 2006). Those sub-systems able to process the largest quantities of matter and information from the environment will tend to grow, as will those elements and sub-systems that participate in such interactions (Horton, 2012; Manson, 2001; A. C. T. Smith & Graetz, 2006). This suggests that the multitude and diversity of components in a complex system together with the complex relationships existing between them enable a complex system to respond effectively to new situations (Horton, 2012; Manson, 2001; A. C. T. Smith & Graetz, 2006). Furthermore, because the capacities and capabilities of complex systems are greater than the sum of their parts, these systems can display emergent characteristics and qualities that may not be revealed by analysis of its internal components alone

(Horton, 2012; A. C. T. Smith & Graetz, 2006). Synergism or interaction between components in a complex system drives emergence and emergent qualities are unpredictable and may be difficult to control (Horton, 2012; Manson, 2001; A. C. T. Smith & Graetz, 2006). Characteristics of complexity such as emergence require the acceptance of ambiguity. This causes difficulty in translating Complexity Theory into managerial action in social organisations (García de la Cerda & Saavedra Ulloa, 2014; A. C. T. Smith & Graetz, 2006). Accepting ambiguity leads to an interpretive paradigm and a subjective approach to systems analysis, suggesting problems associated with a complex system reflect the observer's world view rather than objective reality (A. C. T. Smith & Graetz, 2006). This highlights a key difference between Systems Theory and Complexity Theory as Complexity Theory accepts perspective in observations and the importance of relationships as relevant units of analysis (A. C. T. Smith & Graetz, 2006).

Complexity has been a central concept of the theory of organisations since the notion of open systems began to spread in the 1960s (P. Anderson, 1999). Complex organisations are characterised by Thompson (1967) as composed of a number of interdependent elements constituting a whole interdependent with a larger environment and by Tracy (1989) as a system of behaviour. W. R. Scott (1992) regards the organisation as an open system prescribing how interactions with its external environment affect internal behaviour. A number of authors refer to organisations as complex adaptive systems (P. Anderson, 1999; Horton, 2012; Manson, 2001; J. A. Martin & Eisenhardt, 2010; Mason, 2007; M. Schneider & Somers, 2006).

2.8 Complex adaptive systems

Plsek and Greenhalgh (2001) define a complex adaptive system as “a collection of individual agents with freedom to act in ways that are not always predictable and whose actions are interconnected so that one agent's actions changes the context for the other agents” (p. 25). These authors cite the human immune system, a colony of termites and almost any collection of humans as examples of complex adaptive systems. Cilliers (1998) described the properties and attributes of a complex adaptive system and these are summarised in Table 4:

Table 4: Properties and attributes of complex adaptive systems

Properties
A large number of elements interact in a dynamic way with much exchange of information.
These interactions are rich, non-linear and have a limited range because there is no overarching framework that controls the flow of information.
These are open systems with feedback loops, enhancing or stimulating (positive) or detracting, inhibiting (negative). Both kinds of feedback are necessary.
They operate under conditions far from equilibrium, which means there is continual change and response to the constant flow of energy into the system.
They are embedded in the context of their own histories and no single agent or element can know, comprehend or predict actions and effects that are operating within the system as a whole.
Complexity in the system is a result of the patterns of interaction between the elements

L. O. Walker and Avant (1995) consider the identification of defining attributes, antecedents and consequences as critical components of any conceptual analysis. Holden (2005) identifies the principal antecedents of complex adaptive systems as individual agents such as the staff in a hospital and emergence or adaption as the main consequence. William B. Rouse (2000) describes complex adaptive systems in terms of the characteristics shown in Table 5.

Table 5: Characteristics of complex adaptive systems

Characteristics of Complex Adaptive Systems
Non-linear and dynamic and do not inherently reach fixed equilibrium points so system behaviour may appear random or chaotic.
Composed of independent agents whose behaviour is based on physical, psychological or social rules rather than the demands of system dynamics.
Because agents' needs or desires (as reflected in their rules) are not homogeneous, their goals and behaviours are likely to conflict. In response to these conflicts or competitions agents tend to adapt to each others' behaviours.
Agents are intelligent. As they experiment and gain experience, agents learn and change their behaviour accordingly. Thus overall system behaviour changes over time.
Adaptation and learning tend to result in self-organisation. Behaviour patterns tend to emerge rather than being designed into the system. The nature of the emergent behaviours may range from valuable innovations to unfortunate accidents.
There is no single point(s) of control. System behaviours are often unpredictable and uncontrollable, and no one is "in charge". Consequently, the behaviours of complex adaptive systems can usually be more easily influenced than controlled.

Note. Adapted from "Managing complexity: Disease control as a complex adaptive system," by W. B. Rouse, 2000, *Information-Knowledge-Systems Management*, 2, p. 144-145. Copyright 2000 by IOS Press.

William B. Rouse (2000) and Plsek and Greenhalgh (2001) essentially agree that a complex adaptive systems is a collection of interconnected individual agents free to act unpredictably, with one agent's actions changing the context for other agents. Boundaries within the system and its subsystems and between the system and its environment are blurred as membership of the system can change and agents are able to belong to a number of systems. This is true of DHB or hospital environments where staff turnover can be high and health professions interact and move between clinical services and teams. Agents' responses to their environments are driven by internalised rules. In social systems these may be instincts, constructs and mental models that may not appear logical to other agents in the same system (Plsek & Greenhalgh, 2001). However, the rules by which agents operate can change and both agents and the system can adapt their behaviour over time. Furthermore, as the sub-systems embedded within systems evolve together, the evolution of one system influences and is influenced by that of others, meaning such systems are intrinsically self-organising (Plsek & Greenhalgh, 2001). Thus, one system or agent cannot be fully understood without reference to all others and as agents are changeable, the behaviour of a system is emergent, unpredictable and non-linear.

However, while they are unpredictable, overall patterns of behaviour often make it possible to develop useful generalisations about complex adaptive systems (Plsek & Greenhalgh, 2001).

Characteristics of complex adaptive systems that are of particular interest to this study are that these systems are composed of multiple interacting agents with differing needs and goals, that there is no single point of control, that these systems can learn and that their complexity leads to emergent, non-linear and often unpredictable behaviour. These characteristics have important implications for creating and building change readiness and the success of change events. First, a multi-stakeholder, multi-perspective approach to change is required to consider the needs of various agents. Second, it is impossible to command or force such systems to adhere to behavioural or performance standards or to impose an organisational design using conventional authority. Third, intelligent agents in these systems will act within the system in ways that serves their own interests (W B Rouse, 2008). Consequently, management approaches to the agents in these systems should emphasise leadership as influence rather than power and incentives, and inhibitions rather than command and control (W B Rouse, 2008). Moreover, because these systems can learn from an event, they can build capability to engage in similar, subsequent events more successfully. Ellis and Herbert (2011) have summarised the core elements and features of complex adaptive systems and their implications for organisational management, as shown in Table 6. This summary suggests the application of systems thinking helps take into account the structures and patterns of interactions, events and dynamics taking place between interrelated components of larger structures. This enables anticipation rather than reaction to events and an higher state of preparedness in the face of emerging challenges (R. Atun, 2012). Therefore, Complex Adaptive Systems Theory is useful to explain and understand responses and behaviours attributable to a multi-stakeholder perspective because it emphasises the importance of distributed responsibilities, feedback and networks (relationships) in the emergence of behaviour (Ellis, 2011).

Table 6: Elements of CAS and associated management principles.

Core CAS Elements	Features	Management Principles
Multiple agents with schemata	<p>Informal, collaborative networks of individuals that partner and contribute to solution making.</p> <p>Connectivity and interdependence between agents.</p> <p>Degrees of connectivity.</p>	Respect democratic principles that lead to mutual adjustment; jointly steer courses of action.
Self-organising networks	Holistic patterns formed through human interactions: Causation, Feedback	Adjust the fitness landscape: offer incentives and longer term rewards by setting priorities. Apply simple design principles because they turn into rules; ensure lines of communication flow across networks, so authority and legitimacy become vested in the process as a whole, not on the perspective of one
Coevolution	Innovative pathways of governance emerge – a variety of what is known as “emergent behaviour” in CAS.	Appreciate and monitor the implications of feedback, non-linear and mutual causation.
System adaptation	Networks represent additions to hierarchies	Respect individuals and their organisations that exist in the ecosystem – avoid major change.

Note. Adapted from “Complex adaptive systems (CAS): An overview of key elements, characteristics and application to management theory,” by B. Ellis and S. I. Herbert, 2001, *Informatics in Primary Care*, 19, p. 34. Copyright 2011 by the PHCSG, British Computer Society.

2.9 Healthcare as a complex adaptive system

Health systems can be viewed as open, complex adaptive systems containing interlinked components interacting in the context within which the health system is placed (R. Atun, 2012; R. A. Atun, Menabde, Saluvere, Jesse, & Habicht, 2006; Ellis & Herbert, 2011; Sturmberg, O'Halloran, & Martin, 2010; Weberg, 2012). The system and its environment can be considered a complex whole, with the interacting components of the health system influencing each other through positive (amplifying) or negative (balancing) feedback which in sum determine the overall behaviour of the system (R. Atun, 2012; Ellis & Herbert, 2011; Senge, 1990). This means the whole system possesses properties and attributes which together are greater than those of its component parts (R. Atun, 2012). Furthermore, the complex interactions and interdependencies that characterise such a system cannot be understood or predicted by only studying its components (R. Atun, 2012; Ellis & Herbert, 2011).

The New Zealand publicly funded health care system, in common with others worldwide, exists in a complex and changeable context. The external environment contains systems that include government, legislation, stakeholders, businesses and consumers while the internal culture is determined by the interdependent components of purpose, strategy, people, systems, structure and process (Bridgeforth, 2005). Autonomous agents, that is people mediate all the activities associated with the internal interdependent components of the system (Bartlett & Ghoshal, 1994; Benham-Hutchins & Clancy, 2010; Bridgeforth, 2005; W B Rouse, 2008). The internal and external environments of the system are separated by a highly permeable boundary. Consequently, the internal components of the system are both roles and functions of the system and products of the influences and interactions between the system and its external environment (Benham-Hutchins & Clancy, 2010; Bridgeforth, 2005; Ellis & Herbert, 2011). The publicly funded health system is itself composed of many organisations or systems, each containing a number of sub-systems or business units composed of a number of agents with differing internalised rules (Bartlett & Ghoshal, 1994; Bridgeforth, 2005; Ellis & Herbert, 2011; W B Rouse, 2008). For example modern hospitals are internally complex and functionally specialised with numerous interacting professional teams,

clinical and support groups and diverse individuals such as doctors, nurses, allied health staff and administrative staff (Bitter, van Veen-Berkx, Gooszen, & van Amelsvoort, 2013). Many stakeholders in healthcare are not employees and most are independent agents, working outside the direct observation of and management by operational managers (W B Rouse, 2008). The number of organisations or systems and agents meeting the needs of a single patient can be many and varied, creating multiple and complex interdependencies and interrelationships (Benham-Hutchins & Clancy, 2010; Ellis & Herbert, 2011; W B Rouse, 2008). These interdependencies and interrelationships together with the emergent properties of the system can be leveraged to facilitate collaboration and learning leading to organisational and system improvement (Arrow & Henry, 2010; J. A. Martin & Eisenhardt, 2010; W. L. Miller, Crabtree, Nutting, Stange, & Jaén, 2010; Rowe & Hogarth, 2005). Therefore the study of systems is important to understanding behaviour both in the organisation delivering health care and its environment and in facilitating desired behaviour, such as change readiness.

The multiple, complex interdependencies and interrelationships and the internalised rules associated with multiple, diverse agents mean that applying systems thinking to organisations such as DHBs involves paying close attention to the potential consequences of policies and actions, particularly when change is contemplated (R. Atun, 2012; Lebcir, Atun, & Coker, 2010; C. M. Martin & Sturmberg, 2005; Plsek & Wilson, 2001). A complex adaptive systems approach to the health system could help identify and avoid or mitigate unintended consequences of policies or actions. Such an approach can facilitate both the development of scenarios by system components or agents and inclusive, participative ways of working and thinking that take into account the interactions and interrelationships between the system's elements (R. Atun, 2012; Ellis, 2011; Lebcir et al., 2010; Rowe & Hogarth, 2005). Systems thinking and multidisciplinary collaboration are considered particularly useful in preparing for the adoption of innovations by organisations in the health system, supporting change through the recognition and understanding of the emergence of unexpected structures, patterns and processes and mitigating their impact during the change process (R. Atun, 2012; Ellis, 2011; C. M. Martin & Sturmberg, 2005; Rowe & Hogarth, 2005). R. Atun (2012) refers to innovations in

health systems as medicines, diagnostics, health technologies, new ideas, practices, objects or institutional arrangements perceived as novel by an individual or unit of adoption.

Viewing the health system as a complex adaptive system has implications for leaders in organisations delivering health care (R. Atun, 2012; MacKenzie, Capuano, Durishin, Stern, & Burke, 2008; Plsek & Wilson, 2001; Weberg, 2012). These authors contend that approaching healthcare as a complex adaptive system means abandoning traditional linear, reductionist approaches to the management of health care because the health care leader cannot change the inherent characteristics of the system. Instead, the leader must facilitate sense-making and understanding of the system at the micro-level and seek to use the system's influence and harness its self-organising and emergent properties to improve the whole system, not simply its elements (R. Atun, 2012; Ellis & Herbert, 2011; MacKenzie et al., 2008; Weberg, 2012). Accordingly, these authors advocate five key constructs for leadership of a complex adaptive system such as healthcare: minimum specifications for change; open communications; distributed control versus centralised control; allowing the emergence of solutions rather than imposing engineered solutions; and facilitating small changes that produce large effects by leveraging relationships (R. Atun, 2012; Ellis & Herbert, 2011; MacKenzie et al., 2008; W. L. Miller et al., 2010; Weberg, 2012).

Part 2: Contingency Theory and performance management

2.10 Contingency Theory and implications for the introduction of new technology or process

The foregoing shows that DHBs can be considered both as complex adaptive systems containing sub-systems and as subsystems operating within the New Zealand health system. Once introduced by a DHB, a new technology or process such as the *interRAI-HC* tool becomes a component of both the DHB and the wider health system. General Systems Theory can be used to study technical systems, interpersonal expectations associated with these systems and the relationships between the two (Jackson, 1982, 2000; Morton, Ackermann, & Belton, 2003). Contingency Theory (Fiedler, 1964 ; Vecchio, 1983) is an offshoot of General Systems Theory (Galbraith, 1973) which has been elaborated by a number of authors (Bedeian & Glueck, 1983; Chenhall, 2003; Dedman & Filatotchev, 2008; Fiedler, 1964; Gray & Starke, 1988; Redding, 1976; Vecchio, 1983). Its central concepts are: (i) there is no universal or best way to manage; (ii) the design of an organisation and its subsets must fit with the environment; (iii) effective organisations not only have a proper fit with the environment but also a good fit between their sub-systems; and (iv) the needs of an organisation are better satisfied when it is properly designed and the management style is appropriate to the tasks undertaken and the nature of the work group(s).

Contingency approaches to the management of organisations involve the study of recurring situations (such as the implementation of the *interRAI-HC* tool at various DHBs) and observing how different strategies, processes and structures perform in each case (Hambrick, 1983). Zeithaml, Varadarajan, and Zeithaml (1988) place Contingency Theory between two polar views that contend either universal principles of management exist or that all situations are unique and therefore must be considered separately. Two characteristics of open systems are central to the application of Contingency Theory, those of adaption and equifinality. Adaption is the interaction of the elements of a system so that the basic characteristics of the system are maintained, while the property of equifinality means that a system can

reach the same end state under differing conditions and through differing ways or mechanisms (Zeithaml et al., 1988). Contingency Theory also incorporates the view that organisations face and solve problems. This means they develop ways of exploring, learning and decision making to achieve acceptable levels of performance within the limits of bounded rationality (Zeithaml et al., 1988). Prescott (1986) describes how Contingency Theory was developed by integrating these concepts and viewing organisations as open systems experiencing uncertainty, constrained by rationality and producing different structures, strategies and decision making processes because of differences in technology and environmental factors. In other words, Contingency Theory contends that organisational adaption and survival can occur in more than one way (Tosi & Slocum, 1984). However, the effectiveness of alternatives is dependent on the match between contingency factors and the internal design of the organisation and the extent to which this match allows appropriate responses to the environment (Zeithaml et al., 1988).

Contingency theories are usually developed by identifying important contingency variables that differentiate between contexts, using these contingency variables to group similar contexts and identifying the most effective internal organisational designs or responses in each group (Zeithaml et al., 1988). These steps are associated with three types of variable. These are contingency variables, response variables and performance variables. Contingency variables are perceived factors external to an organisation, manager or other system and they may be difficult to control. Response variables are the actions taken by organisations or managers to deal with contingency factors. Performance variables are dependent measures, representing those characteristics of effectiveness enabling appropriate evaluation of the fit between contingency variables and response variables in any given situation (Zeithaml et al., 1988). As effectiveness is usually related to a number of contingency variables, the identification of those contingencies explaining the largest variation in organisational performance is considered central to understanding (Zeithaml et al., 1988). While the simplicity of contingency frameworks renders them attractive, Zeithaml et al. (1988) warn that simplicity may lead to a failure to identify all relevant contingencies. These authors also identify a number of pitfalls and criticisms related to the use of the contingency approach and propose steps to address them.

Two major criticisms of contingency frameworks are particularly relevant to this study. The first is that Contingency Theories focus on outcome or technical content rather than the relational content (processes and dynamics) through which organisations adapt, leading to a limited understanding of organisations compared to a complexity approach (Zeithaml et al., 1988). The second criticism is that understanding is limited by many contingency frameworks because they either employ only a single dimension such as technology or organisational size or they dichotomise only two important contingencies (Zeithaml et al., 1988). To accommodate the latter criticism contingency frameworks can be expanded to include multiple contingency variables (Hambrick, 1983; Melan, 1998; Ponsignon, Smart, & Maull, 2011; Zeithaml et al., 1988), with the additional complexity enhancing precision in identifying and characterising effective response variables (Zeithaml et al., 1988).

Notwithstanding the criticisms of Contingency Theories, the management literature provides a significant body of knowledge relating to contingency frameworks, particularly with respect to organisational theory, strategic management and organisational behaviour (Ponsignon et al., 2011; Sanchez, 2012; Zeithaml et al., 1988). Contingency theories have been proposed and tested with respect to decision making (Vroom & Yetton, 1973), management and leadership (Redding, 1976; Walter et al., 2013), quality management, intervention and (Melan, 1998; Saad & Siha, 2000), governance (Dedman & Filatotchev, 2008), organisational learning (Örtenblad & Koris, 2014), organisational knowledge management capability and learning (Ju, Li, & Lee, 2006; Khalifa, Yu, & Shen, 2008), organisational performance management and organisational effectiveness (Wadongo & Abdel-Kader, 2014), the implementation of new technology and process (Burton & Obel, 2004) and post-implementation enterprise resource planning (Gallagher & Gallagher, 2012).

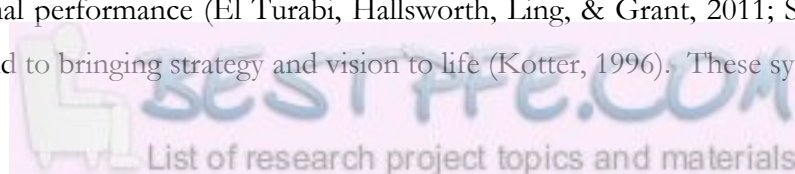
In summary, central to Contingency Theory is the idea that organisational performance is influenced by both internal and external factors collectively known as contingencies. A good fit between contingency variables such as new technology and processes on one hand and response variables on the other raises organisational performance and success while a poor fit has the opposite effect (Burton & Obel,

2004; Chenhall, 2003; Ponsignon et al., 2011). One of the aims of this study is to identify the contingency variables that impacted the change readiness of the six DHBs participating in this study to adopt and assimilate the *interRAI-HC* tool. Identifying these variables and noting the participating DHBs' responses to them will provide insights that can be applied to increase organisational readiness and performance in adopting and assimilating similar changes. An understanding of organisational and external contingencies may also aid the development of policy to facilitate the adoption and assimilation of complex new technology or process into the publicly funded health system in New Zealand.

2.11 Performance management and measurement; overview

Simons, Dávila, and Kaplan (2000) make several general assumptions about the way people work in organisations. They contend people want to achieve and contribute positively, be innovative and competent, do a good job and be proud of their organisation. In short, according to Simons et al. (2000) employees want to perform well. The basis of any performance management system is accountability (Otley, 1994). Greater accountability is often linked to higher visibility and greater transparency of organisational activity, leading to appropriate organisational behaviour and improved performance (Roberts, 2009; Joannides, 2012). Performance management systems are overarching control systems that move from measuring performance to managing it (Otley, 1999). They encompass a broad range of management control activities including goal setting, strategy development and plans for achieving aims and measuring and evaluating performance (Adler, 2011).

Modern performance management systems communicate financial and non-financial data and information that guide and influence managers' decision-making and actions (A. de Waal, A., 2003). They can also be used by managers to influence the behaviour of subordinates and other employees (Zairi & Jarrar, 2001). In other words, performance management systems can provide feedback and performance information that is essential to the effective management of individual, group and organisational performance (El Turabi, Hallsworth, Ling, & Grant, 2011; Simons et al., 2000) and to bringing strategy and vision to life (Kotter, 1996). These systems are



regarded as powerful enablers of change readiness, change oriented behaviour and change itself through the establishment of clear goals (Taylor & Beh, 2013), the provision of feedback to managers, change recipients and other stakeholders about the progress and impact of change (Colville & Millner, 2011; Taylor & Beh, 2013) and by transferring a portion of the risk for overall organisational performance to employees or change recipients (J. W. Campbell, 2015). J. W. Campbell (2015) contends that performance management systems help to align the interests of the employee with those of the organisation, facilitating a merger of employee identity and organisational membership.

Performance management has two distinct components, performance monitoring and performance evaluation (El Turabi et al., 2011; Organisation for Economic Co-operation and Development, 2002). El Turabi et al. (2011) describe performance monitoring as a continuous process of collecting and analysing data to compare how well a project, programme or policy is being implemented to the expected results. This involves data collection and reporting against quantitative and qualitative variables or performance indicators to detect and quantify the changes produced by a specific project, programme or policy. Following analysis of performance data, management control systems respond in ways intended to improve performance (El Turabi et al., 2011; Organisation for Economic Co-operation and Development, 2002). Performance evaluation, on the other hand, can be defined as the judgement of interventions according to their results, impacts and the needs they aim to satisfy (El Turabi et al., 2011). Performance evaluation is often concerned with success or failure in meeting stated goals (El Turabi et al., 2011).

(A. D. Neely, Adams, & Kennerley, 2002) define performance measurement as the process of quantifying the efficiency and effectiveness of past actions, while Moullin (2002) defines the same as evaluating how well organisations are managed and the value they deliver for customers and other stakeholders. P. Rouse and Putterill (2003) define performance measurement as “the comparison of results against expectations with the implied objective of learning to do better”. While all these definitions include or imply efficiency and effectiveness, that of P. Rouse and

Putterill (2003) also refers to learning and implies adaption, qualities associated with complex adaptive systems such as the health system and its component DHBs.

The purpose of performance measurement is to support fast, proactive decision making (Nudurupati, Bititci, Kumar, & Chan, 2011), enable improvement, motivate individuals, encourage the right behaviour and support management initiatives including planned change (Sinclair & Zairi, 1995) and to identify success, understand organisational processes and identify problems, to base decisions on facts and show if expected benefits are realised (C. Parker, 2000). These descriptions suggest performance measurement systems can be enablers of acceptance and commitment to change.

Traditional performance measures are limited and essentially based on either management accounting systems related to containing costs and meeting revenue targets or on process and output focussed measures (Burgess, Ong, & Shaw, 2007; Chang, Lin, & Northcott, 2002; R. S. Kaplan & Norton, 1992; Otley & Fakiolas, 2000). However, since the late 1980's organisations have been encouraged to develop a more comprehensive and balanced set of financial and non-financial performance measures and perspectives (Chang et al., 2002). This has led to the introduction of a number of multidimensional performance measurement systems (Bentes, Carneiro, da Silva, & Kimura, 2012; Fitzgerald, Johnston, Brignall, Silvestro, & Voss, 1991; Folan & Browne, 2005; R. S. Kaplan & Norton, 1992; Lynch & Cross, 1991; Riratanaphong & Voordt, 2015; van der Voet, 2015). These include Keegan et al.'s (1989) performance measurement matrix, A. Neely, Adams, and Crowe (2001) performance prism, the performance pyramid developed by K. Cross and Lynch (1992), the Balanced Score Card (BSC) produced by R. S. Kaplan and Norton (1992) and their later strategy map (R. S. Kaplan & Norton, 2004) and Tangen's (2005) triple-P model.

These various performance measurement frameworks or systems evaluate organisational performance from different though related perspectives and indicators. For example, Sink and Tuttle (1989) describe seven inter-related performance criteria: effectiveness, efficiency, quality, productivity, quality of work

life, innovation and profitability. The BSC (R. S. Kaplan & Norton, 1992) incorporates four perspectives: financial, customer, internal business process and learning and growth. Bradley (2002) developed six performance perspectives closely aligned to Kaplan and Norton's (1992) BSC: stakeholder perception, financial health, organisational development, productivity, environmental responsibility and cost efficiency. These approaches provide guidelines and criteria to enable the selection of appropriate measures that are aligned to organisational strategy and can be used to assess an organisation's performance comprehensively and consistently (Giovannoni & Maraghini, 2013). Performance measurement systems also integrate organisational activity by aligning individual and group actions and interactions with organisational strategy (Chenhall, 2005; Upadhyay, Upadhyay, & Palo, 2013). In addition to clarity around perspectives and indicators, performance measurement frameworks must be precise about what performance is being measured (e.g. people, services, revenue), must be able to provide reasons for excellent and poor performance and must provide understanding about which changes are required to improve a specified performance (Riratanaphong & Voordt, 2015). It is noteworthy that Goh, Elliott, and Richards (2015) showed that contextual factors such as the size, geographic spread and the complexity of the operating environment of a public sector organisation can reduce the success of an inflexible, universal and imposed performance measurement framework.

The performance perspectives described above demonstrate that performance is a multi-dimensional concept and construct dependent on context (Riratanaphong & Voordt, 2015). Furthermore, context and perspective determine the purpose of performance management (Riratanaphong & Voordt, 2015). These authors also contend that improving or declining performance after a change event may be hard to explain as many factors influencing performance may have changed during the implementation of change. Such factors include employee characteristics, work processes, internal and external conditions and the structure and culture of the organisation (Riratanaphong & Voordt, 2015). These findings suggest that performance measurement systems that are designed to monitor the progress and success of a change event from its introduction can be both powerful motivators of

change readiness and diagnostic aids in detecting altered readiness to progress a change event.

2.12 Performance management and measurement; the Balanced Scorecard (BSC)

The BSC developed by Kaplan and Norton (1992) is a multi-dimensional performance framework often cited in the literature (Beard, 2009; Chang et al., 2002; Creamer & Freund, 2010; A. de Waal, A., 2003) and widely adopted by organisations (Atkinson, 2006; Chang et al., 2002; Creamer & Freund, 2010; Riratanaphong & Voordt, 2015), including those delivering health care (Auger & Roy, 2004; Berler, Pavlopoulos, & Koutsouris, 2005; Bisbe & Barrubés, 2012; Chang et al., 2002; El Turabi et al., 2011; Radnor & Lovell, 2003). Since its inception the BSC has undergone considerable development as organisations struggle to determine which performance indicators to include in a scorecard to ensure clear linkage with an organisation's strategy (Beard, 2009; Bentes et al., 2012; Bisbe & Barrubés, 2012; R. S. Kaplan & Norton, 2000, 2001).

In its simplest form, the BSC approach measures and evaluates an organisation or organisational unit from four basic perspectives: customer or client; internal business process; financial; and learning and growth (R. S. Kaplan & Norton, 1992). Client perspectives focus on the relationship with and service delivery to clients, including client retention and satisfaction. Internal business process perspectives emphasise the use of information to provide new or better services and the extent to which processes meet or exceed customer expectations. The financial perspective relates to long-term goals of viability, profitability, productivity and revenue growth or cost containment. Finally, learning and growth perspectives are concerned with building organisational capacity and capability to enable it to develop and implement new strategies and meet new challenges. The main objectives in implementing a BSC approach are to align employee and organisational goals with strategy, show whether or not strategy is working, focus employee attention on things most significant to the organisation, define and ensure the validity of critical success factors, key performance indicators and expected outcomes and communicate the extent of success (R. S. Kaplan & Norton, 1992, 2000, 2001).

The BSC performance management framework is considered appropriate to the healthcare industry (Bisbe & Barrubés, 2012; El Turabi et al., 2011; Radnor & Lovell, 2003) and this study's multi-dimensional, multi-stakeholder perspective to the establishment of success (performance) indicators. This study used the BSC framework as a developmental tool to elicit both context around the implementation of the *interRAI*-HC tool at the DHBs involved in the research and participants' perspectives on performance measurement and the meaning of success. These perspectives were used to develop a State of Readiness Tool that is developmental in nature, one that enables the organisation to assess, create and build change readiness over time and which constructs the future of a change event in such a way that implementation is likely to be successful.

Part 3: Change readiness & readiness tools

2.13 Exploring the context

Organisational change is broadly described by Bowditch and Buono (2001) as any modification in organisational composition, structure or behaviour while (Weeks, Roberts, Chonko, & Jones, 2004) considers it to be the breaking down of existing structures and the creation of new ones. Rogers (2003) describes organisational change as a two-stage process of initiation and implementation.

Theory and research in the field of organisational change readiness focuses on planned or deliberate change events. These events are usually set in motion by management with the expectation of enhancing organisational effectiveness (Weiner et al., 2008). However Weiner et al. (2008) also note that organisational change is a complex, non-linear process, taking place over time and that change can emerge from the activity and interactions of employees rather than management action because of the characteristics of organisations as complex adaptive systems.

Three commonly used models of organisational change are compared in Table 7. Lewin's (1947) three-step model involves unfreezing from the current state, transitioning to the future state and refreezing into the now permanent new state. Prosci's ADKAR model (Hiatt, 2006) considers awareness, desire, knowledge, ability and reinforcement as the fundamental units of change. Finally, Kotter's (1996) eight-step model is commonly used to manage organisational change and concentrates on people and their feelings about change.

Table 7: Three commonly used change models (reproduced from Varkey and Antonio, 2010)

Lewin's 3 Stages of Change	Prosci's ADKAR Steps for Individual Change	Kotter's 8 Steps for Change Management
Unfreeze	Awareness of the need for change	Increase the urgency for change Build a team for the change Construct the vision for change Communicate the vision
Transition	Desire to make the change Gain knowledge on how to change Gain ability to implement new skills and behaviours	Empower Create short term goals Be persistent
Refreeze	Reinforcement to retain the change once it has been made	Make the change permanent

Organisational change can be incremental or transformational (By, 2005) and it does not seem the case that small changes are easier to implement than larger ones or that an organisation's success or failure in implementing change in one endeavour is an indicator of success or failure in another (Michel et al., 2013). Cited barriers to organisational change include issues such as poor planning or execution (Dent & Goldberg, 1999), incompetence or lack of commitment on the part of those initiating or managing change and poor leadership (R. Caldwell, 2003; Kotter, 1996), inappropriate organisational culture and political behaviour (Michel et al., 2013). However, much literature focuses on employee resistance to change as the main barrier to successful change (Ford & Ford, 2010; Kotter & Schlesinger, 1979; Kuntz & Gomes, 2012; Michel et al., 2013; Rafferty et al., 2013; I. Smith, 2005).

I. Smith (2005) and Weiner et al. (2008) contend that as organisations consist of people, change readiness is essentially the process of readying people for change in order to reduce both resistance to change and the effort of remedial action to overcome resistance following a lack of such preparation. As part of this preparation, leaders must communicate both the need for change and the vision for the new state (Kotter, 1996). Thus, successful implementation of change involves a

redefinition of organisational goals and values and the identification, anticipation and management of the needs and adaptive responses of stakeholders before, during and after the change event (By, 2005). These requirements contribute significantly to change management and particularly the attainment of change readiness being two of the most difficult activities undertaken by leaders and managers (Kuntz & Gomes, 2012; Rafferty et al., 2013). The attainment of organisational change readiness to implement complex processes successfully by organisations providing health care and more specifically DHBs in New Zealand is the main focus of this study.

2.14 Change readiness, exploring the significance

Globalisation, deregulation, the increasing sophistication and the ubiquitous nature of technology and competition have caused organisations to seek better ‘fits’ with the increasing complexity of their environments (De Meuse, Marks, & Dai, 2011; Farjoun, 2010; Grier, 2012)). Increasingly, organisations across many industrial sectors from libraries to the military are required to change strategies, structure and policies to ensure organisational survival (De Meuse et al., 2011; Farjoun, 2010; Grier, 2012; Hempel & Martinsons, 2009; I. Smith, 2005). Most challenges requiring organisational change are associated with mergers, rapid growth and expansion, advanced technology, maintaining or enhancing product quality or employee efficiency, customer demand, innovation, competition or opportunity and new management or leadership approaches (Antony, 2014; Burgess, Shaw, & de Mattos, 2005; Fuchs, Höpken, Föger, & Kunz, 2010; Grier, 2012; Kalusopa & Ngulube, 2012; Parasuraman & Colby, 2015; Shah & Shah, 2010; Tetlay, 2011). However, organisational responses to these challenges often fail to achieve the desired objectives (Beer & Nohria, 2000; Kotter, 1996), with many managed so poorly that they create organisational crises (Raisch & Probst, 2005).

In a survey of over 3,000 executives, Meaney and Pung (2008) reported that two-thirds of respondents indicated their companies failed to implement significant change events effectively and achieve the planned future state following commencement of the change event. Lippert and Davis (2006) reported that half of all information technology implementations were considered either complete failures or to have failed to meet organisational expectations. Other authors contend failure

rates for change programmes are even higher (By, 2005; Karp & Helgø, 2009). While uncertain of the proportion of failures, Michel et al. (2013) note that failure to achieve planned organisational change occurs too frequently, with failure often resulting from the management of change rather than the nature of the change itself. These reported levels of failure represent significant lost productivity, reduced organisational efficiency and a waste of financial resources (Lippert & Davis, 2006; Newhouse, 2010) and have increased interest in organisational and individual readiness for change (Rafferty et al., 2013; I. Smith, 2005; Stevens, 2013). Work to increase understanding of the management of change and particularly the creation of readiness to implement change events covers a wide range of industries and sectors. These include education (Antony, 2014; Musoba, 2011; J. R. Smith & Donze, 2010), product-service systems (Tetlay, 2011), information technology (Jahani, Javadein, & Jafari, 2010; Lou & Goulding, 2010; Parasuraman & Colby, 2015; Potnis & Pardo, 2011), knowledge management (Karim, Razi, & Mohamed, 2012; Nejadhussein & Azadbakht, 2011; F. Rusly, H. et al., 2012), engineering and construction (Khalfan, Anumba, & Carrillo, 2001), business process reengineering (Abdolvand, Albadvi, & Ferdowsi, 2008), supply chain management (Jayaraman, Rardin, Buyurgan, Varghese, & Collazos, 2013), emergency services (Bachman, 2011) and the armed forces (Grier, 2012; Schmitz et al., 2014; Usrey, 2014; Wyche, 2014).

Organisations delivering health care operate in an uncertain environment (Giniat, Benton, Biegansky, & Grossman, 2012; Newhouse, 2010). Many are only partially successful in implementing change (Alexander, Weiner, Shortell, Baker, & Becker, 2006; Ash, Gorman, Seshadri, & Hersh, 2004; Hendy, Fulop, Reeves, Hutchings, & Collin, 2007; Holt, Helfrich, Hall, & Weiner, 2010; Kaye, Kokia, Shalev, Idar, & Chinitz, 2010; Pare et al., 2011; Pearson et al., 2005; Varkey & Antonio, 2010) and the complete failure to change is likely more common than publicly reported (Silverstein, 2006; Tanenbaum, 2006). The introduction of complex technology and complex processes into health services has occurred at an increasing rate since the 1970s. This caused Eisenhardt (1989) to propose that theory be built from case study research in order to understand the dynamic nature of the process of implementing new technology, particularly computerised information systems, into the health sector. Eisenhardt's (1989) proposal was aimed at the identification of the

factors relevant to system success and failure so that the probability of successfully implementing new technology or process is maximised while the risks of failure are mitigated and waste reduced. However, by the early 2000s concerns remained regarding the capability of organisations providing health care to manage the introduction of new technologies or processes effectively and efficiently (Fleuren et al., 2004; Greenhalgh et al., 2004; Paré, 2002; Weiner et al., 2008). In particular, Paré (2002) and Lippert and Davis (2006) noted the large amounts of money and human resources wasted in implementation initiatives involving information technology. Concerns continued in relation to the capacity and capability of health care organisations to adopt and assimilate new technology, process and procedure (Weiner, 2009). These concerns have led to an increasing emphasis on the readiness of these organisations to embrace change (A. B. Martin et al., 2012; Pare et al., 2011; Rothlin, 2013; Touré et al., 2012; Varkey & Antonio, 2010; Weiner et al., 2008; Wen et al., 2010; I. Williams, 2011) and the factors that enable change readiness (Al-Balushi et al., 2014).

Several authors cite organisational readiness for change as a critical precursor to the successful implementation of change events (Al-Balushi et al., 2014; Armenakis & Harris, 2009; Armenakis, Harris, & Mossholder, 1993; By, 2007; Holt et al., 2010; Lippert & Davis, 2006; Newhouse, 2010; E. J. O'Connor & Fiol, 2006; Rafferty et al., 2013; Stevens, 2013; Tetlay, 2011; Weiner et al., 2008). Creating and building organisational change readiness assumes great importance when the significant cost and organisational energy consumed in change attempts (Lippert & Davis, 2006; Weiner et al., 2008) and the reportedly high risk of failure or the achievement of only partial success are considered. Change readiness is not an automatic state and cannot be assumed (I. Smith, 2005; Stevens, 2013). Newhouse (2010) and Pare et al. (2011) contend that the change readiness of health care organisations and their understanding of the factors influencing their change readiness are critical to improving service quality, continuity of care, reducing costs, improving efficiency and eliminating waste.

2.15 Factors influencing change readiness - overview

Many studies have focussed on the factors influencing organisational change readiness, with many predictors identified (Al-Balushi et al., 2014; Holt et al., 2007; Pare et al., 2011). These include the knowledge and skills of organisation members, social relations in the workplace, organisational culture, management leadership relationships and management support, the ability of employees to cope with change, job demands, perceptions of the appropriateness of change and the self-efficacy (capacity and capability to effect change) of change recipients, effective communication, leadership, adequate training and support, measurement and reward systems (Al-Balushi et al., 2014; Holt et al., 2007; Pare et al., 2011). Pare et al. (2011) found that clinicians' perceptions of organisational readiness to implement clinical information systems during the pre-implementation phase was influenced most positively by vision clarity, change appropriateness, the perception that change is possible, perceptions regarding the organisation's ability to accommodate changing conditions by altering policies and procedures, the presence of an effective champion and collective self-efficacy. In a literature review performed to identify factors enhancing change readiness to implement lean or efficient new processes in a healthcare settings, Al-Balushi et al. (2014) confirmed the readiness factors identified above. However, the authors further stated that the successful implementation of change events in health care settings were directly influenced by the ability of an organisation to operate a decentralised management style and to take an end-to-end view of process change. Al-Balushi et al. (2014) noted that both decentralised management and an end-to-end views of process were difficult to establish in complex organisations such as those providing health care.

A number of scales containing influencing factors and their elements have been constructed to conceptualise and measure organisational change readiness. For example, Simpson (2009) identifies motivation, the extent of institutional resources, the attributes of staff and organisational climate as the main factors influencing organisational change readiness, with between three and six elements associated with each factor. Alternatively, Wen et al. (2010) suggest seven key factors composed of 42 elements influence organisational change readiness for the implementation of interactive health communication systems. These factors are organisational

environment, organisational motivation, the change meeting user needs, change promotion (by institutional champions of influence and through communication channels), the robustness of communicated implementation strategies, perceptions of the extent of fit between the change and departmental processes and organisational awareness and support for the change.

2.16 Change readiness – definitions and constructs

2.16.1. Concepts and definitions

Rather than take a ‘resistance reduction’ view of organisational change, Armenakis et al. (1993) developed a comprehensive, proactive, positive, process oriented model of creating change readiness. What drives this model is the view that rather than building positive responses to change, reducing resistance only reduces the incidence of resistant behaviour. The model focuses on encouraging change recipients’ active support of change events (Armenakis et al., 1993). Researchers have described organisational readiness for change in terms of both a general state of change readiness and an organisation’s preparedness to implement a specific change (Rafferty et al., 2013; Stevens, 2013; Weiner et al., 2008). For example, Lehman, Greener, and Simpson (2002) and Rafferty et al. (2013) viewed organisational readiness for change in terms of general factors while acknowledging that additional factors might influence the outcome of a specific change event. In contrast, other authors approach change readiness from the perspective of a specific organisational change, identifying characteristics often specific to the change under study (Fuchs et al., 2010; Grier, 2012; Parasuraman & Colby, 2015; Simpson, 2009).

The literature contains various definitions and terms related to the concept of organisational readiness for change (Rafferty et al., 2013; Stevens, 2013; Weiner et al., 2008). While this indicates little consistency in conceptual terminology, all terms and definitions point to a similar basic phenomenon (Rafferty et al., 2013; Weiner et al., 2008). For example, readiness is often described as change acceptance or commitment to change (Weiner et al., 2008). These authors describe organisational readiness for change in terms of the extent to which organisational members are psychologically and behaviourally prepared to implement organisational change. Armenakis et al. (1993) relate readiness for change to “organisational members’

beliefs, attitudes and intentions regarding the extent to which changes were needed and the organisation's capacity to make those changes" (p. 683). Herscovitch and Meyer (2002) refer to commitment to change as "a force that binds an individual to a course of action deemed necessary for the successful implementation of a change initiative" (p. 475). These definitions or constructs emphasise a psychological approach to organisational readiness (Weiner et al., 2008). As alternatives, Weiner et al. (2008), note some authors approach organisational readiness from a structural perspective that emphasises organisational capabilities and resources, while others such as Lehman et al. (2002) combine psychological and structural perspectives when viewing organisational readiness for change.

More recently, Michel et al. (2013) note that the focus of discourse on the management of change is shifting from structure and process to "culture, values, identity and motivation" (p. 762). They argue that successful change management is more about individual and group psychology than strategy and leadership. In pursuing psychological approaches to change readiness, many authors have explored and investigated cognitive readiness and the factors influencing cognitive readiness (adaptability, flexibility and acceptability) (Cegarra & van Wezel, 2012) and their implications for training designed to develop the cognitive readiness of teams (Fiore, Ross, & Jentsch, 2012; A. Kluge & Burkolter, 2012).

Cognitive readiness is described as the qualifications, social knowledge, skills, abilities, personality and attitudes required to maintain consistent, competent professional performance and well-being in dynamic, complex and unpredictable environments (Armenakis, Bernerth, Pitts, & Walker, 2007; Bolstad, Cuevas, Babbitt, Semple, & Vestewig, 2006; Grier, 2012; Heric & Carter, 2011; Lottridge, Chignell, & Jovicic, 2011; Schmorow, Bolstad, May, & Cuevas, 2012; A. D. Walker, Horn, & Knott, 2012). Rafferty et al. (2013) note that though agreement exists with respect to the key cognitions or beliefs that underpin change readiness, little attention has been paid to the affective or emotional component of the attitude to change. The term 'affect' refers to qualitative emotions such as love, hate, sorrow and happiness (Crites, Fabrigar, & Petty, 1994; Lottridge et al., 2011). Rafferty et al. (2013) consider this neglect significant as social psychologists Crites et al. (1994) have defined

attitudes as “evaluative summary judgements that can be derived from qualitatively different types of information (e.g., affective and cognitive)” (p. 621). Furthermore, Weiss (2002) identified affective and cognitive elements of attitude as proximal antecedents of the overall evaluative judgements that are attitudes. Both theoretical and empirical investigations support the distinction between the cognitive and the affective elements of an attitude and evaluative judgements that constitute attitudes (Trafimow & Sheeran, 1998; van den Berg, Manstead, van der Pligt, & Wigboldus, 2005). Moreover, other workers contend cognition and affect (emotion) show both differential relationships with the overall attitude evaluation (Breckler & Wiggins, 1989) and differential association with behaviour (Breckler & Wiggins, 1989; Lawton, Conner, & McEachan, 2009). Rafferty et al. (2013) employ theory relating to attitude to show that it is important to consider both the cognitive and affective domains of change readiness when defining and measuring the construct.

The achievement of competency to implement change is a critical aspect of creating cognitive change readiness (Rafferty et al., 2013). A. D. Walker et al. (2012) contend that the major determinants of an individual’s cognitive readiness are those necessary to achieve and maintain competency in any given task. These include qualifications, knowledge, skills, abilities, personality and attitudes. These determinants are relatively stable and can be measured to assess cognitive readiness, though their measurement should be specific to a particular task (A. D. Walker et al., 2012). However, A. D. Walker et al. (2012) also contend that changes in the dynamic states of individuals (their physical, cognitive or emotional [affective] states) can influence the efficiency and effectiveness with which they use their stable cognitive traits. This means that emergent states can influence the relationship between stable cognitive readiness traits and cognitive readiness level. While these authors agree with Bolstad et al. (2006) that distal (external to) individual factors such as physical environment, organisational environment and social environment can affect cognitive readiness they contend these influences impact an individual’s dynamic state, thus indirectly modifying their cognitive readiness. Accordingly, A. D. Walker et al. (2012) define cognitive readiness as “a dynamic measure indicating cognitive preparedness for establishing and sustaining competent performance levels during a unique performance episode, determined by the interaction between the stable traits

(knowledge, skills, abilities and attitudes) and dynamic emergent states (cognitive, affective and psychological) required for the task” (p. 443). Figure 1 depicts the model of cognitive readiness proposed by A. D. Walker et al. (2012).

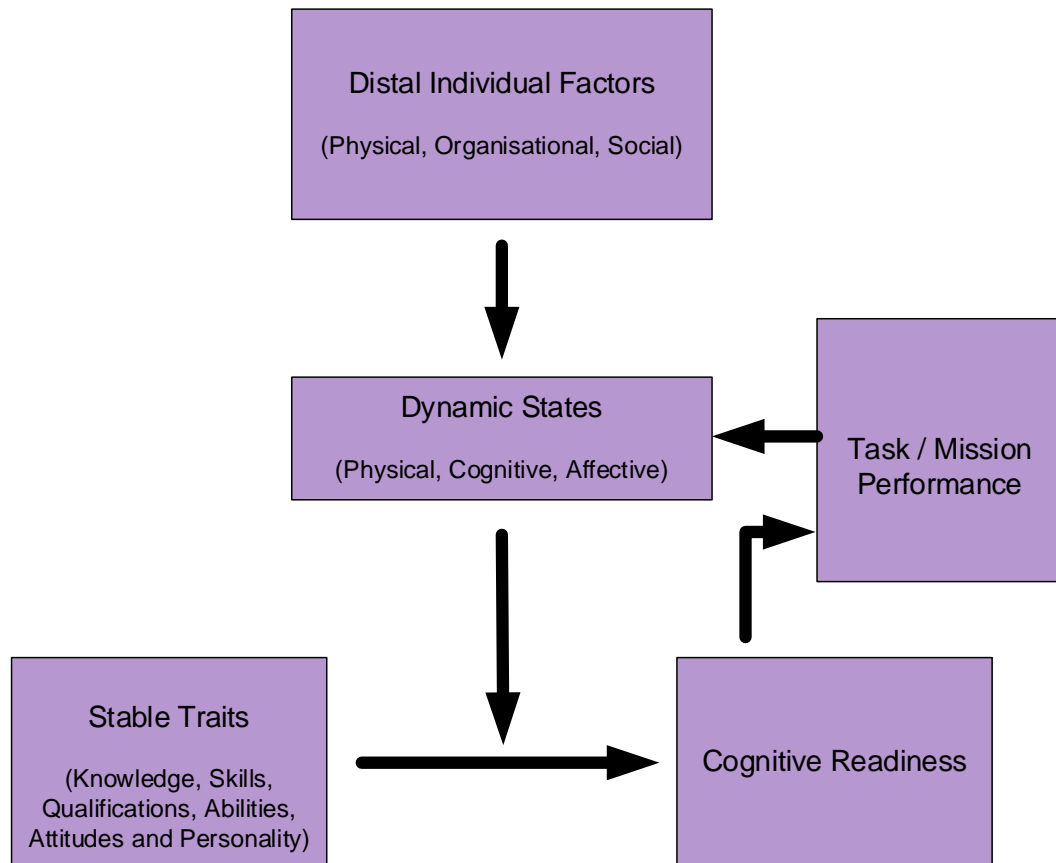


Figure 1: Model of cognitive readiness. Adapted from “Cognitive readiness: The need for a multi-modal measurement approach,” by A. D. Walker, Z. N. J. Horn, and C. C. Knott, 2012, *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 56, p. 444. Copyright 2012 by Human Factors and Ergonomics Society, Inc.

The model of cognitive readiness proposed by A. D. Walker et al. (2012) suggests that organisations should pay attention to distal individual factors and the dynamic states of employees when attempting to create and develop cognitive change readiness in stakeholders, particularly change recipients. Distal individual factors include the existing level of change employees are subjected to when another new change is planned and the provision of adequate resources, while the emotional

responses of change recipients to the nature of the planned change event constitute an important modifier of their dynamic state.

Rafferty et al. (2013) and Kuntz and Gomes (2012) have suggested that the organisational level under investigation (e.g. the work group [team] or individual level) has been a limiting factor in the overall understanding of change readiness. Kuntz and Gomes (2012) contend that organisational sense making is a social process involving employees collecting information and other inputs from both formal and informal organisational sources. These inputs are subsequently used by employees to develop a shared understanding and meaning about the organisation's changing internal and external environments, which in turn influences workplace behaviour (Kuntz & Gomes, 2012; Landau & Drori, 2008). Accordingly, Rafferty et al. (2013) and Kuntz and Gomes (2012) distinguish between individual and organisational implications for and aspects of change readiness. However, several authors note that the study of change readiness has focussed on the level of the individual (Bouckennooghe, 2010; Kuntz & Gomes, 2012; Rafferty et al., 2013).

At the individual each person constructs their own subjective reality (sense-making) from their schema (frame of reference), using tools and processes aligned to the requirements and structural constraints of their position and role in the organisation (Kuntz & Gomes, 2012). While there is some overlap between individual and collective research approaches to organisational sense-making (Kuntz & Gomes, 2012), the problem with analysing change readiness at the individual level is that researchers have used the data collected from individuals to draw conclusions about an organisation's overall readiness for change (Bouckennooghe, 2010; Rafferty et al., 2013). This can lead to major errors in understanding because the nature of relationships identified at one level of analysis can differ significantly at another level of analysis (Ostroff, 1993).

In response to the problem of the appropriate level of analysis for the investigation of organisational sense-making Weiner (2009), Gonzalez (2010) and Rafferty et al. (2013) have acknowledged the importance of individual and collective levels. Weiner (2009) and Rafferty et al. (2013) in particular have developed a multi-level construct

and framework of change readiness consisting of individual, work group and organisational levels. These authors suggest that the adoption and analysis of a multi-level framework for change readiness may reveal otherwise hidden insights such as differing antecedents and consequences of change readiness at the three levels of analysis. They also suggest that the processes leading to the emergence of change readiness at the individual, group and organisational levels may not be the same in each case.

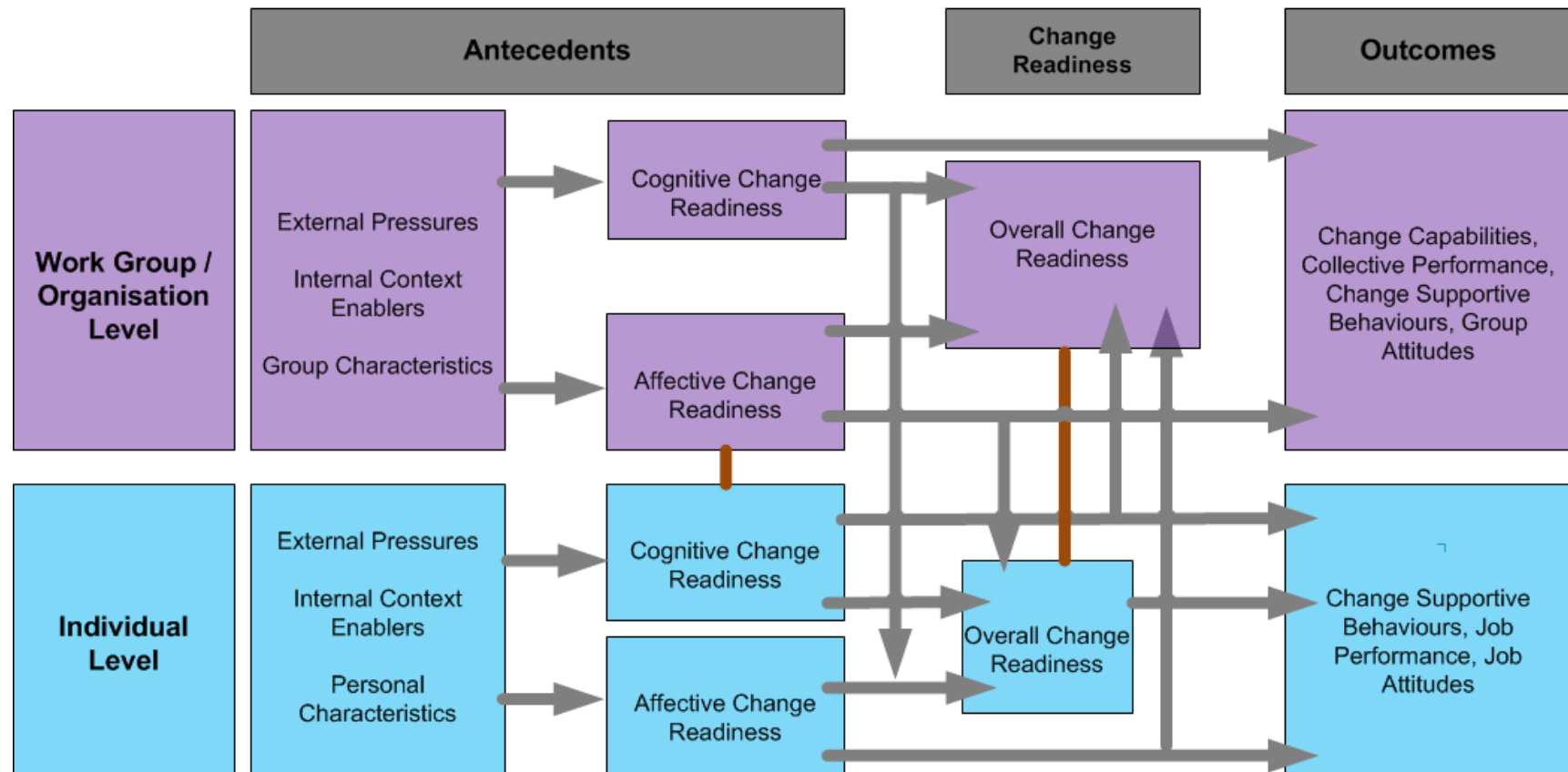
2.16.2. A multi-level construct of change readiness

Rafferty et al. (2013) developed their multi-level theory and framework of change readiness through a four step process. The first step was defining change readiness at the individual level of analysis and describing the theoretical development of that construct. Next they specified the nature and structure of change readiness at the work group or organisational level. In developing the construct at this level Rafferty et al. (2013) built on the work of Kozlowski and Klein (2000), contending that all work group members or organisation members view change readiness in the same way.

The third step involved the assessment of change readiness at the organisational level, using a referent-shift model. This approach agrees with that of G. Chen, Bliese, and Mathieu (2005) who contend that the development of multilevel constructs should be accompanied by an explanation of how the construct should be assessed at the aggregate level, specifying the composition model underlying the approach. A composition model describes how work group or organisational change readiness refers to the same content (that is cognitions and beliefs) and shares the same meaning as individual readiness, while the model itself represents the construct at the group or organisational level. Rafferty et al. (2013) based their referent-shift model on the work of Chan (1998) in developing theory and operationalising change readiness at the level of the group or organisation. The model requires within-group consensus to justify both the aggregation of beliefs and affective responses to change and the general evaluation of individual change readiness to the higher levels (Chan, 1998; Klein & Kozlowski, 2000). Importantly, the shift in the referent occurs before the assessment of consensus and the new referent is combined to represent the

higher level construct. In the case of change readiness the shift is from 'I am ready for this change' to 'my work group feels ready for this change' (Rafferty et al., 2013). It is unlikely that all work group members will be in a similar state of readiness for change and this is acknowledged in the referent shift, however the group may still develop a common view of its cognitive, affective and general change readiness through the development of a shared understanding (Rafferty et al., 2013).

In the fourth and final step, Rafferty et al. (2013) reviewed theoretical and empirical evidence to explore the antecedents of change readiness at each level of analysis. These steps resulted in the development of a multilevel framework, shown in Figure 2, outlining the antecedents and outcomes of readiness for change at the individual, work group and organisational levels (Rafferty et al., 2013).



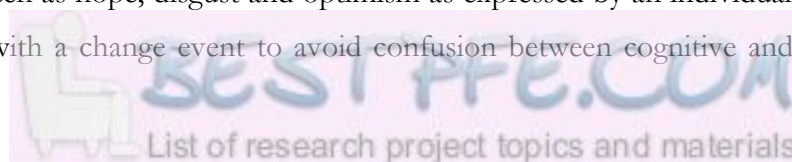
Note: Grey lines display the compositional process through which lower level phenomena are compiled to result in higher level phenomena. Orange lines display potential cross-level relationships

Figure 2: A multilevel framework of the antecedents and consequences of readiness for change. Adapted from “Change readiness: A multilevel review,” by A. E. Rafferty, N. L. Jimmieson, and A. A. Armenakis, 2012, *Journal of Management*, XX, p. 4. Copyright 2012 by The Authors.

Change readiness at the individual level

Rafferty et al. (2013) consider the discussion of change readiness provided by Armenakis et al. (1993) to be the most commonly referred to in the literature and that subsequent definitions of the construct of change readiness at the individual level are derived from this work. Armenakis et al. (1993) construct change readiness as “organisational members’ beliefs, attitudes and intentions regarding the extent to which changes were needed and the organisation’s capacity to make those changes” (p. 683). This construct emphasises cognition but not the affective element of change readiness (Rafferty et al., 2013; A. D. Walker et al., 2012). The beliefs that change is needed and that the individual and the organisation possess the capacity to effect change are identified as essential elements of change readiness. Armenakis and Harris (2002) developed these two beliefs into five that underpin an individual’s change readiness. These are a belief there is discrepancy (that the change is needed), a belief the proposed change is appropriate to the situation, an individual’s belief in their capability to implement the change initiative (belief in their self-efficacy; (Armenakis et al., 2007)), the belief the individual’s organisation will provide the resources and information to support change (the belief of principal support) and finally the belief that the change has benefits for the individual’s job or role (the belief of valence). It is noteworthy that Oreg, Vakola, and Armenakis (2011) have found the belief of self-efficacy to be change specific. The individual’s assessment of the extent to which these beliefs hold true will impact their readiness for change, therefore it is important that senior managers address these beliefs positively when constructing and delivering change messages.

While absent from the construct of change readiness proposed by Armenakis et al. (1993), the affective component of the change readiness construct has more recently received attention (Holt et al., 2007; Lottridge et al., 2011; Rafferty et al., 2013). Holt et al. (2007) define change readiness as “the extent to which an individual or individuals are cognitively and emotionally inclined to accept, embrace and adopt a particular plan to purposefully alter the status quo” (p. 235). Rafferty et al. (2013) contend that affective change readiness should be assessed by capturing separate emotions such as hope, disgust and optimism as expressed by an individual or group associated with a change event to avoid confusion between cognitive and affective



evaluations of change. Rafferty et al. (2013) note that positive emotions to change or towards a future outcome of change that benefits the individual enhance individual change readiness (Rafferty et al., 2013).

Change readiness at the team or work group level

Organisational change initiatives typically involve multiple organisational levels (Grier, 2012; Rafferty et al., 2013; I. Smith, 2005; Stevens, 2013; Weiner et al., 2008; Whelan-Berry, Gordon, & Hinings, 2003). Rafferty et al. (2013) suggest that the change readiness of the organisation and the work groups within it emerge from the sharing of individuals' cognitions and affects through social interactions. These authors argue that the change readiness of work groups or organisations is influenced by the shared cognitive beliefs of members that change is needed, that the work group or organisation has the capability to implement the change successfully, the change will have positive outcomes for the work group or organisation and by positive group or organisational emotional responses to an organisational change.

Various processes contribute to the emergence of work group change readiness (A. Kluge & Burkolter, 2012; Rafferty et al., 2013). In developing shared cognitive beliefs, work groups or teams are exposed to multiple top down processes producing common stimuli. These processes include leaders, managers and organisational events. All individuals in the group experience these stimuli and as group members interact socially in the workplace individual and group sense making processes occur over time, the initial stages of which often involve speculation and rumour (Isabella, 1990). Eventually, views converge and individuals in the group develop a common understanding about organisational events and the nature of the workplace. In this way, the meanings of change events are negotiated between work group members (J. M. George & Jones, 2001; Kozlowski & Klein, 2000; Rafferty et al., 2013).

Several processes can contribute to the development of collective or shared emotional reactions to change, including those of comparison and contagion (Barsade, 2002; Bartel & Saavedra, 2000; Sanchez-Burks & Huy, 2009). In the processes of comparison and contagion, individuals use self-produced (an individual's perceptions of their own expressed behaviours) and situational cues (the

individual's perceptions of the meaning of the behaviour of others) to synchronise their moods with other group members (Barsade, 2002; Bartel & Saavedra, 2000; Sanchez-Burks & Huy, 2009). Emotional comparison most commonly occurs during significant organisational change, as uncertainty causes individuals to seek and utilise cues from team members or from similar individuals to determine the appropriateness of their own emotional state (Bartel & Saavedra, 2000).

Emotional contagion is described by Barsade (2002) as a process where a person or group influences the emotions or behaviours of other individuals or groups by consciously or unconsciously inducing particular emotional states. Emotional contagion leads to individuals in a group attaining emotional harmony through mimicry and synchrony (Bartel & Saavedra, 2000) and collective emotions can be reliably assessed by external experts or group members (Mackie, Devos, & Smith, 2000; Totterdell, Kellett, Teuchmann, & Briner, 1998). Various antecedents of collective emotions have been identified, including task and social interdependence, the frequency and continuity of contact, mood regulation norms (Bartel & Saavedra, 2000), identification with the group (Mackie et al., 2000), commitment to the group and team (work group) culture (Totterdell et al., 1998). Collective emotions have been found to influence individual and work group outcomes. For example, positive emotional contagion leads to group members experiencing increasing co-operation, a reduction in conflict and improved task performance (Barsade, 2002).

Change readiness at the organisational level

The role of transformational leadership in creating shared organisational beliefs in times of change through the establishment of a clear vision is well documented (Herold, Fedor, Caldwell, & Liu, 2008; Oreg & Berson, 2011). Also, a variety of other top down processes such as attraction, selection and attrition (ASA) processes (B. Schneider, 1987; B. Schneider, Goldstein, & Smith, 1995) and organisational socialisation (J. E. Van Maanen & Schein, 1979) can cause employees as a whole to develop shared cognitive beliefs about change events (Rafferty et al., 2013). ASA processes can both reduce variability in perceptions and enable common interpretation of both change events and the workplace by selecting the nature of those recruited and retained and the nature of the organisations structures, processes

and culture (B. Schneider, 1987; B. Schneider et al., 1995). Thus people are attracted to organisations on the basis of their evaluation of their own characteristics and those of the organisation, selection into the organisation is based on an evaluation of a potential employee's fit with the organisation's characteristics and attrition occurs as those with poor fit leave the organisation. In this way, ASA processes result in organisations where employees demonstrate similar characteristics and personalities, increasing the likelihood that they develop similar beliefs (B. Schneider, 1987; B. Schneider et al., 1995). Organisations may also utilise various socialisation practices and tactics to encourage individuals to develop shared cognitive beliefs and acquire the social knowledge and skills needed perform an organisational role and move from outsider to effective insider (J. E. Van Maanen & Schein, 1979).

Sanchez-Burks and Huy (2009) identified various factors affecting the probability of the members of organisations developing similar emotions in the face of organisational change events. They found the existence of similar interpretations about the need for change and similar experiences relating to the costs and benefits of a change event for the work group increased the probability of the development of shared affective responses. Connelly, Gaddis, and Helton-Faulth (2002) contend that transformational, charismatic leaders develop similar affective responses to change in employees through messaging organisational visions or change events in ways that inspire hope and optimism. Dutton and Dukerich (1991) found that employees identifying strongly with their organisations are likely to experience similar emotions in the face of changes that enhance or diminish the organisation's identity. A number of authors have found that organisational culture can play a role in influencing the development of collective affective responses by informing, guiding and disciplining the emotions of employees (Ashforth & Humphrey, 1995; J. Van Maanen & Kunda, 1989). Ashforth and Humphrey (1995) identified four processes that organisations use to influence the experience and expression of affect in the workplace. Firstly neutralising emotions through norms preventing the emergence of emotions. Secondly buffering emotions by implementing procedures aimed at compartmentalising emotional activities. Thirdly, prescribing the emotions that should be experienced and fourthly, suppressing emotion by socialising employees to hide emotions that may interfere with task performance. Rafferty et al. (2013) also

recognise the contribution organisational leadership, identity and culture make to the development of similar affective responses among employees to organisational change (Rafferty et al., 2013).

Antecedents of change readiness – a multi-level perspective

With reference to their multi-level construct, shown in Figure 2, Rafferty et al. (2013) place the antecedents of change readiness into three categories based on theoretical and empirical research into both change readiness and change related attitudes. The first category, external organisational pressures, includes antecedents studied mainly in the context of change readiness at the organisational level such as changes in technology, industry and government regulation. However, other external factors acting at the work group or individual level, such as membership of professional organisations, may be included in this category. The second category consists of internal context enablers such as change participation and communication processes and leadership processes. Personal characteristics acting at the individual level of analysis and group composition characteristics operating at the collective level of analysis constitute the third category of antecedents.

There appears to be no research that has investigated external organisational factors as antecedents of individual change readiness. However, there is much research on the internal context enablers and change related attitudes that act as antecedents of change readiness. Management processes enhancing both participation in the change event and in decision-making positively influence attitudinal responses to change (Gopinath & Becker, 2000; Rafferty & Restubog, 2010). These provide employees with a sense of empowerment and control (Armenakis et al., 1993; Gagné, Koestner, & Zuckerman, 2000) and with opportunities to be heard and to become more accepting of change (Wanberg & Banas, 2000). Several authors have shown that early, effective, high-quality communications about change initiatives enhance employee acceptance of and openness to change and strengthen commitment (Bordia, Hobman, Jones, Gallois, & Callan, 2004; Schweiger & Denisi, 1991). Poor or limited communication can create uncertainty, fuel rumour and may increase resistance to the change event (Bordia et al., 2004; Reichers, Wanous, & Austin, 1997; Wanous, Reichers, & Austin, 2000). According to Herold et al. (2008),

charismatic leaders have a significant influence on the change attitudes of employees and their support for change and Bommer, Rich, and Rubin (2005) suggest such leaders are effective in reducing cynicism towards proposed change. Other internal context enablers include an individual's view of their previous experiences of change (Devos, Buelens, & Bouckennooghe, 2007; Rafferty & Restubog, 2010), their exposure to change (Axtell et al., 2002), their view of the level of organisational support for the change event (Eby, Adams, Russell, & Gaby, 2000; D. R. Self, Armenakis, & Schraeder, 2007), the perceived alignment of values between change agents and those affected by the change event (Kirkman, Jones, & Shapiro, 2000), and the views employees hold about their organisation's values (Jones, Jimmieson, & Griffiths, 2005). The content of the change event is also identified as a significant internal context enabler influencing the change attitudes of employees (Bartunek, Rousseau, Rudolph, & DePalma, 2006; D. R. Self et al., 2007). This is because the content influences employees' perception of what has changed and whether change is transformational or incremental, 'good' or 'bad' (S. D. Caldwell, Herold, & Fedor, 2004; Rafferty & Griffin, 2006). Rafferty and Griffin (2006) suggest that the larger the change content, the more negative an individual's response to change becomes. Personal characteristics such as the individual's needs, values and aspects of personality and generalised self-efficacy have also been identified as antecedents of the change attitudes of individuals (Holt et al., 2007; Kirkman et al., 2000; V. D. Miller, Johnson, & Grau, 1994; Neves, 2009) as have positive self-concept and risk tolerance (Judge, Thoresen, Pucik, & Welbourne, 1999).

At the work group level of analysis, studies have concentrated on internal context enablers as antecedents of broad related attitudes rather than specifically on change readiness (Rafferty et al., 2013). Whelan-Berry et al. (2003) indicate that at the group level of analysis maintaining momentum for change requires both the explicit communication of a group level change vision that clearly shows what the change means for the group and a work-group level implementation plan that takes into account the specific contingencies operating within the group. Sanchez-Burks and Huy (2009) contend that a leader's ability to recognise collective emotions accurately enables better management of emotionally challenging situations such as strategic change. They describe emotional aperture as "the perceptual ability to adjust one's

focus from a single individual's emotional cues to the broader patterns of shared emotional cues that comprise the emotional composition of a collective" (p. 22). Rafferty and Jimmieson (2010) suggest that group level participation and communication, together with other group level change processes are antecedents of work group change readiness. Additionally, Rafferty et al. (2013), without elaboration, suggest an association between group composition and group change readiness and between levels of personality traits within groups and the change readiness of the work group. Edmondson (1999) refers to work group psychological safety to describe a group climate characterised by interpersonal trust and mutual respect and suggests such a group climate may enable work group readiness for change. J. M. George (1990) suggests that collective characteristic levels of the personality traits positive affectivity and negative affectivity within groups influence the emotional tone of the group, while B. Schneider et al. (1995) contend that the ASA process contributes to affective reactions in work groups.

Various external factors and internal context enablers are identified as antecedents of change readiness at the organisational level of analysis. Examples include strategic and structural characteristics as antecedents of an organisation's capability to implement change (Damanpour, 1991), the extent to which an organisation has a future focus in developing strategy (Worley & Lawler, 2009); deliberately includes flexible design (Marshak, 2004; Worley & Lawler, 2009); has on-going commitment to learning and recruits and retains managers and leaders with mind-sets continually open to change (Marshak, 2004; Musteen, Barker Iii, & Baeten, 2006). Organisational cultures that promote flexibility and adaptability, decentralisation and differentiation (Zammuto & O'Connor, 1992) and organisational procedures and change management practices enabling employees and teams to deal with emotional aspects of change (Huy, 1999) have also been found to enhance change readiness at the organisational level.

2.16.3 A process construct of change readiness

Stevens (2013) notes that change readiness is not a static process. Rather, individuals move progressively towards acceptance or resistance to a change event as the event approaches. This indicates that any assessment of change readiness is only relevant

to a point in time and implies that change readiness itself is a process of change, requiring assessment at various points prior to the change event (Stevens, 2013). Rafferty et al. (2013) and Stevens (2013) agree there is confusion in the change readiness literature with respect both to the terms used to describe the construct itself (commitment, attitudes toward change, openness etc.) and to the stages in the change process to which the concept of readiness applies. In addition, in referring to general cognitive or emotional inclinations, definitions of change readiness do not appear to elaborate the specific nature of the psychological construct that is change readiness (Holt et al., 2010; Stevens, 2013). There is also disagreement as to whether readiness is an attitude or an intention (Holt et al., 2007; Rafferty et al., 2013). Holt et al. (2007) contend readiness is an attitude, however their definition contains wording implying behavioural intention. While Jimmieson et al. (2008) investigated intention to change, Rafferty et al. (2013) embraced attitude, considering intention an intensity of attitude. Furthermore, while recent constructs of change readiness include its analysis at various levels (Gonzalez, 2010; Rafferty et al., 2013) there is a lack of clarity as to how these levels interact and be assessed (Stevens, 2013). In considering these issues, Stevens (2013) developed a construct of change readiness, outlined in Figure 3, framing change readiness as a process grounded in context and focussing on readiness at the individual level.

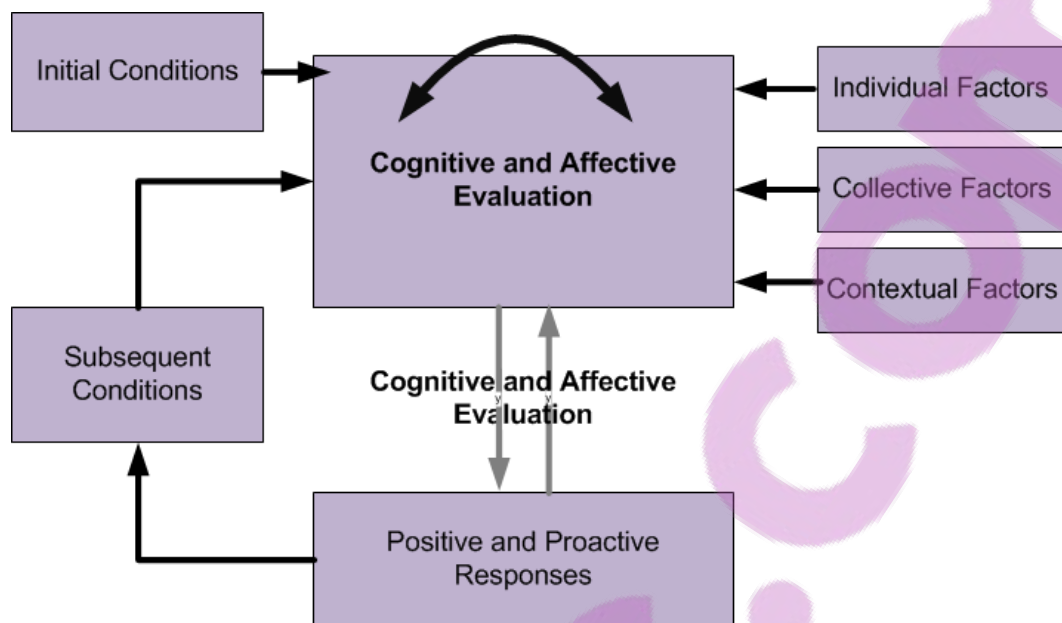


Figure 3: A process-based model of change readiness. Adapted from “Towards a process-based approach of conceptualizing change readiness,” by G. W. Stevens, 2013, *Journal of Applied Behavioral Science*, 49, p. 346. Copyright 2013 by the NTL Institute.

Stevens’ model (2013) assumes that change readiness is an iterative and continuous process of forming cognitive and affective evaluations and responses, influenced by multiple internal and external factors. Initial conditions and other individual, collective and contextual factors lead to an initial readiness response and subsequent conditions influence a re-evaluation and result in new response profile. There is also potential for earlier evaluations and responses to influence a current evaluation and for this process to take place with respect to several elements of a change process (Stevens, 2013). Stevens’ (2013) model is more general in character than other constructs. For example, the term “responses” does not distinguish between attitudes, intentions and behaviours. Stevens contends these distinctions apply more to a specific set of circumstances and conditions than to readiness itself. His approach emphasises “a positive and proactive response to change over time as a function of contextualized affective and cognitive evaluations” (p. 346).

Including the notion of time in a process construct emphasises that individuals may develop readiness as conditions change during the change process (Stevens, 2013). Stevens (2013) also contends that in contrast to other constructs of readiness, his model addresses both the development of readiness for various components of change and that readiness for one element of change may influence readiness for others over time. The introduction of time into the readiness construct also takes into account the effect of prior and anticipated actions and evaluations on an individual's present evaluations (Stevens, 2013). Considering change readiness over time also means individuals can look back at their responses to change and utilise them to develop responses that will guide future behaviour. As Stevens' (2013) model aims to capture all responses to change, the inclusion of time in the readiness construct introduces the idea that responses associated with change readiness, either in part or in an overall sense, can be captured and used to assess change readiness. This concept is important as more active behaviours may be required to demonstrate change readiness, participation and support as the change process advances (Stevens, 2013).

Whilst it appears that neither Stevens (2013) nor other researchers have empirically assessed the process model of change readiness, Stevens does suggest a mixed methods approach. As a first step Stevens proposes a longitudinal qualitative study to identify the types of conditions individuals consider relevant during change and therefore most likely to be evaluated in determining an appropriate response supportive of change. Stevens contends such investigation would identify the specific conditions that individuals respond to, how these conditions are evaluated and the resulting responses during the full change period, rather than at a specific point in contemplating or implementing a change event. The results of such investigation could be used to develop a general framework containing the influential conditions and contextual elements causing a set of evaluations resulting in responses supportive of change. Stevens posits that as evaluations and responses are likely to change over time, existing measures of readiness are likely to be unhelpful. The implication is that quantitative assessments concentrating on following evaluations and responses as they develop over time will be more reflective of both the ultimate

success of a change event and the context-dependent nature of evaluations and responses to change.

This study used a qualitative mixed methods approach to create a quantitative tool (a State of Readiness Tool) to assess and develop change readiness over time. A longitudinal approach was taken to the extent that the research encompassed the entire change process related to the implementation of the *interRAI-HC* tool at each participating DHB. This enabled the identification of the types of conditions individuals consider relevant to change readiness throughout all the stages of planned change. However, in contrast to Stevens' (2013) suggestion, a contingency approach was also applied in developing a State of Readiness Tool. The recurring situation of the implementation of the *interRAI-HC* tool at the six DHBs enabled the identification of contingency and response variables that provided additional insights into the creation and assessment of change readiness to implement complex processes into DHBs.

2.17 Assessment of change readiness

2.17.1 Overview

Armenakis and Harris (2002) cite four basic approaches to assessing change readiness that organisations might employ singly, together or in combinations. The first is an audit of the effectiveness of change messages, the second involves observation of employee behaviour towards change, the third is to obtain direct information on employee attitudes, feelings and beliefs about change through individual and group interview and the fourth and most formal approach is through organisational survey. The focus of survey approaches has been on the development of quantitative tools designed to predict the likelihood of successful change and administering surveys prior to the implementation of planned change (Padhi, Jena, Zanger, & Kapil, 2014; Rafferty et al., 2013; Waheduzzaman & Miah, 2015; Weiner et al., 2008). Regardless of the approach(es) utilised, the assessment of change readiness is typically relevant only to the point in time at which the assessment is made (Stevens, 2013). Furthermore, some attempts to measure change readiness focus on narrow descriptions of change readiness such as intention to be involved in change (Karim et al., 2012) or commitment to change prior to the event (Mueller, Jenny, & Bauer,

2012). However, intention and commitment are only two aspects of change readiness contained in the literature and intention or commitment to a planned change prior to its introduction does not mean commitment to the change event will continue during the implementation phase, suggesting the assessment of change readiness needs to be an on-going exercise (Al-Haddad & Kotnour, 2015; Stevens, 2013).

The resources and organisational effort consumed in implementing organisational change events highlight the importance of validity and reliability as characteristics of change readiness assessment tools. However, the concept of change readiness does not possess a clear and defined content domain (Oreg et al., 2011; Stevens, 2013). This invites criticisms related to its operationalization and measurement including narrow definition, questionable validity, generalizability and poor psychometric characteristics (Holt et al., 2007; Stevens, 2013; Weiner et al., 2008). Stevens (2013) claims this situation is compounded by the failure of those with different concepts of change readiness to integrate the relevant literature either theoretically or empirically and identify similarities and differences in the various constructs. Al-Haddad and Kotnour (2015), also noting these failings have attempted to integrate the literature on organisational change and develop a framework for successful change.

In reviewing the literature, Al-Haddad and Kotnour (2015) found it covers four major areas, essentially unconnected at their time of writing; change type, change enablers, change methods and change outcomes. They found that some writers have connected change types and change methods and others have connected change methods and change outcomes, but could not find other connections between these groups of literature. Al-Haddad and Kotnour have defined the four groups of change literature and proposed a taxonomy of the change literature based on these groups. They also identify establishing connections between change types, (e.g. large and small), change methods (e.g. planning and communication) and change outcomes (consequences of change such as project objectives) as avenues for future research in the development of change readiness and its assessment. It is noteworthy in this context that this study aimed to build these connections, in a practical way, into the construction of a State of Readiness Tool which assesses and enables the

creation and enhancement of change readiness through all the phases of a complex change event.

Organisational change readiness is distinct from organisational operational readiness. The latter involves obtaining maintaining, assessing and improving the efficiency and effectiveness of the performance of current, day-to-day tasks and activities (Allyn, 2013; Schmitz et al., 2014; Usrey, 2014; Zubik, Hastings, & Glisson, 2014). However, operational readiness is required to effect a change event, particularly where new and complex technology and process are involved. Much of the work to understand, assess and improve organisational operational readiness has been commissioned or undertaken by the military (Grier, 2012; Schmitz et al., 2014; A. D. Walker et al., 2012). Aspects of the assessment of operational readiness, particularly those relating to performance assessment may be relevant to the assessment of change readiness, as the acquisition of knowledge and skills to the required level of competence and performance is a component of change readiness (Rafferty et al., 2013; A. D. Walker et al., 2012). A. D. Walker et al. (2012) stress the importance of task specific assessment of operational readiness and Schmitz et al. (2014) describe an approach to assessing the operational readiness of combat medics to perform life-saving procedures. These authors identified the critical aspects of operational performance and then considered adopting, adapting or constructing a valid and reliable assessment instrument and test protocol.

A literature search identified only one standardised, valid and reliable multifaceted instrument to measure combat medic skills, approved for the assessment of some skills but not others. This required Schmitz et al. to employ an inductive approach to the development of a reliable, valid instrument to test readiness to perform those procedures not already covered. First, these authors identified the critical aspects of performance to test by observing medic training at several military sites, interviewing instructors and obtaining teaching and testing resources. This process resulted in the identification of 226 potentially critical process steps and errors and standards and tasks for 11 relevant procedures. These together with test construction and scoring were refined through literature, the development of inclusion and exclusion criteria and expert review. The resulting instrument contained 122 items covering nine

procedures and seven global rating scales. A pool of expert instructors and paramedics (acting as raters or auditors) underwent comprehensive briefing, debriefing and video and live-based training in the use of the assessment tool. Guidelines were also prepared to facilitate standardised scoring practice among the raters (auditors). The authors report that administration of the tool and subsequent data collection and analysis validated the tool and indicated reliability. Other studies have taken a similar approach to assessing operational readiness with respect to performing isolated tasks and procedures (Chipman & Schmitz, 2009; Lineberry, Ricci, Pharmed, & Milham, 2011; Mabry, 2005; Siu et al., 2010; Sweet, Hananel, & Lawrenz, 2010). It is noteworthy that with respect to the assessment of individual change readiness, Lottridge et al. (2011) contend that while assessment techniques to assess an individual's dynamic state (e.g. emotional state) are available, these may not reveal all dynamic, particularly emotional, states.

The assessment of change readiness enables an evaluation of how change ready employees are prior to the implementation of the change event and enables the identification of differences between the attitudes and expectations of leaders or managers and other employees regarding the change event. If these are not resolved by effective remedial action, resistance might compromise the success of the change event (Armenakis et al., 1993; Holt et al., 2007; Rafferty et al., 2013). A literature search pertaining to the tools used to assess organisational, work group or individual change readiness resulted in the acquisition of only a limited number of relevant articles. Rafferty et al. (2013) and Stevens (2013) also indicate difficulty in accessing literature dealing with such assessment instruments. Observation, interview and other qualitative techniques such as focus group discussion can be used to acquire information to assess change readiness (Holt et al., 2007; Weiner et al., 2008), these can combined with quantitative methods such as questionnaires, which are easily distributed (Holt et al., 2007; Touré et al., 2012) and have the advantage of enabling judgements about the reliability and validity of the assessment of change readiness itself if suitably constructed (Holt et al., 2007). It is acknowledged that the construction of reliable and valid quantitative assessments of change readiness is problematic (Holt et al., 2007; Stevens, 2013; Weiner et al., 2008), particularly with

respect to validity and reliability, the dimensions and assessment of which are set out in Table 8.

Table 8: Types of Validity and Reliability associated with readiness assessment tools

Item and Description	Assessment of elements of validity and reliability
<p>Construct Validity The degree to which inferences can legitimately be made from an instrument to the theoretical construct it purportedly measures and includes Translational validity: the degree to which an instrument accurately translates (or carries) the meaning of the construct. This includes (a) Face validity: the summary perception that an instrument's items translate (or carry) the meaning of the construct and (b) Content validity: a check on the instruments items against the content domain of the construct.</p>	<p>Face Validity Assessed through informal review by experts / formal Delphi process Content Validity; assessed by expert review based on clear definition of the construct and a checklist of characteristics describing the construct or factor analysis to verify existence of those theoretically meaningful dimensions in the case of multi-dimensional constructs.</p>
<p>Criterion-related validity An empirical check on the performance of an instrument against some criteria, typically (a) Predictive validity: the degree to which an instrument predicts a theoretically meaningful outcome (b) Concurrent validity: the degree to which an instrument distinguishes groups it should theoretically distinguish (c) Convergent validity: the degree to which an instrument performs in a similar manner to other instruments purportedly measuring the same construct (d) Discriminant validity: the degree to which an instrument performs in a different manner to other instruments that purportedly measure different constructs (ie two instruments show zero or negative correlation).</p>	<p>Predictive Value Assessed by regression analysis in which the instrument serves as an independent variable – predictive value is not demonstrated if the instrument serves as a dependent variable Concurrent Validity: Assessed by e.g. a depression Screener distinguishes between depressive and non-depressive patients Convergent Validity: usually assessed by confirmatory Factor analysis Discriminant Validity: usually assessed by confirmatory factor analysis.</p>
<p>Reliability The consistency of reproducibility (or precision) of an instrument's measurement.</p>	<p>Assessed by inter-rater or inter-observer reliability, t-test reliability, parallel forms reliability, internal consistency reliability</p>

Note. Adapted from "Conceptualization and measurement of organizational readiness for change: A review of the literature in health services research and other fields," by B. J. Weiner, H. Amick, and S.-Y. D. Lee, 2008, *Medical Care Research and Review*, 65, p. 48. Copyright 2008 by Sage Publications.

Relevance to organisational setting and the specific change in question were principal issues that compromised the validity of 32 quantitative instruments measuring change readiness from various aspects (such as change process, change specific content, change context and individual attributes) reviewed by Holt et al. (2007) and most of 43 instruments for measuring organisational change readiness reviewed by Weiner et al. (2008). Weiner et al. report only 22 of the 43 instruments assessing change readiness reviewed had undergone assessment of content validity. This means the authors of half the instruments reviewed did not indicate whether they had assessed the extent to which their instrument's items represented the theoretical content of the construct of change readiness used to underpin the instrument. In the case of 21 of the instruments reviewed, their authors altered item wording from other instruments, used only parts of existing instruments or combined items from existing instruments without providing any reasoning for these approaches. Only fifteen of the 43 instruments showed evidence of predictive validity using regression analysis and only seven had undergone a systematic psychometric assessment (Weiner et al., 2008). Weiner et al. concluded that most publicly available instruments for measuring change readiness provide little certainty that what was purported to be measured was actually measured. Papadakaki, Prokopiadou, Petridou, Kogevinas, and Lionis (2012) highlight the need to resolve cultural differences and difficulties with translation and interpretation when readiness assessment instruments are transferred from one country or culture to another. Wild et al. (2005) stress the importance of using forward-backward translation process while Short, Surprenant, and Harris (2006) suggest the design of special tools and processes to facilitate translation and meaning. Cognitive debriefing is considered a useful method to assess face validity and address comprehensibility, ambiguity of terms and relevance to social context when refining assessment instruments (Wild et al., 2005). The psychometric properties of scale reliability, item specific reliability, repeatability, construct validity and internal predictive validity must be thoroughly tested before an instrument is used (Holt et al., 2007; Papadakaki et al., 2012; Weiner et al., 2008).

Despite these issues, Holt et al. (2007) contend that organisationally relevant, change specific comprehensive measures of change readiness can be constructed from four

measurement perspectives: the change content; the change process; the change context; and the characteristics of those being asked to change. The assessment of readiness then indicates the extent to which an individual or individuals are cognitively and emotionally disposed to accept and adopt a specific planned change. Holt et al. (2007) developed a quantitative approach to the measurement of change readiness using this theoretical framework, available change readiness literature and data gathered from interviews and focus groups with organisational managers to identify key readiness factors and items that reflected each factor. These readiness factors and items were reviewed by an expert panel and the items deemed most appropriate, together with other known scales designed to measure individual and contextual characteristics were used to develop a questionnaire incorporating a seven-point response scale. Subsequently, organisation specific key customer requirements and core business functions, including leadership objectives were considered in finalising the questionnaire. The questionnaire was administered six weeks prior to implementation of a change event. Responses were analysed using factor analysis to measure change readiness at the individual level of analysis. Processes were established to evaluate the construct and predictive validity of any new scales developed during these processes (Holt et al., 2007). The questionnaire was administered to 900 employees and tested in two organisations. The results suggested change readiness is a multi-dimensional construct influenced by employees' beliefs that they are capable of implementing the change, the change is appropriate for the organisation, leaders are committed to the change and the proposed change benefits those in the organisation.

Developing organisational change readiness as an organisation-level construct, particularly with respect to collective capabilities must consider whether an assessment tool's items should be self-referenced or group referenced (Weiner et al., 2008). Individuals' appraisals of their personal capabilities could be aggregated or individuals' appraisals of their organisation's capabilities as it operates as a whole could be aggregated. The second approach captures the interactive and coordinative aspects of working in and across work groups but individuals may find it hard to evaluate collective capabilities (Weiner et al., 2008). Bandura (2000) contends that assessment based on individuals' assessment of their own capabilities is indicated if

the collective outcome is the sum of individual performance and that measurement based on individuals' assessment of organisational capabilities be employed when collective outcomes depend on effective and efficient teamwork.

The timing of the assessment of change readiness is a recognised challenge (Rafferty et al., 2013; Stevens, 2013; Weiner et al., 2008). If the focus of the readiness construct is on the implementation of deliberate change, assessment should follow the decision to adopt but be prior to implementation. A short timeframe between these events can make this difficult in large organisations and in multi-organisational change events (Weiner et al., 2008). The identification of appropriate groups in which to assess change readiness is also a challenge. Weiner et al. (2008) suggest assessing multiple organisational members to avoid single source or champion bias and that only those organisational members involved in implementing or affected by the change should be assessed for readiness.

In response to the accelerating technology driven changes in service sectors Parasuraman (2000) developed a Technology Readiness Index (TRI) to measure an individual's likelihood of embracing and using new technology both at home and at work. The conceptual underpinnings and domain of technology readiness was rooted in the literature on technology adoption and people-technology interaction, particularly the work of Mick and Fournier (1998) which identified technology paradoxes such as freedom / enslavement, assimilation / isolation, efficiency / inefficiency and suggested technology may cause positive and negative feelings. Building on this work and prior studies related to interactive media (Cowles & Crosby, 1990), teleshopping (Eastlick, 1996), self-service technology (Dabholkar, 1996) and consumer beliefs and motivations reducing or enhancing the adoption of new technology (Davis, Bagozzi, & Warshaw, 1989; Hoffman, Novak, & Peralta, 1999), Parasuraman (2000) developed a 36 point scale to measure technology readiness (Technology Readiness Index or TRI) and suggested that the relative ascendancy of positive and negative feelings about technology varies across populations causes corresponding variations in peoples' acceptance and use of new technology. Parasuraman's (2000) multifaceted construct of technology readiness is comprised of four domains collectively determining an individual's predisposition to

the use of new technology. These are: (i) optimism (a view or belief that technology provides more control, flexibility and efficiency); (ii) innovativeness (a predisposition to be a technology pioneer and thought leader); (iii) discomfort (perceptions of lack of control over technology and being overwhelmed by it); and (4) insecurity (distrust of technology rooted in scepticism of its ability to work properly and worries about its harmful effects). The first two dimensions are motivators and the last two inhibitors, with individuals possibly demonstrating combinations of these characteristics (Parasuraman, 2000). Parasuraman (2000) employed similar processes to those described by Holt et al. (2007) and Weiner et al. (2008) to develop and validate the TRI that he developed in 2000 and again to update it (Parasuraman & Colby, 2015).

The TRI tool is a questionnaire containing 36 belief statements, each with a fully anchored 5 point scale (1 = strongly disagree and 5 = strongly agree) of which 10 measure optimism, 7 innovativeness, 10 discomfort and 9 insecurity. Thus, the instrument provides both an overall and a dimension specific measure of technology readiness. Administration and refining of the TRI over time has led to the identification of 5 population segments, (1) sceptics, having fewer positive and negative beliefs and with a detached view of technology (2) explorers with high motivation for and low resistance to technology (3) avoiders with high resistance and low motivation (4) pioneers with strong positive and negative views of technology and (5) hesitators with low innovativeness. The limitations of the instrument are rooted in the subscales for inhibitor dimensions of discomfort and insecurity, which are weak on some psychometric criteria, particularly those around perceived control and distrust of technology (Parasuraman & Colby, 2015).

2.17.2 Assessment of change readiness in health care

Weiner et al. (2008) reviewed the literature regarding the conceptualisation and measurement of organisational readiness in health services and other fields. These authors found the majority of quantitative change readiness assessment instruments demonstrated limited evidence of validity and reliability. Though desirable psychometric characteristics were included in three instruments, these instruments were designed and shown to predict outcomes at the individual level of analysis only.

Their utility in predicting organisational level outcomes was unproven. Weiner et al. recommend greater attention to measurement development, testing and refinement with respect to instruments assessing organisational change readiness in health care (and other) settings and provide recommendations for enhancing the reliability and validity of such tools. The most important recommendations are that an instrument's content renders it useful for a range of deliberate organisational changes and that the instrument's instructions focus the respondent's attention to a specific proposed organisational change to provide a point of reference and because organisational readiness may vary with the nature of the change. Weiner et al. suggest the application of these recommendations might increase the reliability of an instrument and that attaching a specific reference to a change helps distinguish the readiness construct from others such as organisational culture, increasing discriminant validity. These authors also contend that focussing on a specific change event might render the instrument a proximal indicator of subsequent behaviour, increasing predictive validity. The identification and inclusion of common tasks associated with implementation, especially those with respect to the capability component of readiness such as change activities, mobilising resources and training may help to generalise the instrument (Weiner et al., 2008).

Wen et al. (2010) developed and validated a readiness model specifically to predict the success of interactive health communication systems (IHCS). The authors drew on diffusion of innovation theory, organisational change and implementation theory to build and validate a Readiness Implementation Model through four stages of development. These stages involved firstly the development of a model of elements likely to influence successful adoption together with two or three descriptions (element levels) relating to how strongly each factor influences (strong, minor or negative influence) implementation. In phase two, the model was refined by experts at five sites that had implemented IHCS into seven higher-level factors each containing five elements. Phase three involved review, quantification and weighting of the factors and elements by 410 experts according to desirability and importance using self-explicated and conjoint analysis commonly used in marketing for measuring customer preferences and which have validity, reliability and predictive power. Internal checks were performed to ensure rating consistency and holdout

profiles were used to evaluate both approaches. The resulting model was evaluated in the fourth phase through a one-year longitudinal study in 25 sites implementing IHCS involving survey of key administrators and those implementing at each site at zero, six and twelve months. The model accurately predicted 68 percent of the successful and 87 percent of unsuccessful implementations, under-estimated 32 percent of successful implementations and falsely identified 17 percent of unsuccessful IHCs implementations as potentially successful. However, the study had several limitations: inclusion criteria were narrow, directed at implementations providing systems to patients and allowing patients to be more active in care (reflecting a customer focus), most of the experts were academic, possibly introducing bias and decisional factors that should have been mutually independent in conjoint analysis experiments were found not to be so (Wen et al., 2010). Furthermore, the authors did not appear to outline their construct of change readiness, thereby invalidating the content.

Approaches similar to those described by Holt et al. (2007) and Weiner et al. (2008) have been used to assess readiness to implement telemedicine (A. B. Martin et al., 2012) and organisational and individual e-health readiness (Touré et al., 2012).

2.18 Developing a SoRT

A number of considerations impacted the development of a SoRT through this study. Existing tools to assess change readiness provide a reference point in time only (Rafferty et al., 2013; Stevens, 2013; Weiner et al., 2008). Change readiness itself changes with time and context, rendering the predictive value of such tools questionable (Stevens, 2013). Also, the busy internal environment and numerous and varied employees found in DHBs renders the multiple use of questionnaires and other semi-quantitative and quantitative survey tools to assess readiness for each planned change event through time impractical. Rather than develop a predictive tool, this research aims to synthesise a quantitative State of Readiness Tool (SoRT) that can be used by a change implementation team or project implementation group to assess, create, develop, assess and continually monitor and improve change readiness throughout the phases of implementation of a change event. Thus, using the SoRT, members of the change implementation team acts both as raters and

enablers of change readiness and receive regular feedback about the progress of change, the beliefs, attitudes and behaviour of change recipients and stakeholders and the achievement of milestones and performance indicators. The aim is to construct an iterative process that creates and builds change readiness and a future that encourages the emergence of beliefs, attitudes and behaviours supportive of planned change. This increases the likelihood that implementation of planned change events will be successful. Such an approach aligns with both the concept of emergence central to the theory of Complex Adaptive Systems and Stevens' construct of change readiness as a process.

As shown in Table 9, the construct validity of the SoRT was assessed by a focus group of expert stakeholders (raters). However, the approach to the criterion-related validity of the SoRT was somewhat different to that of other tools for assessing change readiness. First, as indicated above, the SoRT is not intended or designed to be a predictive tool, therefore predictive value was not assessed. Second, the researcher could find no other tool for the assessment of change readiness in the literature that was of a similar nature to the SoRT. That is, no other tool that is not self- or group-referenced, that utilises the process construct of change and employs a create-assess-build-assess cyclical approach to assessing, creating and re-assessing change readiness over time. The lack of another similar tool means that it is not possible to determine the convergent validity of the SoRT. Third, any investigation of concurrent and discriminant validity requires the application of the SoRT and other tools to assess change readiness to multiple change events. In addition, the investigation of concurrent and discriminant validity requires a longitudinal study over multiple change events. Such a study will require more time than that allowed for the completion of a doctoral thesis. Due to the issues related to the investigation of the SoRT's criterion-related validity, such investigation is considered beyond the scope of this study and an avenue for further research.

Investigation of the reliability of the SoRT requires that it be applied to other DHBs implementing the *interRAI-HC* tool. Only six DHBs in New Zealand have implemented the *interRAI-HC* tool and all these are involved in this study, rendering such application impossible. The investigation of reliability also requires a significant

longitudinal study, beyond the time-frame allowed for doctoral study. However, reliability of the SoRT may be assessed at such time as more DHBs implement the *interRAI-HC* tool. Instead, a diagnostic test, involving the retrospective application of the SoRT to the six DHBs participating in this study and described later in the thesis (Chapter seven), indicated, indirectly, that the SoRT may possess reliability.

Table 9: SoRT: Assessment of Validity and Reliability

Item and Description	SoRT: Assessment of elements of validity and reliability
Construct Validity	Assessed through formal review or the SoRT by a focus group of experts
Criterion-related validity	Criterion-related validity is recognised as an avenue for further research.
(a) Predictive validity	
(b) Concurrent validity	
(c) Convergent validity	
(d) Discriminant validity	
Reliability	Avenue for further research
Diagnostic testing as an indication of SoRT utility	Retrospective application of the SoRT to each DHB's implementations of the <i>interRAI-HC</i> tool

2.19 Summary

The New Zealand publicly funded health system and the sub-systems within it can be considered complex adaptive systems, consisting of multiple external and internal complex groups and relationships. In common with other countries, the system and the organisations within it are facing significant challenges. Organisations within the health system are able to respond to these challenges in different ways due to differences in characteristics such as structure and technology. They can learn and adapt to or create change in response to these challenges. However, planned changes often fail or do not achieve the expected benefits, with readiness for change identified as a critical precursor to the successful implementation of change events.

While there is disagreement and confusion about the nature, description and constructs regarding the concept of change readiness, two constructs, the multilevel and process constructs of change readiness offer important insights into achieving change readiness. Creating and building change readiness in complex adaptive systems such as DHBs involves facilitating the emergence of beliefs, attitudes and behaviours that support a change event. Literature suggests such emergence is encouraged by formulating appropriate responses to contingency variables, harnessing the enabling antecedents of change readiness and developing and implementing a performance measurement and management system.

This study seeks to utilise these concepts and the findings of its research to develop a State of Readiness Tool (SoRT), underpinned by the process construct of change readiness, that facilitates the emergence, assessment and enhancement of change positive beliefs, attitudes and behaviours. However, in contrast to the self-referenced or group referenced tools mentioned in the literature available to the researcher, the SoRT is intended for use by change agents to rate or audit and build change readiness at the individual, work group and organisational level. In addition, the SoRT is intended to be used at multiple points in time during the contemplation, planning and implementation of a change event so that change readiness is assessed and built continuously until the change is deemed assimilated into routine operations.

2.20 Research aims and questions

In developing a State of Readiness Tool to aid the successful implementation of change events, this study seeks to address three research questions:

1. What does success look like in relation to implementation of new systems or technology (*interRAI*) from the perspective of: (i) national policy makers; (ii) local executive management; (iii) local policy managers; (iv) operational managers; and (v) users?
2. What are the characteristics that determine successful implementation of new processes or technology in complex health systems using *interRAI* as a case study?
3. How can a State of Readiness Tool support implementation of new processes or technologies in the context of introduction of *interRAI* across six District Health Boards?

Chapter three describes and defends the methodologies employed to answer these questions and develop a SoRT.

Chapter 3: Methodology

Subjectivism is not an absolute principle; it is a necessary but not sufficient condition for sound methodology.

Murray Rothbard (1926 – 1995)

3.1 Introduction

This chapter describes the philosophical reasoning and theoretical considerations leading to the selection of the methodology used to address the research questions of this study. While the term ‘methodology’ may be variously defined or described, it is the definitions or descriptions of methodology outlined in this Chapter that will be applied in this study. Tashakkori and Teddlie (2003) regard methodology as connecting research methods to a constructed philosophical framework underpinning the approach to the research question(s). This means the methodology applied to research questions must generate confidence that the methods used will lead to knowledge which is valid to those question (Anaf, Drummond, & Sheppard, 2007; David R. Thomas, 2003). This study aims to identify the contingency variables influencing change readiness. It also aims to describe how change readiness to implement complex new technology or process can be enhanced in organisations operating in the New Zealand Public Health System to increase the incidence of successful change events. The development of knowledge around how strategy, human behaviour and service, organisational and sector performance measures can be integrated to support successful change management is also addressed (Powell, 1990). Furthermore, the study sought to use this knowledge to develop a tool that could be used by organisations operating in the New Zealand Public Health System to facilitate successful implementation of new process or technology. This involved five basic steps, described in Table 10.

Table 10: Steps in the development of the SoRT

Developmental steps
1. Gaining knowledge about participant understanding of the <i>interRAI</i> -Home Care (<i>interRAI</i> -HC) tool, the need for change and the ways in which the first six District Health Boards (DHB) implemented the tool and about the alignment of each implementation with national policy intent
2. Gaining knowledge about the perspectives of participants at the various organisational levels of the health system about the meaning of successful implementation
3. Gaining knowledge about the contingency variables influencing change readiness to introduce and assimilate the <i>interRAI</i> -HC tool at each DHB
4. Utilising this knowledge to develop a State of Readiness Tool (SoRT) for potential users to create, build, monitor and evaluate change readiness to introduce and assimilate complex change events
5. Gaining information on the utility and content validity of the tool from a focus group of potential users

These aims resulted in the selection of a qualitative research design involving case studies, a general inductive approach utilising semi-structured interviews (Anaf et al., 2007; R. A. Anderson, Crabtree, Steele, & McDaniel, 2005; Gill, 2014; Patton, 2002; Tashakkori & Teddlie, 2003; David R. Thomas, 2003) and emergent design (R. A. Anderson et al., 2005; Gill, 2014; Patton, 2002; Tashakkori & Teddlie, 2003). This led in turn to the development of SoRT following analysis of participants' semi-structured interviews. The choice of research methods resulted from an awareness that the answers to the research questions prompting this study lay in the attitudes, affinities, experiences and learning of the people involved in leading or implementing the *interRAI*-HC in the six participating DHBs in New Zealand. That this implementation occurred within the context of the policy and complex adaptive operating environment of the broader health system further reinforced the selection of qualitative research methods. Case study and general inductive methodologies are considered particularly useful methodologies in the exploration of human activity in the context of environment (R. A. Anderson et al., 2005; Flyvbjerg, 2011; Gill, 2014; David R. Thomas, 2003). The main strengths of the case study research method lie

in its depth, attention to detail, richness, completeness and its exploration of within-case variance (Flyvbjerg, 2011; Gill, 2014).

3.2 Research methodology paradigms

DHBs and other entities operating in the New Zealand Public Health System provide Health Services within both formalised and spontaneous social, cultural and psychological frameworks and processes (Dash, 1993). In this context, the researcher considers this study social rather than bio-medical in nature. For many years, there has been dispute between supporters of quantitative and advocates of qualitative research paradigms (Flyvbjerg, 2006b; Gill, 2014; Lincoln & Guba, 2000). The dispute centres around the way in which social observations should be treated, resulting in the so called 'Paradigm Wars'. Regardless, supporters of either paradigm agree the two should never be mixed, based on the incompatibility thesis (Howe, 1988).

Staunch advocates of quantitative research adhere to a positivist philosophy, contending that social observations be treated in the same way that physical scientists address physical phenomena. They regard the observer as separate from that which is under observation, holding that investigation in social science should be objective. Enquiry should enable the development of time- and context- free generalisations, leading to valid and reliable social scientific outcomes, i.e. those that are measurable, predictable and controllable (Johnson & Onwuegbuzie, 2004; Nagel, 1986). Conversely, those purists advocating for qualitative research methodologies argue the existence of multiple-constructed realities and emphasise the understanding and interpretation of observed phenomena. This anti-positivist stance champions the superiority of constructivism, idealism, relativism and humanism (Lincoln & Guba, 2000; Schwandt, 2000) and contends that: (i) time and context- free generalisations are not desirable or possible; (ii) research is value bound; (iii) it is not possible to fully differentiate cause and effect; (iv) logic flows from specific to general (explanations being derived inductively from data); and (v) it is not possible to separate knower from known as the knower is subjective and is the only repository of reality (Guba, 1990).

Notwithstanding these polar positions, many researchers have relinquished fixed positivist or anti-positivist positions (Anaf et al., 2007; Gill, 2014; Howe, 1992; Johnson & Onwuegbuzie, 2004). Many workers agree that depending on the situation, both methodologies have value and it is common for researchers to combine quantitative and qualitative approaches within the same study (Anaf et al., 2007; R. A. Anderson et al., 2005; C. de Waal, 2001; Flyvbjerg, 2006b, 2011). Furthermore, the two approaches have been linked, with qualitative research found useful in generating research questions requiring a quantitative approach to their resolution (Flyvbjerg, 2006b).

3.3 The researcher

The researcher has held operational management, planning and funding roles in three DHBs in New Zealand. He has extensive experience in the design, planning and funding of disability support services for older people.

3.4 Qualitative research

Gaining acceptability for qualitative methodologies in the field of health services research has been difficult (Anaf et al., 2007; R. A. Anderson et al., 2005; Gonnering, 2010). Perhaps clinical scientists find it hard to accept research methodologies where the development of a hypothesis may replace the testing of hypotheses and where explanation and understanding supplant measurement and generalisation (R. A. Anderson et al., 2005; Pope & Mays, 1995). Gonnering (2010) suggests that the practice of medicine is not associated with a deep understanding of the disciplines of ontology and epistemology. Whatever the reasons, organisations delivering health care are complex adaptive systems in which behaviour is emergent and unpredictable, rendering a qualitative approach to health service research important to understanding (Gonnering, 2010). Furthermore, the exploration of beliefs and the creation of understanding are required to uncover the reasons why the results of important research are often ignored in clinical practice (R. A. Anderson et al., 2005; Arrow & Henry, 2010; Gonnering, 2010; Haines & Jones, 1994; Hunter & Perkins, 2012). Holloway (1997) characterises qualitative research as social enquiry focussing on the way people interpret and make sense of both their experiences and the world around them. While many different approaches exist within the framework of

qualitative research, all approaches aim to understand the social reality of individuals, groups and cultures. Researchers use qualitative approaches to explore the behaviour, perspectives and experiences of the people they study and the basis of qualitative research lies in the interpretive approach to social reality (Holloway, 1997).

Qualitative research employs a variety of empirical materials (e.g. case study, personal experience, interview, observational, historical, interactional and visual texts) that describe both routine and significant moments and meanings in people's lives (Denzin & Lincoln, 1994; Flyvbjerg, 2006b; Gill, 2014; David R. Thomas, 2003). The purpose is to understand behaviours and utilise categories to describe and analyse social phenomena (Pope & Mays, 1995; Richards & Morse, 2007). An inductive approach is applied to raw text and data. Qualitative research utilises the text and data to build categories, distilling it to a summary format (Richards & Morse, 2007; David R. Thomas, 2006) which may include quotations (Corden & Sainsbury, 2006). Inductive Theory stresses the importance of avoiding preconceptions and perspectives that limit observations, resulting explanations and the development of theory (Ezzy, 2002; David R. Thomas, 2006). Notes and tape recordings made during telephone interviews, face-to-face interviews and focus groups are usually transcribed exactly as they occurred. Transcriptions often include commentary on activity such as laughter, body language and attitude, allowing the inclusion of interactions between participants and observer in the data collection process (Oliver, Serovich, & Mason, 2005).

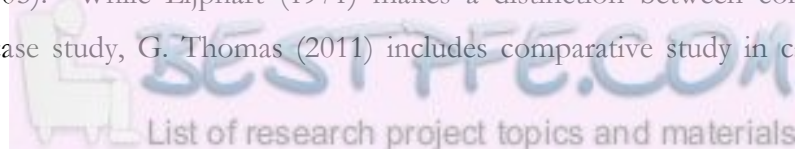
Data derived from qualitative research must be trustworthy, meaning it must be accurate, consistent and credible (David R. Thomas, 2006). Triangulation of data and inter-rater reliability of data coding can be used to assess consistency in measuring the extent to which an account accurately describes the social phenomena under investigation. An independent researcher may be requested to code some of the raw data collected, allowing comparison of the two sets of coding for accuracy (David R. Thomas, 2006).

3.5 Case study methodology

3.5.1 Definition and typology

While case study is a widely used research tool in the social sciences (G. Thomas, 2011), a multitude of academic attempts to define and clarify the term ‘case study’ exist (Gerring, 2004). G. Thomas (2011) complains that methodological discourse on case study has focussed on its epistemological status, its utility in generalisation or on case construction rather than a classificatory framework for researchers. This study will adopt the definition provided by Thomas who contends that a case study must consist of two elements. These are first a practical historical entity, which is the subject of the case study and second an analytical or theoretical frame, which is the object of the study. From this perspective, Thomas defines case study as “an analyses of persons, events, decisions, periods, projects, policies, institutions or other systems that are studied holistically by one or more methods. The case that is the subject of the inquiry will be an instance of a class of phenomena that provides an analytical frame – an object – object within which the study is conducted and which the case illuminates and explicates” (p. 513) .

In distinguishing between subject and object, Thomas suggests that the subject is chosen because it is an interesting, atypical or revealing example by which the distinctive characteristics of the object can be brought into focus. A subject may be selected because the researcher is familiar with it, because it is a key case of a phenomenon or because it sheds light on the object because it is an outlier or deviant case. The object may be defined at the start of the study or it may emerge from the study but in any case will develop as the study progresses. Regardless of how the object is identified, it is the context or analytical frame into which the subject is placed. The object is dynamic, changing as evidence grows and theory is developed in order to explain the object (G. Thomas, 2011). (A. L. George & Bennett, 2005) identify six types of case study, distinguishing between those that contribute to theory and those that do not and applying a mixture of criteria for classifying case studies. Criteria relate to the purpose of the study, the approach taken and methods selected and the operational processes employed in the case study (A. L. George & Bennett, 2005). While Lijphart (1971) makes a distinction between comparative study and case study, G. Thomas (2011) includes comparative study in case study



methodology by emphasising the subject, which may be singular or plural, rather than the case. In this way, Thomas allows for both single studies that do not allow for comparison and multiple studies, which do allow for comparison of subjects.

In this retrospective case study, the subject is the implementation of the *interRAI* Home Care comprehensive geriatric assessment (*interRAI-HC*) tool into the six DHBs participating in the research while the object or analytical frame is the development of change readiness to introduce and assimilate the *interRAI-HC* tool. According to Thomas, this case study can therefore be regarded as multiple, having six subjects. This allows for useful comparison, particularly with respect to identifying those responses to the contingency variables influencing the change readiness that create or enhance change readiness and those that reduce change readiness. In referring to case studies, Stake (2000) states that the study has to be intensive. This implies depth, completeness and attention to detail. Developmental factors are also stressed, suggesting that a series of interrelated events evolve over time leading to the construction of the case as a whole. Lastly, Thomas' (2011) definition emphasises holistic study, which encompasses the environment or context within which the study takes place. Thus, setting the boundaries for the study requires decision making about what is case and what is context to the case.

3.5.2 The case study paradigm

Flyvbjerg (2011) reports that case studies have been recorded throughout history and are found widely in many books and articles related to psychology, social science, economics, management, biology and other field of study. However, despite its wide use, case study is often poorly regarded as a methodology (Flyvbjerg, 2011; Gill, 2014; Gonnering, 2010). These authors contend that this is because it is generally poorly understood. Flyvbjerg (2011) identifies five misunderstandings regarding case study, summarised in Table 11, that detract from its credibility and use.

Table 11: Five misunderstandings of case study

Key misunderstandings
1. General, theoretical knowledge is more valuable than concrete case knowledge;
2. One cannot generalise on the basis of an individual case; therefore the case study cannot contribute to scientific development;
3. The case study is most useful for generating hypotheses, that is, in the first stage of a total research process, while other methods are more suitable for hypotheses testing and theory building;
4. The case study contains a bias towards verification, that is, a tendency to confirm the researcher's preconceived notions; and
5. It is often difficult to summarise and develop general propositions and theories on the basis of specific case studies.

Note. Adapted from "Case study," by B. Flyvbjerg, 2011, in N. K. Denzin, and Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (4th ed.), p. 302. Copyright 2011 by Sage Publications.

These misunderstandings have the potential to undermine the status of case study as a scientific method as they question its contribution to theory and its reliability and validity. Therefore, because case study methodology is central to this study, the validity of each of these points will be addressed.

3.5.3 A defence of case study as a research methodology

It is important to understand the role of cases and theory in learning to see why it is difficult to defend the view that general, theoretical knowledge is more valuable than concrete case knowledge. Flyvbjerg makes two points with respect to case study in this regard. Firstly, case study leads to concrete, context dependent knowledge that research into learning shows is required to allow the learner to progress from rule based beginner to expert; and secondly, in studying human relations only context dependent knowledge seems to exist, rendering it impossible for social science to develop epistemic (explanatory and predictive) theory.

While the view that generalisations cannot be made on the basis of a single case may be common amongst advocates of the application of the natural science ideal to the practice of the social sciences (Flyvbjerg, 2011; Giddens, 1984); it is not supported by scientific history. This is because a generalisation depends on the case and how it was chosen (Platt, 1992; Ragin & Becker, 1992). Flyvbjerg (2011) cites the single

case of a lead weight and a feather falling at the same velocity in a vacuum, used by Galileo to overturn Aristotle's law of gravity, as an example of critical case selection where the case has strategic implications for the general question. A. L. George and Bennett (2005) have shown other strong links between case studies and the development of theory. Case study is also governed by the test of falsification, where if only one observation is not congruent with theory the proposition is not considered valid generally and it must be rejected or revised (Flyvbjerg, 2011).

The idea that case study is most useful for generating hypotheses, while other methods are more suitable for hypotheses testing and theory building flows from the notion that one cannot generalise on the basis of individual cases. Eckstein (1975) challenges this view, contending that case studies are better suited to testing hypotheses than for developing them. Furthermore, A. L. George and Bennett (2005) concluded that case studies address certain tasks in the research process and in the development of theory better than other methods. It is also noteworthy that the testing of hypotheses relates to generalisability, which relates back to case selection, with strategic or critical case selection increasing generalisability (Ragin, 1992). Bates, Greif, Levi, Rosenthal, and Weingast (1998) and Flyvbjerg (2006b) point out that the uptake of the case study method by rational choice theorists as a tool to test theories and hypotheses further erodes the position of those arguing that case study is most useful for generating hypotheses rather than hypotheses testing and building theory.

The notion that case study has an inherent tendency to support the researcher's preconceived ideas attacks its scientific value. Noting this criticism is not restricted to case study, Bacon (1853, as cited in Flyvbjerg, 2006a) considered such bias inherent in all human endeavour and D. T. Campbell (1975), Ragin (1992) and Flyvbjerg (2006b, 2011) contend that case study is no less rigorous than other methods. It is noteworthy that these authors report that it is not uncommon for the use of case study to result in demonstrating the error of their preconceived assumptions and hypotheses, requiring them to revise their ideas. Geertz (1995) states that "the field itself is a powerful disciplinary force: assertive, demanding, even coercive" (p. 79) while D. T. Campbell (1975) describes the ability of the researcher using case study to close in and test views in real life situations. Ragin (1992) cites

this ability as a “special feature of small-N research” (p. 34) allowing the identification of variables undetected in the use of statistical methods.

The case of the lead weight and the feather falling in a vacuum undermines the view that it is often difficult to summarise and develop general propositions and theories based on specific case studies (Flyvbjerg, 2011). However, because case studies are characterised by large amounts of narrative they are at risk from the narrative fallacy, described by Taleb (2010) as “the human inclination to simplify data and information through over-interpretation and a preference for compact stories over complex data sets” (p. 3). Patton (2002) cautions that falling into this trap might lead to the construction of meaning where there is none. The narrative fallacy can be avoided by incorporating systematic checks for validity and reliability in the collection and use of data (David R. Thomas, 2006).

While case studies that comprehensively describe the complexities, contradictions and richness of real life experience provide protection against the narrative fallacy, these can be difficult to summarise into general ideas, hypotheses or theories (Mitchell & Charmaz, 1996; P. A. Roth, 1989; J. Rouse, 1990; White, 1990). This difficulty has led to criticism of case study as a research method (Flyvbjerg, 2011). However, a narrative that is full and difficult to summarise is considered an indication of a rich and complex issue (Flyvbjerg, 2011), prompting some researchers to wonder whether the ability to summarise and generalise from data collected by case study is always desirable (Flyvbjerg, 2011). Nietzsche (1974) answers this question: “above all, when doing science, one should not wish to divest existence of its rich ambiguity” (p. 253). Peattie (2001) also argues against summarising dense and complex case studies: “It is simply that the very value of the case study, the contextual and interpenetrating nature of forces, is lost when one tries to sum up large and mutually exclusive concepts” (p. 46). The phenomenology for human learning also provides some insight into why summarising case studies may not always be desirable (Flyvbjerg, 2011). A beginner’s knowledge consists essentially of reduced formulae that describe theories while the expert is grounded in experience gained from many individual cases, allowing the expert to differentiate between

situations without reference to rules (Flyvbjerg, 2011). Flyvbjerg (2011) also points out expert systems operate by rules whereas expert humans do not.

3.5.4 Case study: a complementary research method

Case study design is extensively used as a research method in the social sciences (Flyvbjerg, 2001, 2011; Gill, 2014). Many authors (R. A. Anderson et al., 2005; Flyvbjerg, 2006b, 2011; A. L. George & Bennett, 2005; Gill, 2014) report a more collaborative approach emerging with researchers recognising that various methodological approaches are characterised by different strengths and weaknesses and that these different approaches may be complementary. Problem driven rather than methodology driven approaches to research result in the selection of a research method or combination of methods (qualitative and/or quantitative) considered best able to answer the research questions. The main strength of the case study lies in its depth, attention to detail, richness, completeness and its exploration of within-case variance while the main strength of statistical methods lies in their breadth (Flyvbjerg, 2011). Luck, Jackson, and Usher (2006) refer to case study having the capacity to bridge paradigms, consider context and provide a greater understanding of both causality and what is known. This enables the researcher to acquire deeper meaning from a study (Luck et al., 2006).

3.5.5 Case study research and complexity science

Many techniques for analysing a system involve breaking the system into components and studying each component to draw conclusions about the system as a whole (Thietart & Forgues, 1995). Despite many such Newtonian approaches to understanding health care organisations the widespread adoption of best practice remains problematic and large scale improvements in organisational delivery, particularly health care delivery, remain difficult to achieve (Anaf et al., 2007; R. A. Anderson et al., 2005; Gonnering, 2010; Paina & Peters, 2012; Porter & Teisberg, 2006; Wunderlich & Kohler, 2001).

Complexity Theory provides different insights into how organisations work, suggesting they are living systems (Ellis, 2011; Geary & Schumacher, 2012; W B Rouse, 2008). Organisational models built using the science of complexity describe

organisations as social systems (Capra, 2002; Ellis, 2011; Karwowski, 2012; Mainzer, 1997). Organisations providing health care are increasingly described as complex adaptive (social) systems, with the components of the system interacting to create complexity at the system level (R. Atun, 2012). Thus, the system itself is best understood by understanding the patterns of the relationships between its components (R. A. Anderson et al., 2005; R. Atun, 2012; Crabtree, 2003; Ellis, 2011; Karwowski, 2012; Paina & Peters, 2012). Case study methodology is useful in gaining this understanding (Flyvbjerg, 2011).

3.6 Data analysis

This research is principally a qualitative study. The data for this research were obtained through semi-structured interviews with study participants. A general inductive approach employing thematic analysis was taken in performing a qualitative analysis of the raw research data. The nature, purpose, utility, pitfalls and advantages of this approach to qualitative data analysis will be addressed in the following section.

3.6.1 The general inductive approach

The general inductive (or bottom up) approach to qualitative data analysis is often associated with health, social science and other branches of research where qualitative data analysis is guided by specific objectives. Its greatest advantage is its flexibility (Braun & Clarke, 2006) and its principal function is to allow research findings to emerge from recurring or significant themes embedded in the raw data, unfettered by the constraints imposed by structured methodologies such as those associated with deductive data analysis (Braun & Clarke, 2006; David R. Thomas, 2003). In common with other qualitative methodologies, the general inductive approach seeks to summarise large amounts of rich raw data, show clear, demonstrable, defensible linkages between the findings from the summarised raw data and the research objectives. This allows the development of theory or models to explain the underlying structure of experiences or processes (David R. Thomas, 2003). Also in common with other qualitative methodologies the development of summary categories and themes is intended to enable understanding of and derive meaning from the raw data (Marshall, 1999; David R. Thomas, 2003). A number of

assumptions underpin the employment of general inductive approaches. These are set out in Table 12.

Table 12: General inductive Approaches: Assumptions

Assumptions
1. The research aims together with reading and interpretation of the raw data determine the analysis
2. The principal mode of analysis is the development categories derived from the raw data into frameworks or models that capture key themes or processes deemed important by the researcher
3. Research findings are derived from multiple interpretations of the raw data are developed by the researchers coding the raw data
4. Different researcher will produce non-identical findings which contain components that do not overlap and that the trustworthiness of the findings can be evaluated by consistency checks (arranging for another researcher to code and develop categories)
5. Comparison with findings from previous research, triangulation, feedback from research participants and users of the research findings (stakeholder checks) and by independent replication of the research

Note. Adapted from "A general inductive approach for qualitative data analysis," by D. R. Thomas, 2003, p. 3-4.

Methods to ensure trustworthiness are important as these assumptions suggest that findings might be shaped to some extent by the knowledge and experience of researchers. This is because it is the researchers analysing the data who will make judgements concerning what is important in the data (Braun & Clarke, 2006; David R. Thomas, 2003). The categories produced from coding the raw data are the core components of inductive analyses. These may be characterised by a label, a description, the accompaniment of example text that shows the meaning of the category, the presence of linkages to other categories and their incorporation into a framework or model (David R. Thomas, 2003). The process of inductive coding begins with careful reading of the raw data e.g. text and reflection on the multiple meanings contained therein. Subsequently the research identifies portions of text that contain underlying ideas and meaning (codes) and creates a label (category) for the code into which other relevant data segments can be placed. The researcher might develop an initial description of the category and may link categories in a network of relationships. Unlike quantitative coding, one segment of raw data can be coded into more than one category and some text may not be coded into any

category at all because that text is not relevant to the aims of the research. Researchers will continually revise and refine the category system as they become more familiar with the raw data. Appropriate quotations from text raw data are selected to illustrate the central meaning or theme of a category. Categories with similar meanings may be combined. The overall intention of inductive analysis is to develop a small number (typically but not necessarily, three to eight) of summary categories or themes that the researcher deems captures the essence of the raw data relevant to the research aims (Braun & Clarke, 2006; David R. Thomas, 2003).

The process of inductive or thematic analysis does not require detailed theoretical knowledge (Braun & Clarke, 2006; David R. Thomas, 2003). However, there are pitfalls in its use (Braun & Clarke, 2006). Data extracts selected in thematic analysis must make sense of the raw data and convey its meaning. The questions used to collect data should not be used as themes as this indicates no analytical work has been performed to identify themes across the data set or make sense of the patterns in the data. Thirdly, themes must not overlap, must be internally coherent and consistent and all aspects of a theme should coalesce around a central concept. Fourthly, there must be no mismatch between the raw data and the analytic claims made about it. Fifthly, a good thematic analysis ensures the interpretations of the data are consistent with the theoretical framework and lastly the theoretical assumptions made and the way in which the inductive approach was undertaken should be clearly stated (Braun & Clarke, 2006).

3.7 Summary

The research methodologies of case study and general inductive enquiry described and defended in this chapter connect the study's research methods to a philosophical framework that underpins the approach to the research questions and the development of a State of Readiness Tool (SoRT). The study is essentially one of capturing and analysing the experiences, knowledge, views, thoughts and beliefs of participants in order to answer the research questions and achieve the study's aims. The research methods used to achieve these goals are described in Chapter four.

Chapter 4: Methods

What we observe is not nature itself, but nature exposed to our method of questioning.

Werner Heisenberg (1901 – 1976)

4.1 Introduction

Whilst Chapter 3 described both the methodology and the philosophical approach employed within the study, Chapter 4 will describe the study design and the analytical processes developed to address the research questions. The study was performed in three phases; Phase One involved semi-structured interviews with study participants and was associated with three main aims. The first was to explore both how well the implementation of the *interRAI* Home Care comprehensive geriatric assessment (*interRAI*-HC) tool at each District Health Board (DHB) aligned with national policy intent and, in particular, what successful implementation meant to the various participants. The second was to identify contingency variables influencing change readiness to implement the *interRAI*-HC tool and the third and principal aim was to use the data collected to develop a State of Readiness Tool (SoRT) to improve the change readiness of organisations such as DHBs to introduce complex technology or process. The second phase of research involved an exploration of the content validity and utility of the SoRT developed in Phase One through review by an expert stakeholder group. The third and final phase involved applying the SoRT retrospectively to the six participating DHBs to assess its diagnostic utility and thus indirectly indicate its potential reliability in assessing and enabling readiness to introduce and assimilate complex change events.

4.2 Ethical approval and informed consent

The Ministry of Health Multi-Regional Ethics Committee granted ethical approval for this research study in February 2008 (See Appendix I; letter of ethics approval). As the study required the participation of staff across six DHBs, written agreement to approach these staff was required and gained from the Chief Executive (CE) of each DHB. Each CE was provided with a participant information sheet for

organisations explaining the nature of the study in order to gain informed consent to approach staff.

The nature of the study and the confidentiality of the information provided was discussed with all participants. Discussion covered the purpose of the interviews and focus groups, how much time would be required of participants and how any information provided would be treated. A participant information sheet was provided to each participant explaining the nature of the study and providing the contact details of the researchers at The University of Auckland. Each participant completed and signed a form to demonstrate informed consent to participation in the study. All participants were assigned a code and interview transcripts and other relevant hardcopy material were stored in a secure location, and material collected electronically was placed on computers protected by password access. This protected the anonymity of participants and the confidentiality of their input to the study.

4.3 The study participants

The six DHBs participating in Phase One as well as the focus group established in Phase Two of the study were selected using purposive sampling. This study method involves the active selection of a small sample of participants such as individuals, groups or organisations considered useful for the wealth of specialist inputs they might provide to help resolve the questions causing the study to be undertaken (Patton, 2002). While probability sampling can provide a wide range of information from a large population considered representative of the population, purposive sampling involves the selection of a smaller number of sources that can provide a greater richness or depth of information (Patton, 2002). Participating DHBs were chosen using the researcher's expert judgement (Teddlie & Yu, 2007). Selection criteria were that the DHB activities were relevant to the research questions (they had already begun to contemplate or implement the *interRAI-HC* tool and change the way older people would be assessed and the way disability support services would be provided) and that the DHBs had participants experienced in the situation under investigation (Richards & Morse, 2007). However, sample representation was increased by the inclusion of two large urban, two smaller urban and two large

provincial DHBs with a large rural population. Furthermore, it was felt that these DHBs would agree to assist others by using their implementation of *interRAI-HC* to help in developing a tool that would facilitate subsequent successful implementation of complex new technology or processes by themselves or by other DHBs (Richards & Morse, 2007; Teddlie & Yu, 2007). It was assumed that these DHBs represented the typical DHB approach to implementation of new technology and process, displaying the properties of any DHB involved in change, thereby enabling comparison one with another (Patton, 2002). They were all also at the meeting point between the imperatives of national policy and local management to change the way assessment of older people was performed, the environment in which DHBs operate and the freedom of individuals and groups to influence the change process.

Contact was made with the office of the CE in order to obtain the participation of each of the six DHBs. Participation Information (PI) sheets relevant to the organisation, addressed to the CE, were provided to each organisation together with a copy of the PI and the Participant Consent (PC) form. These documents explained the purpose of the study and how the data gathered would be used and stored. Following permission to proceed from the CE office, the researcher was provided with access to all relevant staff.

Whilst the units of interest in this case study were essentially the six DHBs, successful implementation of the *interRAI-HC* tool could be viewed differently by alternative groups within these organisations. For this reason, various groupings were selected for interview from within the DHB population (stratified purposive sampling). The following groupings within DHB were judged by the researcher, using expert judgement (Teddlie & Yu, 2007), to be the major stakeholders in the implementation of *interRAI-HC* tool and were specifically engaged in the data collection process during Phases One and Two of the study: (i) Executive managers; (ii) Local policy managers; (iii) Operational managers of NASC services or Health of Older Peoples' Services (including Specialist Rehabilitation Services); (iv) Needs Assessors and Service Coordinators; and (v) Clinicians such as geriatricians and allied health professionals. In addition to the above groups, interviews were conducted

with the Minister of Health and the Manager of the HOP Policy Unit in the MoH, both incumbent at the time of *interRAI-HC* implementation in the six DHBs.

Data saturation (the point at which no new information or themes are derived from the data) is an important consideration in the literature on qualitative research (Guest, Bunce, & Johnson, 2006). However, it was considered important to capture the views of participants at various levels of the health system both within and external to the DHBs to explore the extent to which understanding of the change event, perceptions of readiness, implementation experiences and the meaning of success were aligned within and between organisations. This necessitated a large number of interviews.

4.4 The research design

4.4.1 Overview

The research was conducted in three phases. In the first phase participants were interviewed and the raw data were collected and transcribed. Thematic analysis of the data was employed to explore the meaning of successful implementation of the *interRAI-HC* tool to participants, identify contingency factors impacting change readiness to implement the *interRAI-HC* tool and to develop a State of Readiness Tool (SoRT) to enable the creation, assessment and enhancement of readiness to implement change events. In the second phase of the study a focus group of experts, experienced in implementing change within DHBs, was established to perform a stakeholder check on the construct validity and utility of the SoRT. Finally, in the third phase of research, the SoRT was retrospectively applied to the implementation of the *interRAI-HC* tool at each participating DHB. This was a diagnostic test to investigate the ability of the SoRT to distinguish those DHBs that were successful in implementing the *interRAI-HC* tool from those that were unsuccessful.

A set of questions (survey) was developed to aid discussion during the semi-structured interviews and focus groups held in Phase One of the study. This was a two stage process. An initial set of questions was developed from the analysis of available literature and the personal knowledge of the researcher. The resulting draft

interview schedule underwent beta testing for bias and validity by conducting preparatory interviews with participants unrelated to the study (Slattery et al., 2011). Following revision, the final interview schedule was employed during interviews with participants. The final interview schedule forms Appendix II to this thesis. The process used to develop the interview schedule is outlined in Figure 4.

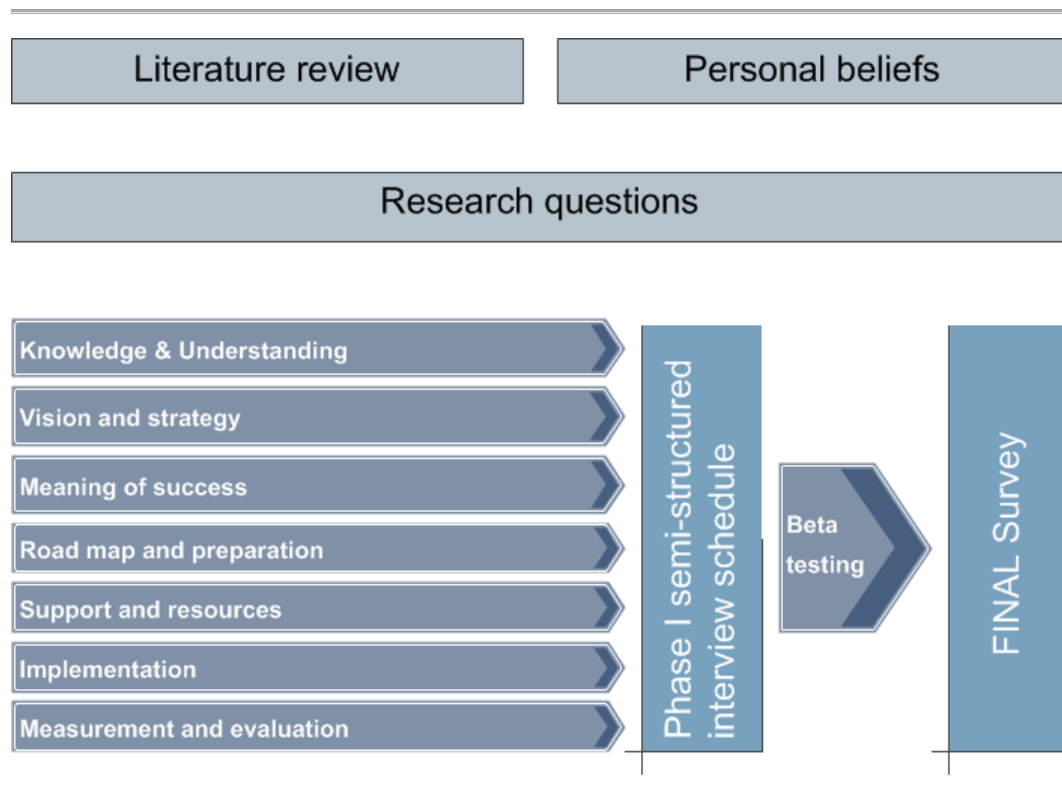


Figure 4: Development of questions to support semi-structured interviews in Phase One of the study

A similar process was undertaken to develop an interview schedule to aid focus group discussion in phase two of the study. The methods employed in phase three of this research are described below. The overall research design is outlined in Figure 5.

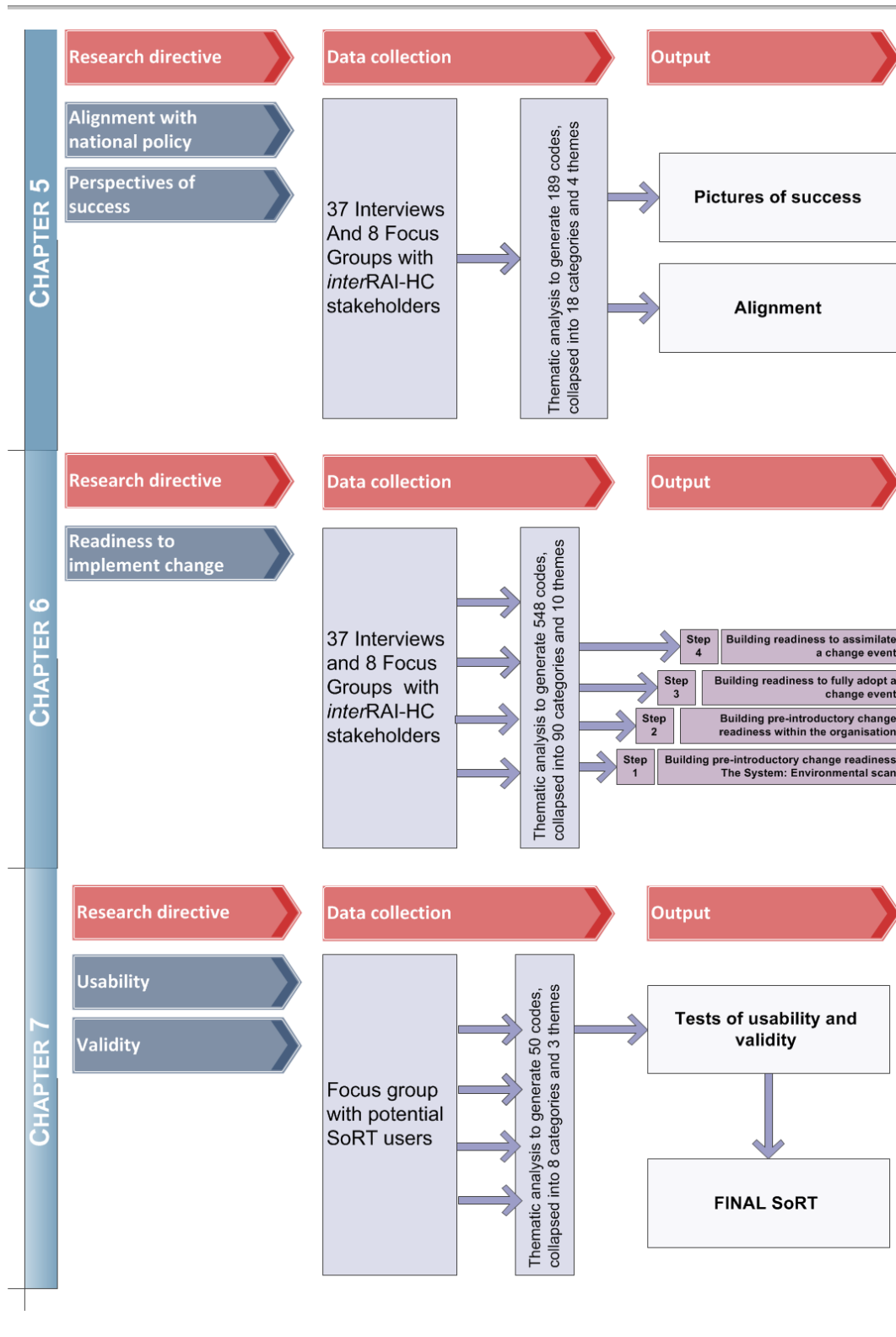


Figure 5: Research design

4.4.2 Phase one

Semi-structured interviews were held with the Minister of Health, the National Policy Manager for HOP in the Ministry of Health (MoH) and stakeholders in each of the six participating DHBs. These stakeholders were executive managers, local policy managers, operational managers in health of older people and NASC services, Needs Assessors and Service Coordinators in NASC and Specialist Health Services for Older People and health professionals who were receivers of *interRAI-HC* tool reports or outputs such as allied health professionals and geriatricians. In the case of the four DHBs (DHBs 'A', 'B', 'C' and 'D') implementing the *interRAI-HC* tool into NASC services, interviews with Needs Assessors took the form of focus groups rather than individual interviews due to the number of staff involved and human resource constraints on these services. For the same reasons focus groups rather than individual interviews were held with those training needs assessors to use the *interRAI-HC* tool and with receivers of the *interRAI-HC* tool's outputs such as geriatricians and allied health professionals. In the case of the two DHBs implementing the *interRAI-HC* tool into Specialist Rehabilitation Services (DHBs 'E' and 'F') interviews were conducted with individual Needs Assessors who were in these services as these were fewer in number, more diverse in their assessment settings and difficult to gather into one group at one time. All other participants were interviewed separately and individually. The interviews were conducted with the aid of a questions and prompts, shown in Appendix I, which was developed from analysis of available literature with respect to change readiness and change management and the personal knowledge of the researcher.

The responses or raw data provided by participants during the semi-structured interviews were transcribed and subjected to thematic analysis, a widely accepted qualitative analytical method to identify, analyse and report patterns or themes within qualitative data (Boyatzis, 1998; Braun & Clarke, 2006; Roulston, 2001).

Essentially, phase one of the study involved 37 individual interviews and eight focus groups. Individual interviews and focus groups were conducted over 50 to 80 minutes and participants' responses were captured using an Olympus ME30W recording and transcription kit, with notes also taken. Discussion with participants

focussed on the following: their knowledge, understanding, perceptions and use of the *inter*RAI-HC tool, its implementation and what the tool meant to them; their perception of what successful implementation of *inter*RAI-HC tool would look like; their view of the influences and factors leading to change readiness and successful implementation of the *inter*RAI-HC tool and those impacting negatively on implementation; the preparations made by their organisations and services prior to implementation; the organisational and service aims and objectives sought in implementing the *inter*RAI-HC tool; their perceptions of their workplaces as learning organisations; and any further comments they might like to make concerning the implementation of new technology or process. The balanced scorecard performance measurement framework was used to focus discussion with respect to the organisational and service aims and objectives sought in implementing the *inter*RAI-HC tool. Specifically discussion was directed with respect to desired outcomes for the client, for internal organisational and service processes and practices, costs of service provision (both internal and external costs) and organisational learning and growth.

Subsequently, the entire recordings were transcribed electronically into written manuscript. Manuscripts were imported as data sources into the NVivo (version 10) software tool, which was used to enable thematic analysis. The findings following thematic analysis that related to the meaning of successful implementation to participants and to the alignment of each implementation with national policy intent are presented in Chapter 5. Those findings related to the identification of contingency factors impacting change readiness and to the development of the SoRT are presented in Chapter 6.

4.4.3 Phase Two

The second phase of research involved the assessment of the construct validity and utility of the SoRT to potential users. The SoRT developed in phase one was reviewed and assessed by a single stakeholder focus group consisting of DHB employees with considerable experience working in the health system and in leading and implementing complex change. The group consisted of three local policy managers, a NASC service manager and two *inter*RAI-HC Super Users. Members of

the focus group did not participate in interviews relating to the development of the SoRT during phase one of the study.

A semi-structured approach was taken to conducting the focus group with the discussion agenda largely determined by the researcher. A set of questions was developed and following beta testing and adjustment, the questions were used to aid discussion. These questions form Appendix Two. Discussion focussed on participants' overall experiences of the implementation of the *inter*RAI-HC tool, their views of the construct validity of the SoRT and its utility in assessing, creating and enhancing change readiness to implement change events involving complex processes and their suggestions for improving its usability.

In common with the first phase of research, a general inductive approach was employed in analysing the data derived from the focus group, with participants' data subjected to thematic analysis (Braun & Clarke, 2006). Essentially, the methods of data collection, transcription and analysis were the same as those described in section 4.4.2 of this chapter. Findings related to the construct validity and utility of the SoRT are reported in Chapter 7.

4.4.4 Phase Three

In Phase Three the researcher performed a diagnostic test to investigate the ability of the SoRT to differentiate between DHBs that were successful in implementing the *inter*RAI-HC tool and those that were not.

Each DHB was scored against the questions in each section of the SoRT, with each positive answer given a score of one point. Scores were added to obtain a total change readiness score. A numerical indicator of DHB success was derived by condensing the nineteen characteristics associated with successful implementation of the *inter*RAI-HC tool listed in Table 15 in Chapter 5 to six overall success indicators and each DHB was scored against these six success indicators. A least squares regression line was plotted for these two variables (readiness and success scores) and a coefficient of determination calculated. A complete description of the method

used to perform the diagnostic test and the findings generated are presented in Chapter Seven.

4.5 Thematic analysis: reliability and validity

The raw data contained in each interview was read by the researcher prior to coding in order to become familiar with the data content. Subsequently, data from each interview was coded and then recoded on two further and separate occasions. The results of these separate coding exercises were compared to identify and ensure intra-rater coding consistency.

In order to ensure the reliability and validity of coding when performing thematic analysis the coding developed by the researcher is usually verified by another researcher codifying some of the same data and cross matching both sets of coding to establish whether both researchers interpret the data consistently (David R. Thomas, 2006). In this study, coding was verified by an experienced qualitative researcher with knowledge of the health sector and change management. Ensuring the needs and expectations of readers representing the particular interpretive communities are met is an important aspect of convincing mixed methods research (Tashakkori & Teddlie, 2003). This study regards “readers” as the representatives of the various study participants, principally DHB executive managers, local policy managers, operational managers, needs assessors and clinicians. Trustworthiness with respect to a qualitative study includes the aspects of consistency and credibility, characteristics necessary to validate its accuracy (David R. Thomas, 2003). Inter-rater reliability of coding, as described above, can be used to evaluate the consistency of the extent to which the research accurately portrays the social phenomena under study. However, in Phase Two of this study triangulation was also employed to obtain reader validation. The themes used to develop the SoRT were discussed and explored by the focus group, which assessed the utility of the SoRT. This group included DHB local policy managers, NASC managers and *interRAI*-HC super users. These participants not only accepted and agreed the themes developed from the analysis of participants’ data but were interested in discussing them further.

4.6 Study timeline

Details of the study timeline have not been provided as such details will allow identification of many participants in this study. All interviews and focus groups were facilitated by the researcher.

4.7 Summary

The methods of case study and general inductive enquiry described in this chapter were applied to achieve three aims. The first is to establish what successful introduction of the *inter*RAI-HC tool meant to participants at the various levels of the health system. The second is to identify contingency variables influencing change readiness to implement the *inter*RAI-HC tool and develop a State of Readiness Tool (SoRT). The SoRT is intended to enable those contemplating and leading a complex change event within organisations providing health care such as DHBs to assess, monitor, create and build organisational, work group and individual change readiness through all the stages of implementing the change event. Third, this study seeks to assess the construct validity of SoRT as well as its utility to potential users. The findings related to the achievement of these aims are presented in Chapters five, six and seven.

Chapter 5: This case study

Better to learn from other peoples' mistakes and experiences rather than become a case study to others!

Unknown Source

5.1 Introduction

Dates relating to the term over which this study was performed are omitted to provide additional protection for the identities of participants, some of whom might otherwise be identified easily. Following its endorsement by the Ministry of Health (MoH), the *interRAI* Home Care comprehensive geriatric assessment (*interRAI*-HC) tool was implemented at six of New Zealand's 20 District Health Boards (DHB). It is the implementation of the *interRAI*-HC tool by these six DHBs (labelled 'A' to 'F'), that constitutes the case study on which this thesis is based. Participants in DHBs were approached for interview between twelve and fifteen months after the attempt to implement the *interRAI*-HC tool at their respective DHBs.

This chapter is concerned with phase one of the research and is divided into three sections. The first briefly characterises each of the six participating DHBs and the services into which the *interRAI*-HC tool was implemented. The second considers the imperatives driving the implementation of the *interRAI*-HC tool. Part three presents the findings related to the meaning of successful implementation of the *interRAI*-HC tool to the various groups of study participants. In exploring the meaning of successful implementation, the research sheds light on the extent to which meanings of success were aligned within and between both central policymakers and the study participants at various organisational levels within DHBs.

The extent of this alignment is important for two reasons. First, a shared picture or vision of success amongst change recipients and stakeholders helps to create common understanding of change which facilitates acceptance and commitment for change (Rafferty et al., 2013; Weiner et al., 2008). Second, without a common picture of success it is impossible to establish common aims, objectives, performance



indicators, impacts and outcomes for success. These are required to provide feedback to stakeholders on the progress of change and the achievement of success indicators, impacts and benefits. In turn, feedback helps to maintain purpose and commitment to the planned change event (Rafferty et al., 2013; Weiner et al., 2008).

General inductive analysis of interview transcripts was employed to develop study findings and the study design relating to this phase of research is outlined in the unshaded portion of Figure 6.

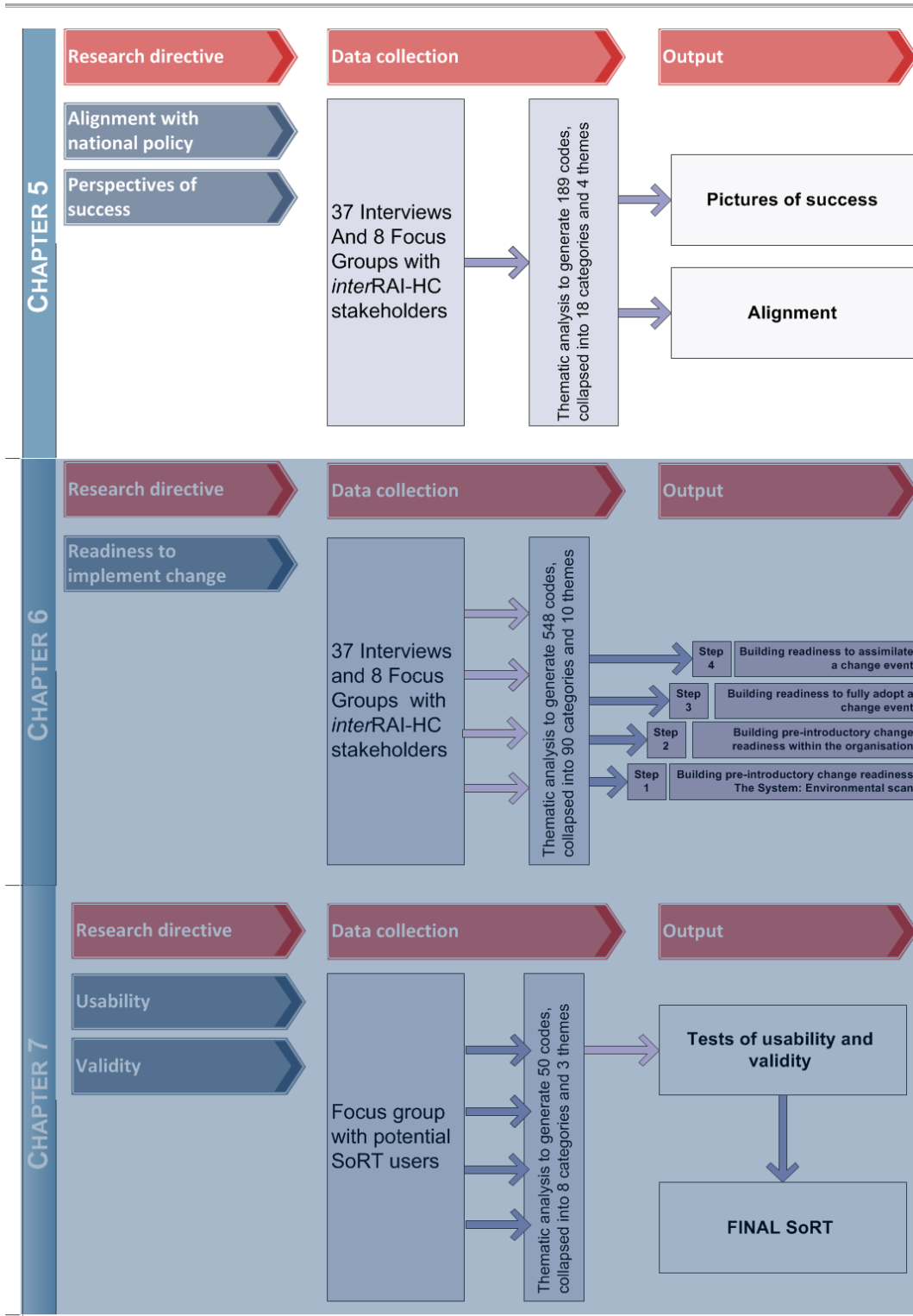


Figure 6: Research design – meaning of success and system alignment

Part 1: Characterising the participating DHBs

5.2 The participating District Health Boards

This section briefly describes the participating DHBs and indicates the services into which the DHBs implemented the *interRAI*-HC tool. There were significant differences in approach to the adoption and assimilation of the *interRAI*-HC tool among the six DHBs. These differences related to the setting of care into which the *interRAI*-HC tool was introduced, how assessment of older people was performed and services were coordinated, the way in which the *interRAI*-HC tool was integrated into existing assessment processes and the evaluation of success. There were differences in the version of the *interRAI*-HC software used and in approach to the acquisition of both hardware and software. For example, DHBs 'C' and 'D' purchased their own hardware, including servers, while in efforts to reduce cost and develop collaboration, DHB 'B' hosted and supported the server onto which the *interRAI*-HC assessments performed by assessors in DHBs 'A', 'B', 'E' and 'F' were loaded. However, sharing this server did not lead to cooperation and instead created significant information technology support, connectivity and data retrieval difficulties for DHB 'A' and particularly for DHBs 'E' and 'F'. These difficulties contributed to reduced change recipient support for the tool in DHBs 'E' and 'F'. At the beginning of the implementation process, each of the six participating DHBs sent two of selected needs assessors to Wellington, New Zealand, for training in the use of the *interRAI* HC tool and in interpreting its outputs (reports). Training was provided by two overseas experts and those trained were designated New Zealand's *interRAI*-HC super-users, in turn becoming trainers to other needs assessors in their own DHBs.

5.2.1 District Health Board 'A'

DHB 'A' is a mid-sized DHB encompassing two major urban centres and a significant rural area. It services a large population with high levels of health need. While the population contains a large proportion of older people, local health service planning was focussed more on child and adolescent health and on that proportion of the population with high health needs. The *interRAI*-HC tool was introduced into the Needs Assessment and Service Coordination (NASC) service to support the

newly implemented restorative model of care, developed to support older people with high disability support needs to continue to live at home. The NASC service has two regional offices some distance apart. This physical separation resulted in a decision to concentrate the initial implementation of the *interRAI-HC* tool at the larger regional office, which serviced a greater number of older people and is closer to support facilities such as the DHB's Information Management division. Initially, the main aims in implementing the tool were to provide a standardised, comprehensive assessment of the older person and understand the cost and service implications of adopting the *interRAI-HC* tool, the impact of the *interRAI-HC* tool on the NASC service itself and the impact it would have on identifying need and allocating services. This DHB employed a randomised control trial approach to implementation, aiming to complete 250 assessments using the *interRAI-HC* tool and 250 assessments using the existing Support Package Allocation (SPA) tool used to assess older people. (The SPA tool was the tool used by all DHBs participating in this study to assess the disability support needs of older people prior to the introduction of the *interRAI-HC* tool). Data were collected and analysed to determine the cost implications of the *interRAI-HC* tool and to compare the *interRAI-HC* and SPA tools with respect to their ability to identify needs. Following assessment, the services allocated under each assessment regime were noted in order to compare the nature and costs of the services allocated. Where services were allocated but could not be provided due to a lack of service availability or because the allocated service was not publicly funded, this was also noted. In addition to electronic data collection via the *interRAI-HC* tool, data were also recorded manually on specifically designed paper based data collection sheets to provide redundancy and enable independent local data analysis. Assessors at this DHB performed both the assessment and service coordination functions relating to each client and once trained to use the *interRAI-HC* tool, needs assessors were not permitted to revert to use of the SPA assessment tool.

5.2.2 District Health Board 'B'

DHB 'B' is a large DHB providing the complete range of secondary and tertiary level health services to a predominantly urban population. Local DHB planners and Funders prioritised efficient and effective health service provision to older people

due to the high cost of providing health care to this population group. The DHB implemented the *interRAI-HC* assessment tool to support its integrated community care programme, developed specifically to support older frail people living in the community. This DHB determined that existing NASC service staff lacked the knowledge, skills and attributes required to use and interpret the *interRAI-HC* tool effectively. Consequently, the DHB disestablished the NASC service and contracted the NASC function to an external NASC service agency. This enabled the DHB to minimise activity around change management and training and acquire staff with qualifications, skills, attributes and attitudes aligned to the *interRAI-HC* tool. The *interRAI-HC* tool was implemented by the DHB to provide information to support the integrated care programme and staff within the contracted NASC service performed care management roles, assessing clients and planning care across a range of services and funding streams. The staff performed both the needs assessment and service coordination functions.

5.2.3 District Health Board 'C'

DHB 'C' is one of New Zealand's largest DHBs in terms of both size of population and geographic area served. The DHB contains a large urban and a dispersed rural population with a relatively high proportion of older people and local planning and funding staff prioritised the effective delivery of health services to older people. This DHB sought to implement the *interRAI-HC* tool across a range of community and hospital care settings, allowing it to assess the tool's efficacy in a variety of service settings. In this approach, NASC based needs assessors were reassigned to community and hospital based services, reportedly creating problems of professional isolation for these staff. While executive managers expected the *interRAI-HC* tool to be implemented in these services, the use of the *interRAI-HC* was not enforced. Study participants reported that the decision whether to use the *interRAI-HC* tool in a particular service or not was made by service managers or by individual needs assessors. The use of the *interRAI-HC* tool in both community and hospital settings was seen as problematic by clinicians, particularly geriatricians because the tool was validated for the assessment of older people in community based settings of care only. Senior managers and local policy staff sought better assessment, better

information on older peoples' disability support needs and better health outcomes in implementing the *interRAI-HC* tool.

5.2.4 District Health Board 'D'

DHB 'D' is a small to mid-sized DHB providing secondary level health services to both urban and rural populations. The DHB boundaries contain a varied geography making equitable service provision problematic due to difficult terrain and a lack of disability support services in rural areas. The population serviced by the DHB contains a relatively high proportion of older people and older peoples' health services receive priority from local planning and funding staff. Prior to implementing the *interRAI-HC* tool the DHB had successfully implemented a new restorative model of care for older people living at home with disability support needs. The adoption of the *interRAI-HC* tool was seen as supporting this model of care through the provision of standardised, timely assessments leading to service allocations better directed or targeted to meeting assessed need. In addition to underpinning the new model of care, data generated from *interRAI-HC* assessments was intended to inform service development, budgeting and financial forecasting. The *interRAI-HC* assessment tool was used to differentiate clients into levels of need and to track client movement between levels of need. This in turn was seen as allowing the DHB to assess the efficacy of the *interRAI-HC* tool and the new model of care in reversing, arresting or slowing functional and cognitive decline. The DHB also trained home based care providers and other community care providers to interpret the outputs of the tool. There were plans to train these providers to assess clients with low support needs and adjust care packages accordingly within agreed budgetary parameters. The DHB expected this approach to free NASC staff to concentrate on regular reassessment of clients living in the community with high support needs and adjust their services to delay or prevent entry to residential care.

5.2.5 District Health Board 'E'

DHB 'E' is one of New Zealand's largest DHBs, providing secondary and tertiary level health services to a large urban centre and a significant rural area with varied geography. The DHB population contains a significant proportion of people with high health needs and older peoples' health services are a priority for this DHB.

Before introducing the *interRAI*-HC tool DHB ‘E’ had implemented a district wide strategy with a formal network in place designed both to improve the interface between community and hospital settings of care and to better integrate health and support services for older people. Implementing the *interRAI*-HC tool provided an opportunity to support and extend this service model and reduce the prevalence of older people undergoing multiple assessments by different health professionals as they accessed health services.

DHB ‘E’ did not implement the *interRAI* HC tool into the NASC service but into the Older Persons Rehabilitation Services at two different sites. The DHB sought to use the *interRAI*-HC tool to facilitate an interdisciplinary approach to client care, with assessments shared and discussed between health professionals. However, the DHB did not establish processes to ensure service wide-use of the *interRAI*-HC tool, interface needs assessors in the Older Person’s Rehabilitation Services with service co-ordinators in the NASC service or to encourage the interdisciplinary use of the tool.

5.2.6 District Health Board ‘F’

DHB ‘F’ serves a large urban population within a relatively small geographic area. The DHB’s population contains a relatively high proportion of people with high health needs and a relatively low proportion of older people. Hence the DHB places priority on health services for younger people and those with high need rather than older people. Simultaneous to the DHB contemplating implementation of the *interRAI* HC tool, the Specialist Rehabilitation Services at the DHB were developing a multidisciplinary team based approach to client care. However, there was no standard assessment tool in use by the Specialist Rehabilitation Service and the development of a multidisciplinary approach required one. Consequently, DHB ‘F’ introduced the *interRAI*-HC tool to support both the requirement for a standard organisation-wide assessment tool and the multi-disciplinary direction taken by the Specialist Rehabilitation Service. It was envisaged that use of the *interRAI* HC tool would also act as a service “bridge” between the Specialist Rehabilitation Services and the NASC service with assessment by the former and service coordination by the

latter. However, such service integration did not develop following introduction of the *interRAI*-HC tool.

5.2.7 Study participants

In Phase One of the study key managers and staff from each of the six DHBs in the sample were interviewed in a multi-stakeholder, multi-perspective approach to studying the implementation of the *interRAI*-HC tool both within each DHB and across the sample as a whole. In addition, because DHBs operate as part of the wider health system and because that system is directed by national policy, semi-structured interviews were also conducted with national policymakers (participants from government and the Ministry of Health). Participants in this study were placed into one of the following functional groups:

- National Policymakers which comprised the Minister of Health and the Manager of the Ministry of Health's (MoH) Health of Older Peoples' policy team;
- DHB executive managers which included Chief Executives, General Managers of Planning and Funding divisions and Chief Medical Officers;
- Local Policy staff or DHB Planning and Funding Portfolio Managers with special responsibility for Disability Support Services;
- Operational Management that included NASC service managers, health service managers, service development managers, clinical team managers and *interRAI* - HC project managers; and
- Clinical staff consisting of geriatricians, needs assessment and service coordination staff, nursing and allied health professionals.

Table 13 provides a profile of participants.

Table 13: Profile of participants

Descriptor	National Policy	Local Policy	Exec Managers	Ops Managers	Clinicians
Participants (n)	2	6	9	16	42
Gender (n)					
Male	1	1	3	3	9
Female	1	5	6	13	33
Mean age					
Years	46	51	56	46	49
Health sector experience					
Mean years	12.1	22.5	23.9	23.4	24.2
Professional background (n)					
Non Health	2	0	3	2	0
Medical	0	0	3	0	0
Nursing	0	4	2	10	29
Allied Health	0	2	1	4	13

Of the 42 participants classified as clinical staff, thirteen had an allied health and 29 had a nursing background. Of the thirteen allied health professionals, all except two physiotherapists had a background in social work or social science. Seven of the 11 needs assessors with a social work or social science background were employed at DHB 'C'. The distribution of participants in each functional group is presented by DHB in Table 14.

Table 14: Distribution of participants by DHB

	Local Policy	Executive Management	Operational Management	Clinicians
DHB A	1	2	3	8
DHB B	1	0	2	8
DHB C	1	3	4	11
DHB D	1	2	4	10
DHB E	1	1	2	3
DHB F	1	1	1	2

Three of the six participating DHBs implemented the *interRAI-HC* tool into their community-based NASC service for older people, these were DHBs 'A', 'C' and 'D'. DHB 'B' disestablished its older persons' NASC service and contracted this function to an external NASC service provider employing needs assessors with clinical expertise. In contrast, DHBs 'E' and 'F' selected the Specialist Health Services for Older People (SHSOP) as the target service. SHSOP are essentially hospital based rehabilitation services and needs assessors in these services were all clinically trained staff.

Though DHB 'C' nominally implemented the *interRAI-HC* tool into its NASC service for older people, the needs assessors in this service were dispersed into hospital based services providing health care. As a result needs assessors practised in isolation and the NASC service ceased to be a functionally integrated service unit. Efficient and effective health services for older people were viewed as a high priority for planners and funders in DHBs 'B', 'C', 'D' and 'E' but less of a priority for DHBs 'A' and 'F'. Implementation focussed on improving the assessment of older people, service development, equity (of service allocation and provision) and obtaining data for budgeting and population health planning for many participants in DHBs 'A', 'B', 'C' and 'D'. However, in the case of DHBs 'E' and 'F' the focus was on developing inter-disciplinary teamwork.

5.3 The need for change

As shown in Figure 7, analysis of participants' interviews produced 54 codes that were grouped into six categories around the theme 'Need for Change' with respect to the implementation of the *interRAI-HC* assessment tool.

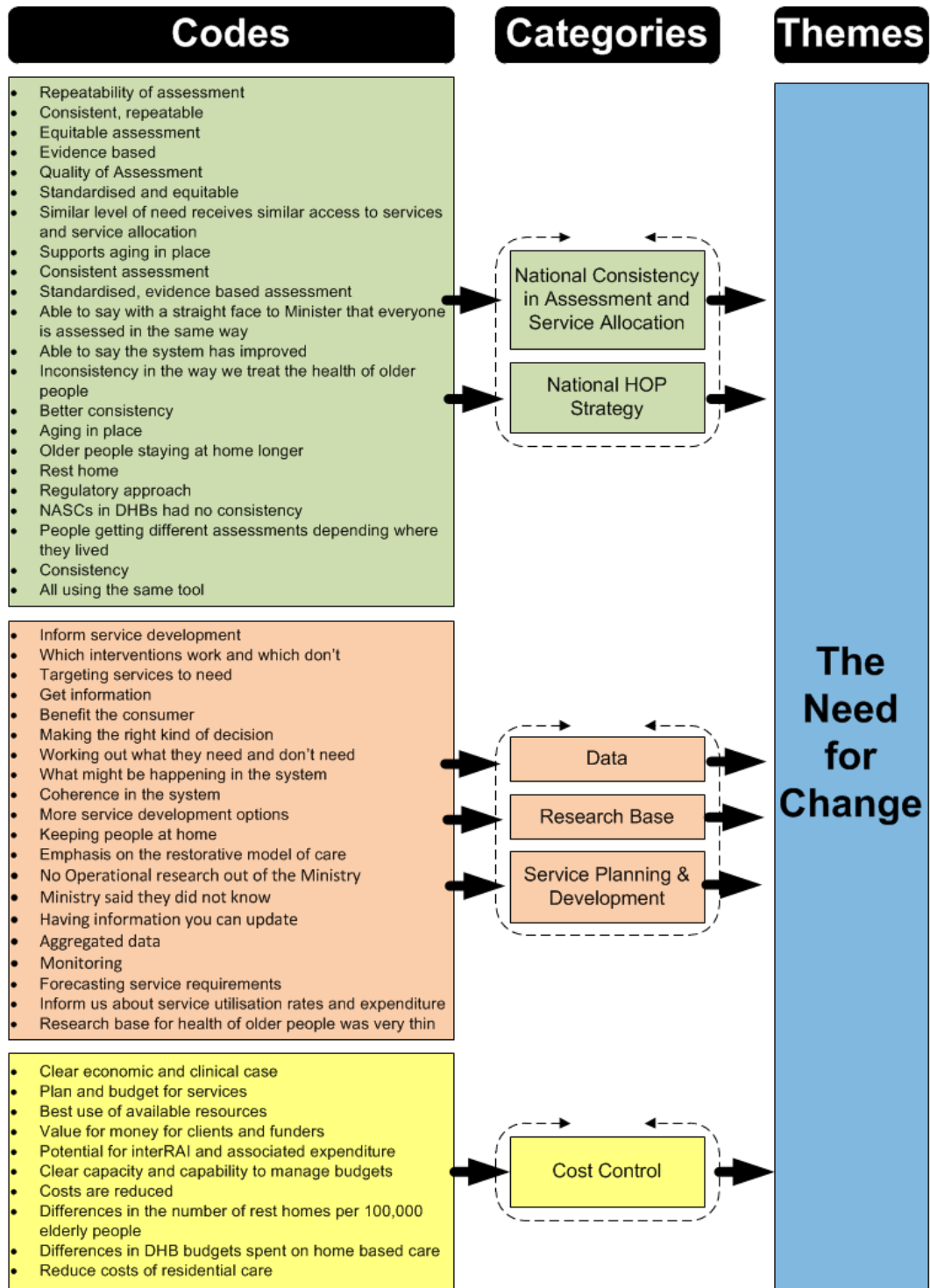


Figure 7: The Need for change

5.3.1 National consistency in assessment and service allocation

In the early 2000s, health services for older people became a focus of national health policy and regional health service development. In 2002, the MoH released its Health of Older Peoples' (HOP) Strategy, which emphasised positive ageing and older people living independently and in their own homes for as long as possible. This was followed in 2003 by the release of the New Zealand Guidelines Group's (NZGG) Assessment Guidelines for Older People and by the development in many DHBs of strategies to improve the health of older people. These strategies were supported by new models of care that emphasised community participation and independence and slowing or arresting functional and cognitive decline in older people. These models of care became collectively known as the restorative approach to care for the older person.

However, regional variability in both service provision and expenditure on services for older people with disability support needs across New Zealand indicated that differing assessment practices were driving inequity in service provision.

We had vast differences in the number of rest homes per 100,000 of population or even 100,000 of elderly population around the country, which defied logic. And similarly a very substantial difference in the proportion of DHBs budget that we spent on home based care. That told me that we had NASCs embedded in DHBs that had no consistency. Therefore people were getting different assessments depending on where they lived and that was a repugnant idea though not an uncommon thing.

Minister of Health

At the same time, the MoH was concerned that the different assessment tools and processes used in NASC services were impacting negatively on national consistency in the assessment of older people. Consequently, the MoH engaged the NZGG to evaluate the tools available internationally for comprehensive geriatric assessment and to recommend a suitable tool for use in New Zealand.

As part of the Health of Older People strategy assessment came out as a big issue. So there was a commitment to look at the whole question of assessment and how to improve assessment. And as part of that the guidelines group came out I think with the interRAI. Then there was a separate project done [by the Guidelines Group] really looking just at tools and this confirmed to go through the interRAI process.

HOP Team Manager, MoH

Assessment of the older person became a policy issue for both the Minister of Health (the Minister) and the MoH, who saw the implementation of the *interRAI*-HC assessment tool into DHB NASC services as a way to achieve national consistency in the assessment of the disability support needs of older people across New Zealand.

My ideal would have been to have seen the implementation of interRAI as the single tool used by the DHB embedded NASCs for the health of older people across the country and to see therefore somewhat more consistency and evenness in the way that we manage the health of older people and acknowledging that.

Minister of Health

However, the MoH was careful to acknowledge that national consistency in the assessment of older people would not in itself lead to equity of service provision and that rationing of services to meet assessed need would continue at the local DHB level.

I myself want to see consistency of assessment across the country. So initially, we will be able to say and I will be able with a straight face to say to the minister that everyone is assessed the same way. We will be able to say the system has improved. But we have to be careful. And I'm quite careful not to lead it to say it's going to result in everybody getting the same services because that requires a whole different policy change. They [interRAI assessments] will all be high quality clinical assessments and then it will be prioritisation decisions made at a local level that determine the differences in services. I hope it [interRAI] would lead to more service development options in DHBs.

HOP Team Manager, MoH

Therefore, national standardisation and consistency in the assessment of the disability support needs of older people (and not equity of service provision) in

support of the National HOP strategy was a major driver of change for national policymakers.

5.3.2 Data and a research base for service planning and development

Government and national policymakers were concerned that in the face of an ageing population and escalating costs of care the health system lacked an evidence base to support policy and service planning or to determine the most effective suite of services to support a given set of assessed health and disability support needs.

It was a joke to say that we were doing evidence based policy development [with respect to older peoples' health services]. We had no information on which to base evidence. Perhaps because I've got a science background I use to rail at people who would talk about evidence based policy development glibly but do nothing to assist in driving up the information sources.

Minister of Health

The Minister of Health saw the electronic platform of the *interRAI-HC* assessment tool and its capacity for data storage and retrieval as enabling the establishment of an information and evidence base from which to develop both older peoples' health policy and health services for older people. Obtaining this capacity and capability was a second driver for national policy makers in implementing the *interRAI-HC* assessment tool.

*Then if consistency was the first thing that was driving me the second thing was that our research base for the health of older people was very slim indeed. There was virtually no operational research done out of the Ministry of Health. It became normal for me to be to try and find out something and to not be able to get a handle on it. So I knew that *interRAI* would give me but also more importantly the system a richness of data that was reasonably consistent as the years went by.*

Minister of Health

The MoH also viewed the *interRAI-HC* tool implementation as an opportunity to develop a database to identify those services most effective in meeting client disability support needs and supporting clinical decision-making.

To make sure that we're making the right kind of decision with them [clients] both as to their need and what they don't need.

HOP Team Manager, MoH

The MoH sought to use the *interRAI*-HC tool to identify services that maximised the independence of older people and ensure DHBs were providing these services.

5.3.3 Cost control

In addition to informing policy and service development the Ministry (but not the Minister) saw the data collected through *interRAI*-HC assessment as enabling the establishment of DHB service budgets and managing expenditure by investing in services that best meet assessed need and improve population health outcome.

The issue is the Ministry having information systems and developing a much stronger national older people, Health of Older People information data set. Also in the Ministry its being concerned about the overall potential for it to ensure that we are getting a clear capacity and capability to manage our budgets and of what we think might be happening in this area of services. InterRAI will enable a sort of coherence to the system.

HOP Team Manager, MoH

A particular cost driver for the MoH was the management of national expenditure on aged residential care.

The hope is that this [interRAI] will somehow be able to help us manage entry into residential care and improve those residential care decisions.

HOP Team Manager, MoH

The MoH saw the *interRAI*-HC tool as providing information to identify client triggers for risk of entry to residential care and monitor and benchmark the performance of DHBs in keeping older people with disabilities in their own homes.

5.4 Failure or absence of a health system-wide, complete change message

Despite these strong drivers for change, only six of New Zealand's 20 DHBs attempted to implement the *interRAI*-HC tool. Many participants thought that the MoH had failed to communicate a good case for either the need for, or the appropriateness of a change in assessment tool or assessment processes.

There needs to be a clear economic case for it and a clear clinical or service case for it to be adopted by clinical services.

Executive Manager, DHB 'E'

Furthermore, there was disappointment among DHBs at the MoH's lack of leadership or promotion of change.

*In the case of *interRAI*, this was a centrally mandated change. The Ministry wanted it but the centre is nowhere near it.*

interRAI Project Manager, DHB 'B'

*A national plan for roll out of *interRAI* is critical to success. This was pushed from the centre but there is no leadership from the centre. 20 groups aren't going to do it unless there is something pulling it together.*

Local Policy Manager, DHB 'E'

It appears the Minister of Health shared this disappointment, indicating the MoH should have done more to create DHB acceptance and commitment to implement the *interRAI*-HC tool.

The Ministry was weak in the Health of Older People.

Minister of Health

Given the Minister's view, it is noteworthy that the MoH website states that the role of the MoH is to ensure that the health system is delivering on the Government's priorities, as articulated by the Minister of Health (MoH website, 2014). As the Minister and MoH intended a national implementation of the *interRAI*-HC tool,

DHBs expected the MoH to signal this and provide the required resources. However, the MoH did not promise or provide funding to enable the implementation of the *interRAI*-HC tool. This impacted negatively on the commitment of many DHBs to implement change.

The cost of implementation can also be a barrier. There was a lack of commitment [of funding] to interRAI from the Ministry of Health and we had to apply each year to the Board for funding and eventually lost enthusiasm for implementing it.

Local Policy Manager, DHB 'E'

One executive manager indicated that the main reason for implementing the *interRAI*-HC tool was that the Minister wanted it, not that it would benefit the health system, DHBs or clients.

We decided we were going to implement interRAI, that it was a government thrust and that we needed to do this because the minister said we had to do it.

Executive Manager, DHB 'D'

Participants report the MoH unwilling to lead change and ineffective in communicating the need or appropriateness of change, material support for change or the benefits of change to DHBs. The failure to develop and communicate effectively a compelling change message impacted negatively on both DHBs' perceptions of the MoH's commitment to the *interRAI*-HC tool, their own acceptance of change, their commitment to change and ultimately on their readiness to implement change. As a result the opportunity to build system-wide acceptance and commitment to implement the *interRAI*-HC tool was lost, despite very strong imperatives for change.

Part 3: Findings; alignment with national policy and the meaning of success

5.5 Painting the picture of success

Exploring the meaning of successful implementation of the *interRAI-HC* tool from the perspectives of the participants at various levels in the health system provides insights into both the extent of vertical and horizontal alignment of goals and the effectiveness of communication between the levels. Perspectives of success determine how success is measured and evaluated by stakeholders. Analysis of participants' interviews produced 201 codes grouped into 13 categories producing four themes pertaining to success: clients, business process improvement, job satisfaction and costs, as shown in Figure 8.



Figure 8: Successful *interRAI*-HC implementation - the client

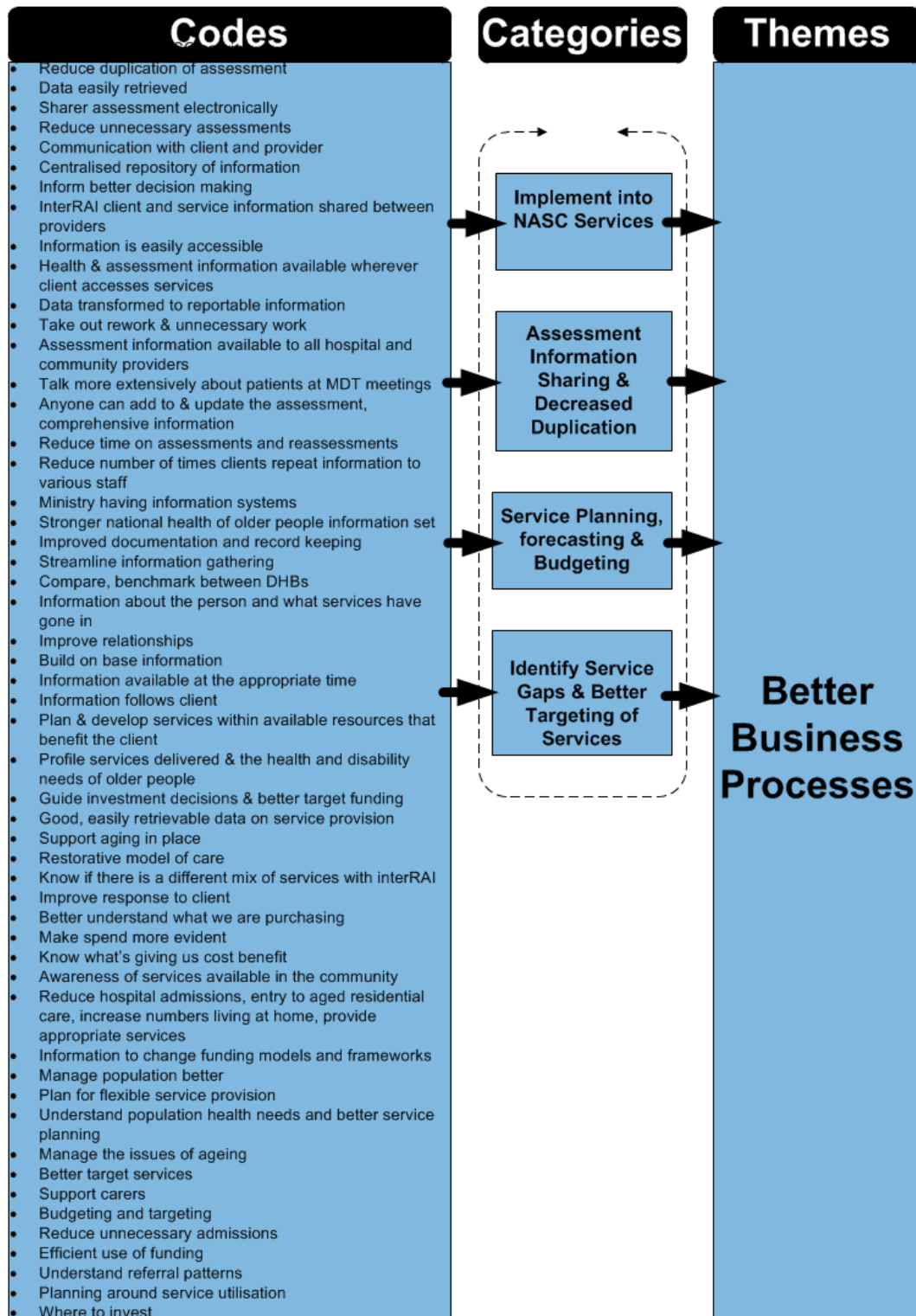


Figure 8: Successful *interRAI*-HC implementation – better business processes (continued)

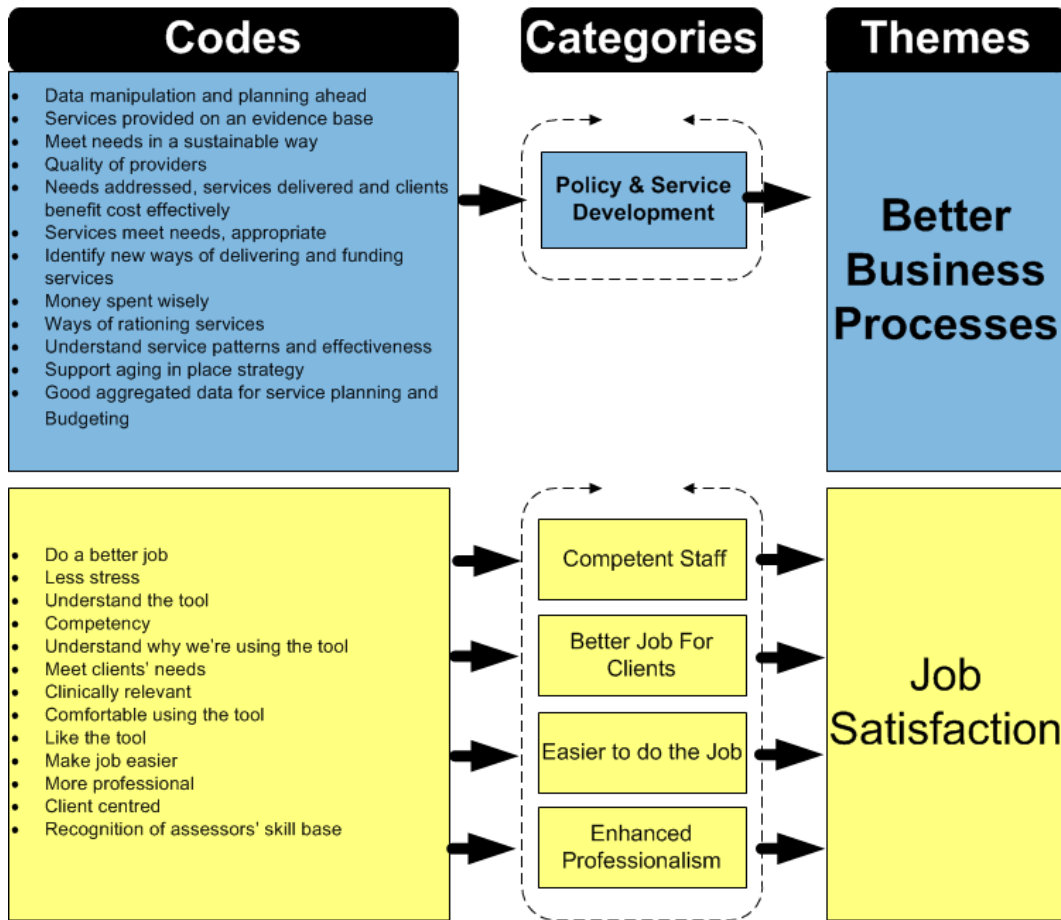


Figure 8: Successful interRAI-HC implementation – better business processes & job satisfaction (continued)

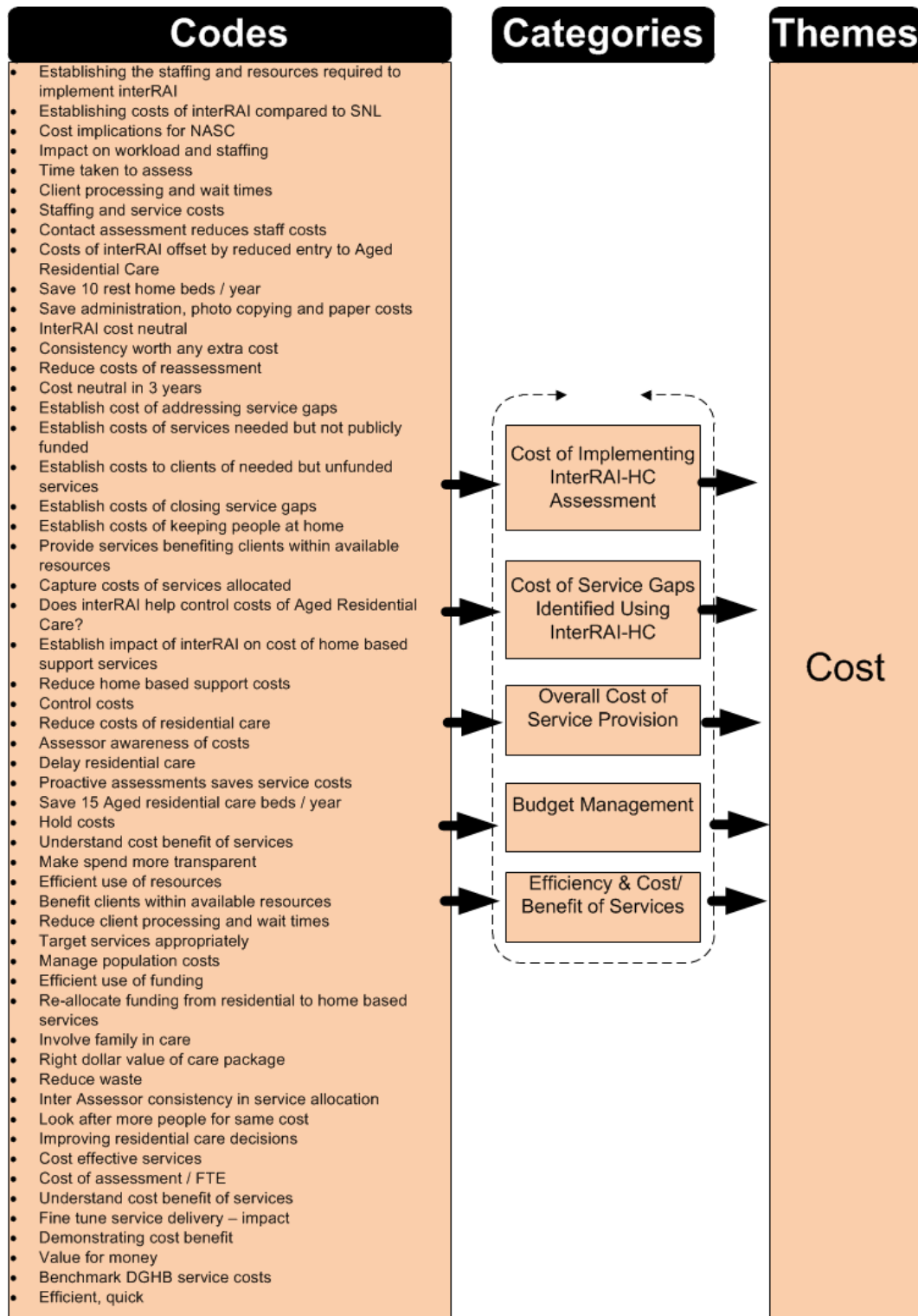


Figure 8: Successful *interRAI-HC* implementation – cost (continued)

5.5.1 The client

With respect to clients, the Minister and MoH expressed relatively modest views regarding successful implementation of the *interRAI*-HC assessment tool into DHBs. For them, success meant essentially two things. First, the implementation of the tool into all DHBs' older peoples' NASC services and the standardised, nationally consistent and comprehensive assessment of a client's disability support needs. Second, improved services and outcomes for clients. Success did not include the achievement of equitable service allocation and provision across the country or even within a DHB.

Success means we have a clear mechanism for assessment and we're able to utilise this information to then improve their service. My ideal would have been to have seen the implementation of interRAI as the single tool used by the DHB embedded NASCs for the health of older people across the country and to see therefore somewhat more evenness in the way that we managed the health of older people and acknowledging that.

Minister of Health

That older people have a better understanding of what is happening to them when they are being assessed, that assessments are more factual about what the actual issues are and that they can stay at home longer. Successful implementation will be when all 21 DHBs are using it in the current NASC function as a minimum ideally. And that the utilisation is beyond just the production of the paper framework, that we are actually getting an improved assessment structure, a stronger assessment process. For now that's as far as it goes.

HOP Team Manager, MoH

Executive managers in DHBs 'A', 'C' and 'D' tended to view success in terms of achievement of the overall goals of implementation, which included a standardised, consistent and comprehensive assessment of the clients' disability support needs.

Success is the achievement of the goals established at the beginning of the project. In the case of interRAI this would be the achievement of consistent, repeatable, equitable assessment performed at many locations at different times

Executive Manager, DHB 'A'

We will have standardised, consistent, valid assessment and systematisation of the assessment process.

Executive Manager, DHB 'C'

However, executive managers in DHBs 'E' and 'F', viewed successful implementation primarily as the development of a multi-disciplinary approach to service provision to older people. Standardised, consistent and comprehensive assessment of the older person was part of this approach.

In implementing interRAI we wanted to develop a strong sense of teamwork and of valuing the diversity in the Multi-Disciplinary Team and what each team member brought to the assessment of the needs of the older person. It would be the assessment tool used by any member of the Health of Older People' services team and the tool would provide a standardised, consistent, valid assessment of the client's support needs.

Executive Manager, DHB 'F'

We implemented it in the Older Persons Rehabilitation Service to foster a multidisciplinary approach to services for older people.

Needs assessor, DHB 'E'

Local policy managers in DHBs generally agreed that success meant evidence-based, standardised and consistent assessment for clients.

Successful implementation means assessment of older people for disability support need is evidence based, standardised and equitable.

Local Policy Manager, DHB 'A'

That the information that's in the MDS itself is consistent no matter who is doing it [the assessment]

Local Policy Manger, DHB 'C'

Most NASC service managers, project managers and managers of health services for older people generally had a consistent picture of success for the client that was rooted in evidence-based practice, better matching between service allocation and assessed needs and a better outcome for clients. However, some at this organisational level, particularly those not managing assessment services, saw

successful implementation of the *interRAI-HC* tool leading to equitable service provision.

If we use evidence based assessment tools properly we will hopefully get the benefits associated with using those tools and target services better so they make a difference and change services as a person's needs change.

interRAI Project Manager, DHB 'B'

Staff would have a robust, validated assessment tool to back their clinical judgement and help with care planning, more so than with the SPA tool.

Operational Manager, DHB 'C'

It means older people receive a validated, standardised and reliable comprehensive assessment of their needs which leads to equitable service allocation.

Operational Manager, DHB 'E'

Needs assessors and those working with *interRAI-HC* outputs (assessment reports) generally had a view of success directly related to their day-to-day work. Success meant clients receive a standardised and consistent assessment resulting in data collection that directly supports care planning and the allocation of services that support clients and their families.

*I think success is using *interRAI* in a way that captures all the information required to allow us to develop a care plan and put a package of care in place that supports each individual client to meet their goals and enables them to live as independently as possible.*

Needs Assessor, DHB 'A'

There is a section in the tool for the involvement of families and carers and I think that's important.

Receiver of *interRAI-HC* outputs, DHB D

Overall, most respondents agreed that success also meant the client would receive services better targeted to identified support needs, leading to an improved quality of life.

Service delivery would be based on the identification of need.

Executive Manager, DHB 'F'.

For me success is about improving life for patients and clients.

interRAI Project Manager, DHB 'B'

However, it is noteworthy that unlike participants in the MoH, many executive managers and some local policy managers saw successful implementation of the *interRAI*-HC tool leading to equitable, high quality service provision to clients.

Better targeting of services to need, better value for money, equity of outcome in terms of service provision and hopefully health outcome.

Local Policy Manager, DHB 'A'

*It [*interRAI*-HC] will lead to equitable service provision for clients and we can use the *interRAI* outputs as a monitoring tool to assess quality.*

Executive Manager, DHB 'C'

The view that successful implementation of the *interRAI*-HC tool would lead to equitable service provision expressed by many executive managers, local policy managers and some operational managers displays a lack of understanding of the *interRAI*-HC tool and what can be achieved through its implementation alone. Equitable service provision is distinct from assessment and requires additional inputs such as service availability and an adequate level of funding.

5.5.2 Better business processes

Both the Minister and MoH saw implementation of the *interRAI*-HC tool as a means to achieve a nationally consistent assessment process and collect data to inform both policy and service planning in order to improve health outcomes for older people.

Success means we have a clear mechanism for assessment and we're able to utilise this information to then improve their service.

HOP Team Manager, MoH

Executive managers, local policy managers, medically qualified clinicians and change implementation managers also pictured success in terms of better information to improve business processes associated with identifying health needs of older people, developing services to support the Older Peoples' Health strategy, managing budgets and benchmarking service allocations for the same level of assessed need across DHBs.

From a funding perspective, successful implementation means we can use interRAI as a communications tool so all health professionals can interact with the client in an integrated way. Information will be catalogued and available and we can use interRAI to develop a casemix model for care of older people and we will have information on population health need for planning resource allocation.

Executive Manager, DHB 'C'

We would get aggregated data on client outcomes on an individual and a population basis and better information on the support needs of older people from an individual and population level perspective. We could also use our information to compare our population of older people's support needs with those of other District Health Boards in New Zealand. Assessed needs would be specific to the use of the interRAI MDS-HC tool and national use of the tool would allow us to better and more equitably meet needs. We could compare outputs, services provided and outcomes and get a better idea of service value.

Executive Manager, DHB 'E'

You start to build a picture of what your older population looks like. It means we get the data to inform service development in a way that supports ageing in place and we get data to help us plan and budget for services that maximise independence and function for older people and make best use of available resources.

Local Policy Manager, DHB 'A'

We would have a platform in place to extract appropriate information for population health planning.

Geriatrician, DHB 'C'

We can get a lot of information not only about individual clients but by aggregating individual client data we can build up a picture on the health needs of the older population and use that for service planning, budgeting and forecasting and to see how we are meeting need, get an idea of resource utilisation patterns and monitor improvements in the health and wellbeing of people at the individual and population level.

interRAI Project Manager, DHB 'B'

Only a few participants saw success in terms of using the *interRAI-HC* tool to break down funding and service siloes and provide integrated care to older people.

Health [the system] is still split by funding streams and interRAI can be an agent to change this.

interRAI Project Manager, DHB 'B'

Many managers and medically qualified participants expected the implementation of the *interRAI-HC* tool to allow any health professional both in the target service or any other site of interaction with clients to access and update assessment information electronically, reducing the duplication of assessment often experienced by older people.

Yeah well I guess we would be able to access that information [assessments and care plans] on an on-going basis. So it would have to be easily accessible to us and everybody else that is responsible for the person. Patients would not have to tell the same things over and over again to different health service providers.

Geriatrician, DHB D

It's implementation results in less duplication of assessment for the older person and the sharing of information between the interdisciplinary team and assessors. InterRAI information would be available to all health service providers to older people at the point of presentation.

Operational Manager, DHB 'C'

Once we get people able to access interRAI electronically we can have instant access to an older person's assessment information at any place where they come into contact with the health system and update assessment information immediately.

InterRAI Project Manager, DHB 'B'

These views are not consistent with the scope of implementation or the resources allocated and again indicate a lack of understanding of what could be achieved by limited introduction of the new assessment tool. The ability to access client data electronically at any point of care requires widespread implementation of the *interRAI-HC* tool across many services rather than implementation into a single target service only. Needs assessors generally had a pragmatic and workplace centred view of success in terms of improving business processes. Data collection and retrieval to inform budgetary and service management did not generally form part of their picture of success.

Successful implementation also means staff are well trained and have effective peer support processes in place to support each other. I think success is health professionals and service providers understanding the tool and working together to see the information collected on the client is updated and remains relevant so that support plans are revised in a way that meets the client's changing needs.

Needs Assessor, DHB 'A'

It would mean we could do our jobs better and quicker with a stronger client focus and a reduction in waste of resources.

Needs Assessor, DHB 'C'

So for me [success is] if it's going to make my job easier.

Needs Assessor, DHB 'D'

5.5.3 Job Satisfaction

It is noteworthy that only NASC service managers, needs assessors and *interRAI* project managers and one operational manager included job satisfaction in their picture of success. The MoH, executive managers and most operational managers inferred through their desire for standardised, consistent and comprehensive assessments that the *interRAI-HC* would enable needs assessors to provide a better service to clients. However, staff satisfaction was not specifically included in their picture of success and needs assessors and their managers generally indicated that their work was not valued appropriately by other managers or clinicians.

The skill of the assessors would become more recognised because people see NASC in a bit of a second-class area.

NASC Manager, DHB 'D'

It [success] means staff and stakeholders understand why it is being implemented and what we are trying to achieve.

Operational Manager, DHB 'E'

For me it's improving job satisfaction for people providing health services to those that need them.

interRAI Project Manager, DHB 'B'

Successful implementation of the evidence based *interRAI*-HC assessment tool was seen by NASC staff as enhancing their professional status and the utility of assessment reports in the eyes of other health professionals.

We would be seen as more professional and seen as useful in providing on-going assessment of clients and effective service provision.

NASC Manager, DHB 'A'

Being successful means we change the minds of clinicians and General Practitioners about the role of the NASC.

Core Trainer, DHB 'A'

Needs assessors saw success mainly in terms of understanding the need for change and how to use the tool effectively to maximise benefits to clients. They were also concerned with reducing waste and expected the introduction of the *interRAI*-HC tool to improve their day to day working conditions.

It would mean we could do our jobs better and quicker with less stress and a stronger client focus and a reduction in waste of resources. We would fully understand why we were using the tool and how it should be used. It would mean we would be doing a better job for the client.

Needs Assessor, DHB 'C'



These comments show the importance considering success from the view of change recipients and determining the factors which will create and maintain their acceptance and commitment to change. Findings suggest managers need to pay attention to change recipients' views of success. Ensuring that change recipients' views of success are built into the measurement, evaluation and achievement of success facilitates their readiness to embrace change and participate in change events.

5.5.4 Cost

The Minister of Health did not mention cost control in association with the implementation of the *interRAI-HC* tool. However the participant from the MoH included the improved management of budgets and better understanding of expenditure on older peoples' health services in their view of success.

Also that we are getting a clear capacity and capability to manage our budgets and what might be happening in this area of services.

HOP Team Manager, MoH

In general, executive managers and local policy managers expected the implementation of the *interRAI-HC* tool to prevent or delay entry to aged residential care, reducing expenditure on these services. It was acknowledged that these indicators of success were poorly communicated to change recipients and other stakeholders.

We wanted to reduce flows to residential care. However these aims were not clearly articulated and while the Planning and Funding Division did have input into developing these aims the Division disengaged from the implementation process and so we didn't follow through on these things.

Executive Manager, DHB 'C'

Both executive managers and local policy managers also generally viewed the implementation of the *interRAI-HC* tool as enabling efficient expenditure and the provision of cost effective services.

It's about targeting service to need, service integration and the best use of available funding for clients and funders and independence for older people.

Local Policy Manager, DHB 'A'

In general, managers expected to improve the efficiency of expenditure on older peoples' disability support services through better targeting services to assessed need. However, needs assessors and service providers working from *interRAI-HC* reports did not include cost containment or savings in their picture of success.

5.5.5 *interRAI-HC* implementation: vertical and horizontal alignment

Executive managers in DHBs 'A', and 'D' were aligned to national policy intent with respect to implementing the *interRAI-HC* tool. These DHBs introduced the tool into the NASC service and sought standardisation and consistency of assessment, better targeting of service allocations to assessed need and aggregated client data for policy development and service planning purposes. Many executive managers and local policy managers in other participating DHBs saw the assimilation of the *interRAI-HC* tool leading to greater equity in service provision, something the Ministry did not include in their vision of success and did not consider achievable through the assimilation of the tool alone.

DHBs 'E' and 'F' did not align their implementation of the *interRAI-HC* tool to national policy intent. The *interRAI-HC* tool was not introduced to their NASC service and neither DHB involved the NASC service in the implementation of the tool. This meant NASC services were unable to collect and work with assessment data to achieve service coordination from *interRAI-HC* outputs. It is also noteworthy that while both DHBs 'E' and 'F' indicated that the driver for implementing the *interRAI-HC* tool was the establishment of a multi-disciplinary approach to client care, neither executive managers nor local managers mentioned the achievement of this approach to client care in their picture of success. Instead, success was described mostly in terms of obtaining data for planning and budgeting process and standardised comprehensive assessment. This would have been more easily achieved by implementation of *interRAI-HC* tool into NASC services, rather than specialist hospital services, because the former deal with far larger numbers of older people

and routinely collect assessment and service data. Therefore DHBs 'E' and 'F' displayed a disconnection between the stated vision and purpose in implementing the change event and their picture of success, that is between organisational strategic intent, operational implementation and the indicators of success.

Many executive managers, local DHB policy managers and some operational managers appear to have looked past the intent and scope of success described by the Minister and Ministry of Health. Success for many of these participants included achieving value for money, equity in service provision for clients, the electronic availability of assessment data at any point of care accessed by the older person, the sharing of assessment data between health professionals electronically and a reduction in number of times older people are assessed. However, these things were outside the capability of implementation into one service only.

Managers and staff of NASC services generally saw success in terms of a common understanding of the *interRAI-HC* tool, a comprehensive, standardised assessment process for clients, the involvement of family in assessment, equity in service allocation, better targeting of services to need and job satisfaction. Needs assessors did not see success in terms of benefit to the DHB or to the whole health system (such as the ability to better plan and budget for service provision). Operational managers of clinical services who remained involved in service provision to older people aligned success with improvements in the assessment process. However, those not directly involved in service provision and lacking a clinical background included equitable service delivery and the availability of assessment data at any point of care in their view of success. These participants, like many executive managers, appeared to display a lack of understanding of the limitations of the implementation process at their respective DHBs and of national policy intent in implementing the *interRAI-HC* tool. Health service providers receiving assessment reports viewed success as the integration of *interRAI-HC* tool assessment data into existing DHB patient information systems and having electronic access to assessment data. Geriatricians in particular were keen to see assessment data and care plans available at any point of care to increase efficiency and reduce the duplication of assessment experienced by clients. Table 15 summarises the key characteristics of the meaning

of successful implementation of the *interRAI-HC* tool as expressed by the various groups of participants. It is noteworthy that while these were seen as key success indicators in implementing the tool, only DHB 'A' established a performance measurement and management framework to evaluate success.

Table 15: Key characteristics of the meaning of success by functional group

	National Policy	Local Policy	Executive Management	Operational Management	Needs Assessors	Clinical Staff
The Client						
Standardised, Consistent Assessment and Service Allocation	Yes	Yes	Yes	Yes	Yes	Yes
Client and Family Involved in the Assessment	No	No	No	Yes	Yes	No
Better targeting of Services	Yes	Yes	Yes	Yes	Yes	Yes
Equitable Service Provision	No	Yes	Yes	No	No	No
Better Business Processes						
Implementation into the Older peoples' NASC service	Yes	4/6	4/6	4/6	4/6	4/6
Data and Information to inform Policy and Service Development	Yes	Yes	Yes	No	No	No
Better targeting of Services	Yes	Yes	Yes	Yes	Yes	Yes
Identify service Gaps	No	Yes	No	Yes	Yes	Yes
Reduced Duplication of Assessment	No	Yes	Yes	Yes	Yes	Yes
Ability to Share Assessment Data	No	Yes	Yes	Yes	Yes	Yes
Job Satisfaction						
Well Trained Staff	Yes	No	No	Yes	Yes	Yes
Enables Assessors to do a Better Job	Yes	Yes	Yes	Yes	Yes	Yes
Make the Job Easier	No	No	No	Only NASC Managers	Yes	No
Enhance Professional status	No	No	No	Only NASC Managers	Yes	No

Table 15: Key characteristics of the meaning of success by functional group (continued)

	National Policy	Local Policy	Executive Management	Operational Management	Needs Assessors	Clinical Staff
Cost						
Cost of implementing <i>interRAI-HC</i>	No	1/6	No	1/6	1/6	1/6
Cost of addressing service gaps identified by <i>interRAI-HC</i>	No	1/6	No	1/6	1/6	1/6
Overall cost of service provision to clients	No	Yes	Yes	No	No	No
Budget Management and Cost Control	No	Yes	Yes	No	No	No
Cost/Benefit of service provision	No	Yes	Yes	No	No	No

Chapter 6: The development of SoRT

Great strategy, shame about the implementation...

Okumus and Roper, 1998

6.1 Introduction

The principal product of this study is the development of a State of Readiness Tool (SoRT) that organisations delivering health care in New Zealand, particularly District Health Boards (DHB), would find useful in creating and building organisational, work group and individual employee change readiness to adopt and assimilate complex new technology or process. The SoRT aims both to enable change managers to assess and build change readiness at all organisational levels over time during the planning, contemplation and implementation of change events and to provide advice on remedial action where change readiness is compromised. While the change event used as the vehicle to develop the SoRT is the implementation of the *interRAI* Home Care comprehensive geriatric assessment (*interRAI-HC*) tool, this thesis is focussed on the assessment, creation and enhancement of change readiness to implement that tool successfully, not on the change event itself. In developing the SoRT, this study identifies contingency factors which impact change readiness to implement the *interRAI-HC* tool and explores response variables best fitting with its successful implementation into DHBs. This chapter presents the research findings related to both the identification of contingency and response variables impacting change readiness to implement the *interRAI-HC* tool in participating DHBs and to the development of the SoRT.

General inductive analysis of participants' interview data led to the emergence of a number of themes associated with change readiness to introduce and implement the *interRAI-HC* assessment tool. These themes provide the basis for the SoRT and relate to the creation of environmental (external) pre-introductory change readiness, organisational (internal) pre-introductory change readiness, readiness to fully adopt the *interRAI-HC* tool and readiness to assimilate the *interRAI-HC* tool and make the change permanent.

6.2 Adoption does not always lead to assimilation

The adoption of technology, process or practice within organisations is a complex adaptive process (Denis, Hebert, Langley, Lozeau, & Trottier, 2002), sometimes occurring over a lengthy timespan. However, the adoption of new technology or process may not lead to continued use because adoptions must be accepted, adapted, routinized and assimilated (Zhu, Kraemer, & Xu, 2006). Consequently, this study will use the concept of assimilation to encompass not only adoption, but also the successful institutionalisation of a planned change event.

6.3 Overview of the development of SoRT

Figure 9 outlines the research design employed both to develop the SoRT and identify contingency variables influencing change readiness to implement the *interRAI*-HC tool.

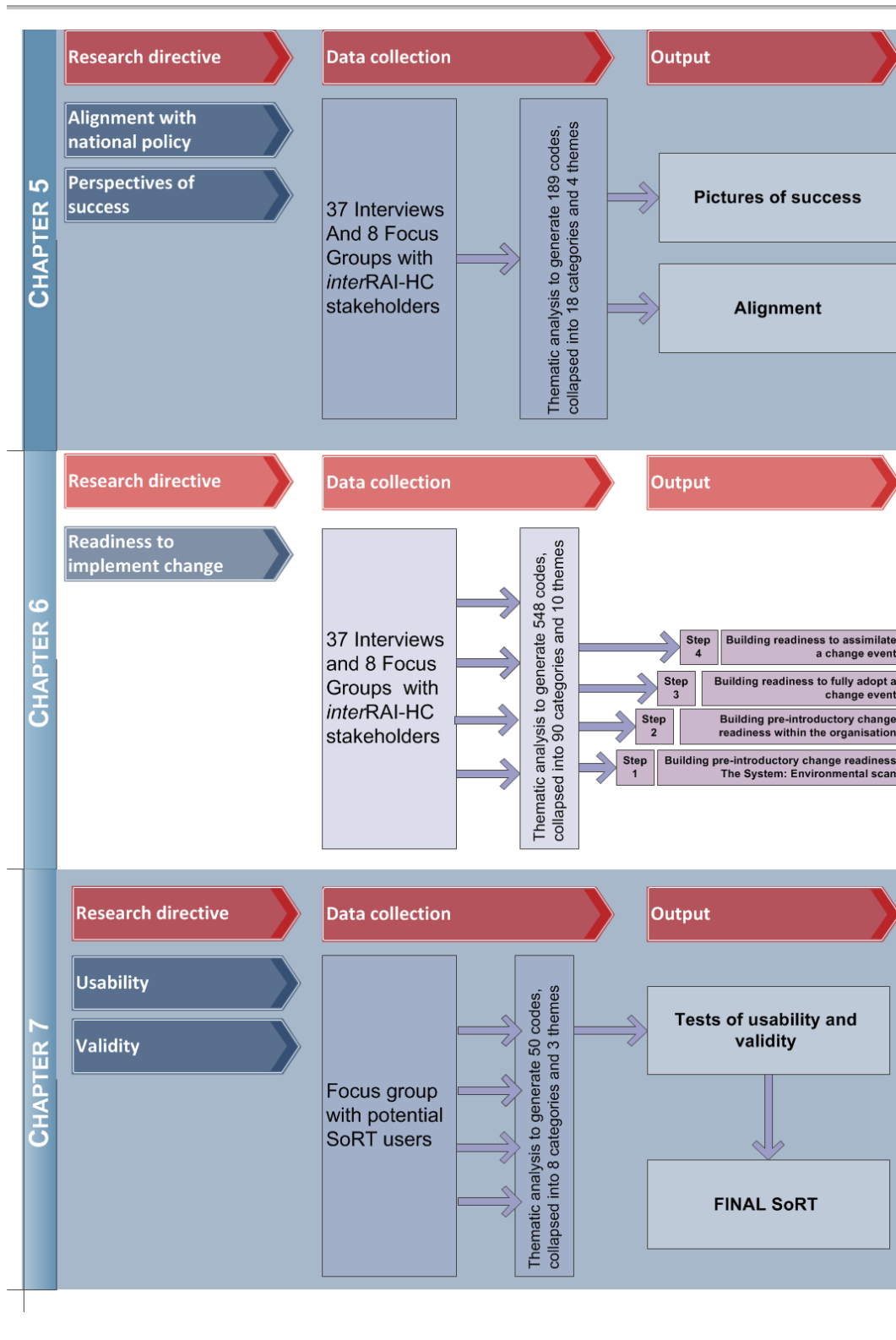


Figure 9: Research design – development of SoRT

Findings show that creating, building and maintaining change readiness to introduce, fully adopt and assimilate the *interRAI-HC* assessment tool can be regarded as a stepped process that precedes and parallels the process of implementing a planned change event. Change readiness is not fixed but evolves with time, building or regressing depending on the prevailing circumstances and conditions and the attitudes and emotions of those affected by change.

In the pre-introduction phase of the *interRAI-HC* change event, participating DHB contemplated, planned and made ready for change. In this phase, creating and building change readiness was found to be a function of an enabling and supportive health system, the creation of a change ready organisation and the acceptance of and commitment to the change event by those groups and individuals impacted by it. Maintaining change readiness to fully adopt and then building readiness to assimilate the *interRAI-HC* tool into daily routines became functions of the processes by which and conditions under which the tool was implemented. These processes and conditions influenced stakeholders' attitudes to the change and their beliefs about the change. In addition, the characteristics and properties of the *interRAI-HC* tool itself and change recipients' experiences of the tool were found to be important influences on their commitment to both fully adopt and to assimilate the tool into daily practice

This research suggest creating and building readiness to achieve the successful assimilation of the *interRAI-HC* change event into routine operations is a four step process. The first step is the creation of external (to the DHB) environmental pre-introductory change readiness. The fundamental question in this step is '*does the health system within which we work enable and support change readiness to implement the interRAI-HC tool?*' This question can be addressed by performing an environmental scan. Step two involves creating pre-introductory change readiness within the organisation. This means creating an organisation, teams (work groups) and individuals that are ready to introduce planned change. The question during this step is '*are we ready to introduce change?*' During both steps one and two the organisation is contemplating, deciding on and preparing to introduce planned change. In cases where planned change is not of a national nature (such as the implementation of a new local model of care), an environmental scan is still important as planned change

may impact other organisations which will need to be change ready. Thus steps one and two can require the participation of other organisations. In addition external factors, such as regulation or the views of professional organisations, may impact a planned internal change event. Step three involves creating change readiness to fully adopt planned change into services targeted for change. This step is associated with the question ‘*how do we go about securing the physical introduction and full adoption of change?*’ Finally, step four is the creation of readiness to assimilate a planned change event. The central question at this stage is ‘*how do we make change permanent?*’. If change readiness can be considered a four step process, then assessments of change readiness can be performed during and at the end of each step. This is the basic idea behind the development of the SoRT.

Analysis of participants’ interview data identified ten overarching themes associated with these four steps in creating and building change readiness to introduce the *interRAI-HC* tool. These themes were (i) vision and strategy, (ii) leadership, (iii) governance and accountability, (iv) culture, (v) planning, (vi) project management (structure and process and change process control), (vii) communication and engagement, (viii) organisational support, (ix) building capability, capacity and belief and (x) demonstrating benefits. The first four themes have both a national and a local flavour. As shown in Table 16, many of these themes were found to stretch across multiple steps in the change readiness process. However, where themes overlap across steps, each step is associated with different aspects or nuances of the theme. Table 16 also includes the four basic questions associated with each step in the creation of change readiness to implement planned change successfully. The term ‘internal change readiness’ in this thesis means readiness of the internal organisational (in this case DHB) environment at the organisational, team and individual level of analysis. Table 17 provides an index of page numbers presenting the findings relating to the influence of each theme at each step in creating and building change readiness to implement the *interRAI-HC* tool.

Table 16: Themes related to creating and building change readiness to assimilate the *interRAI*-HC tool and formulating the questions guiding the development of the State of Readiness Tool

STEP ONE Themes relating to creating external environmental pre-introductory change readiness	STEP TWO Themes relating to creating internal pre-introductory change readiness	STEP THREE Themes relating to creating internal change readiness to introduce and fully adopt a change Event	STEP FOUR Themes relating to creating internal change readiness to assimilate a change event and make change permanent	FOUR QUESTIONS The fundamental questions relating to each step in creating change readiness to implement a planned change event.
<ul style="list-style-type: none"> • National vision and Vision and Strategy • Leadership from the Centre (MoH) • National Governance & Accountability • Sector Culture 	<ul style="list-style-type: none"> • Local Vision & Strategy • Local Governance & Accountability • Local Leadership • Local DHB Culture • Planning • Project management Structure and Process • Communication and Engagement 	<ul style="list-style-type: none"> • Project Management Process: Controlling the Change Process • Local Leadership • Communication and Engagement • Organisational Support • Building Capacity, Capability and Belief 	<ul style="list-style-type: none"> • Organisational Support • Communication and Engagement • Building Capacity, Capability and Belief • Demonstrate benefits 	<p>Step One Does the Health System we work within enable and support change readiness?</p> <p>Step Two Are we ready to introduce change?</p> <p>Step Three How do we physically introduce or adopt a change in a way that builds and maintains acceptance, commitment & belief in the capacity to change?</p> <p>Step Four How do we make the change permanent?</p>

Table 17: Themes, by page number

Descriptors						
Themes	Pre-Introduction (pg. numbers)		Transition from pre-introduction to adoption	Themes	Adoption (pg. numbers)	Assimilate (pg. numbers)
	Step 1	Step 2			Step 3	Step 4
	National / Environmental	The organisation / sub-units			Create & Build	Make Change Permanent
Vision & Strategy	170 - 172	181 - 183		Leadership	238 – 242	N/A
Leadership	172 - 173	183 - 186		Communication and Engagement	242 – 245	259 - 262
Governance & Accountability	173 - 175	186 - 189		Organisation support	246 – 249	263 - 266
Culture	175 - 178	190 - 192		Project Management Process: Change Control	249 – 250	N/A
Communication and Engagement	N/A	192 -196		Building capacity, capability & belief	251 – 255	266 - 278
Planning	N/A	196 - 223		Demonstrate benefits	N/A	279 - 284
Organisational Support	N/A	223 - 227				
Project Management Structure and Process	N/A	227 - 233				

Notes. * These refer to page numbers containing the source data for the themes

6.4 Step One – Environmental pre-introductory change readiness; the health system

DHBs operate within the environment of the wider health system. This research found that context and conditions in this wider environment influence a DHB's readiness to implement planned change events, particularly those such as the *interRAI-HC* tool that have a national rather than local flavour. Figure 10 shows there were 109 codes grouped into fourteen categories which collapsed into four themes relating to the creation of external (to the DHB) environmental pre-introductory change readiness to implement the *interRAI-HC* tool. These themes are national vision and strategy, central or national leadership, national governance and accountability and health system culture. The four themes are related to the creation of change readiness at the health system level.

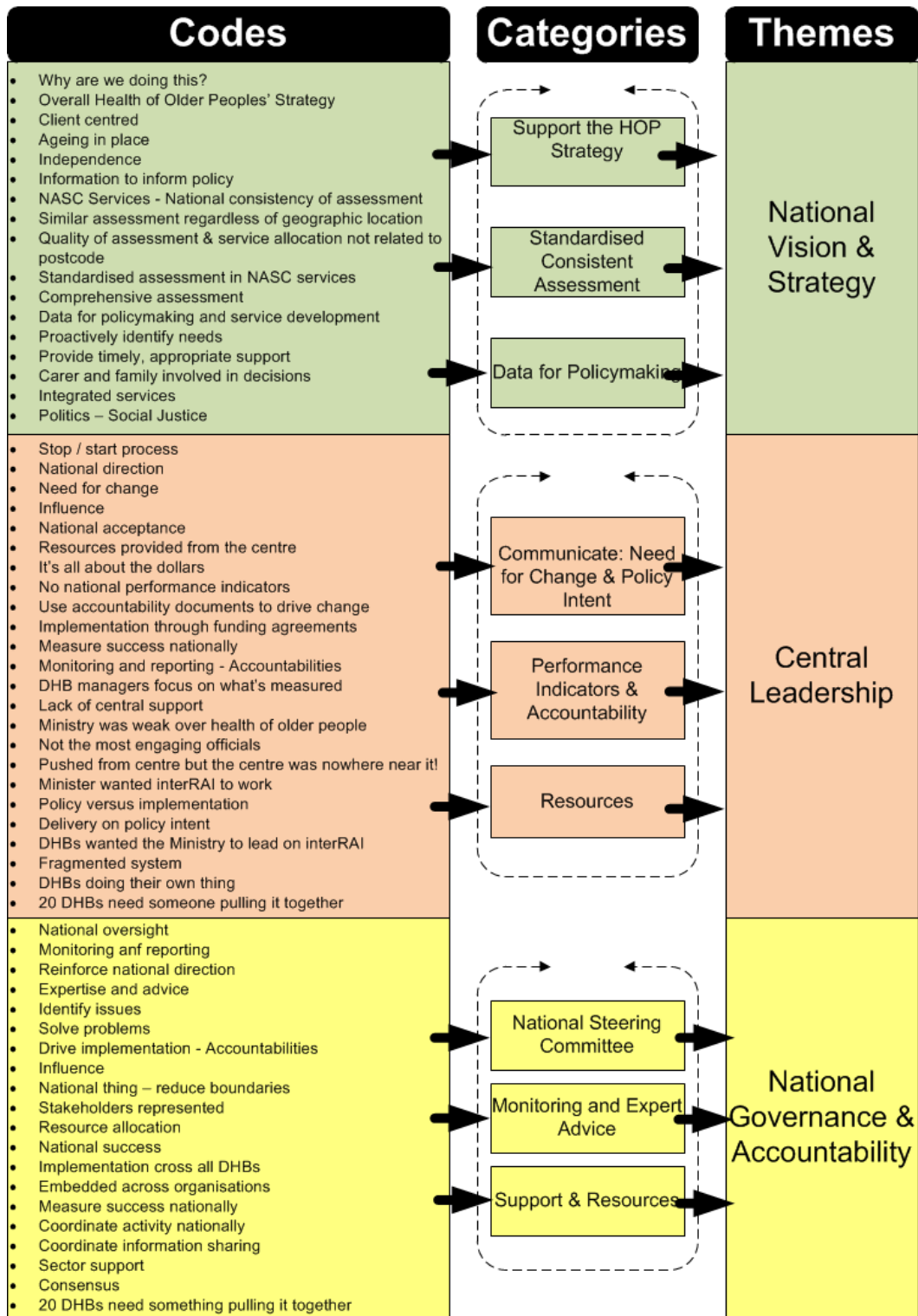


Figure 10: External environmental change readiness

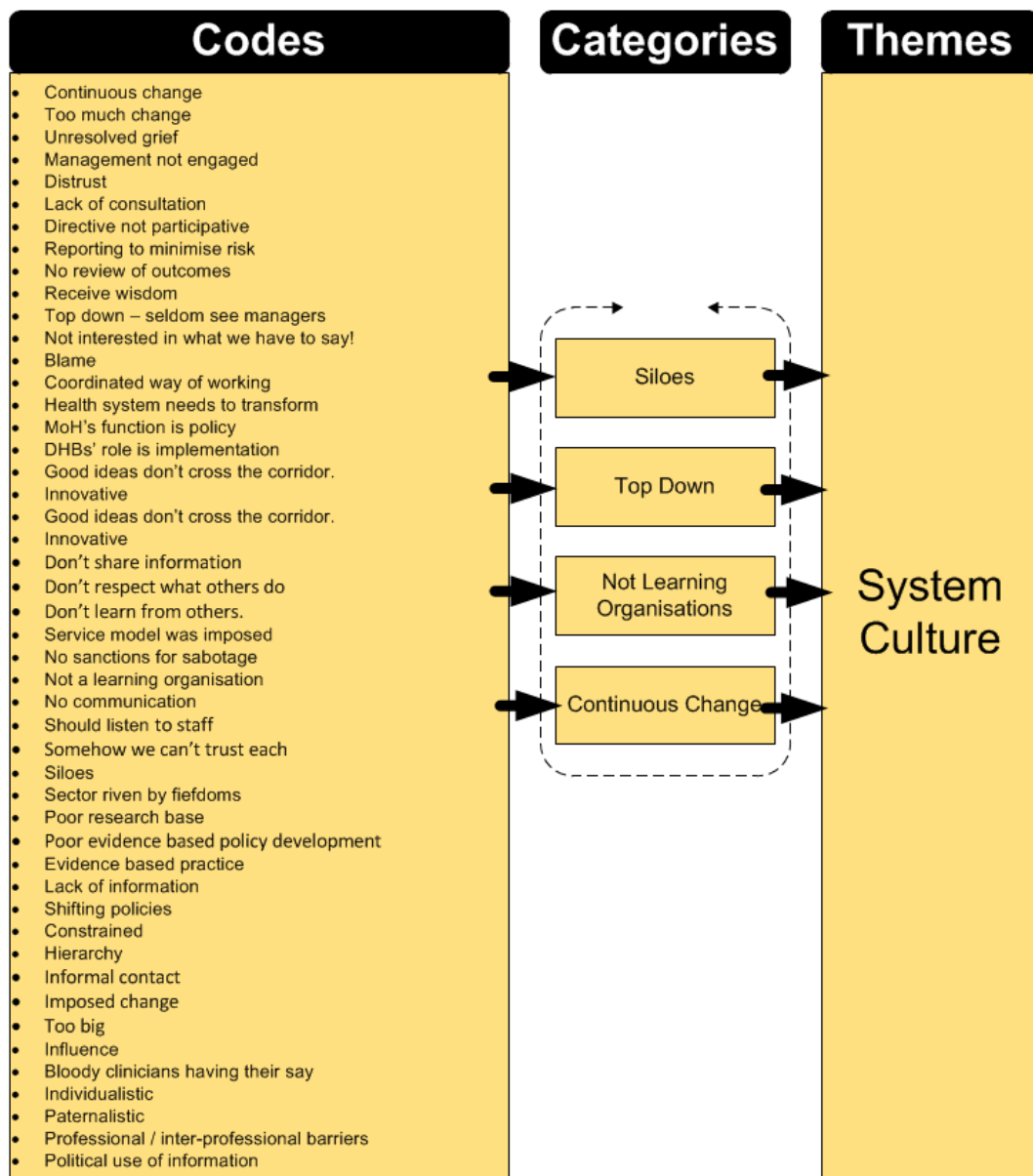


Figure 10: Step one, external environmental change readiness (continued)

6.4.1 National vision and strategy

The National strategy for the Health of Older People (Ministry of Health, 2002) and the National Health and Disability Strategy (Ministry of Health, 2001) clearly set out the Government's and the Ministry of Health's vision and strategy for the Health of Older People. These strategies focus on keeping older people independent, enabling community participation, keeping older people in their own homes and supporting good health. Chapter 5 (Section 5.5) shows there was a lack of a nationally consistent view of successful implementation of the *interRAI*-HC tool. Many

participants within DHBs reported they were unclear about the role of the *interRAI*-HC tool in furthering national strategies to improve the health and independence of older people.

In the case of interRAI there is a lack of a nationally consistent vision..

Executive Manager, DHB 'A'

Most change recipients had little or no knowledge of a national vision, or strategy, or a need for the implementation of the *interRAI*-HC tool or of what was to be achieved by its implementation.

No, we didn't know the overall vision of what it was all about and why this DHB wanted to implement it and what the overall strategy about health of older people was here.

Operational Manager, DHB 'D'

We did not know why we were doing it really or what would be better because of it.

Needs assessor, DHB 'C'

However, participants agreed that there should be a clear line of sight from national vision and strategy to implementation of the *interRAI*-HC tool at the clinical or service delivery level. Ensuring vertical alignment through the health system was seen as enabling acceptance and commitment for change.

The system and DHBs are supposed to be working together, collaboratively. When you're looking at change you always need a reference point [for the vision]...who is the driver of change? In this case [interRAI-HC] it was the Ministry and our changes should follow the highest point of direction.

Operational Manager, DHB 'A'

These comments and the findings in Chapter five (Section 5.5) show the MoH did not communicate its vision, strategy or an effective change message for the implementation of the *interRAI*-HC tool. DHB executive managers in turn failed to ensure that national vision and strategy were communicated and aligned and implemented at the local level. This reveals that disconnection and misalignment

contributed to the low levels of acceptance and commitment to the implementation of the *interRAI*-HC tool demonstrated by many participants in this study.

6.4.2 Central leadership to implement the *interRAI*-HC tool

Despite the strong drivers for change described in Chapter 5 (Section 5.3), only six of New Zealand's 20 DHBs implemented the *interRAI*-HC tool. From the DHB perspective this lack of uptake was because the MoH failed to lead and articulate the need for change, build acceptance and commitment to change and make a good case for implementing the *interRAI*-HC tool.

A national plan for roll out of interRAI is critical to success. This was pushed from the centre but there is no leadership from the centre. Twenty groups aren't going to do it unless there is something pulling it together.

interRAI project manager, DHB'D'

However, the MoH did not see its role as providing operational leadership. It expected DHBs to implement evidence based improvements to services, particularly into services they are already funded to provide (such as needs assessment services).

But a number of CEs wanted the Ministry to lead. They basically asked or demanded that the Ministry do this.....we're also not resourced to do that type of thing. If an evaluation (of interRAI) shows this is really very good then the DHBs in a sense should collectively be looking at ways to do it.

HOP Team Manager, MoH

Participants in DHBs disagreed, believing the MoH should provide leadership to support new policy intent because groups and individuals across the health system can delay or derail planned changes not seen as aligning with their interests.

Stuff takes a long time and I often wonder why. People don't change in a hurry in the Health Sector. That's because of vested interests at all levels that cause the sector and the organisations not to change. This must frustrate governments trying to change a system with people already in place with vested interests in not changing quickly.

Operational Manager, DHB 'A'

There was also a strong view among DHBs that the MoH should recognise the investment required to implement the *interRAI*-HC tool and provide funding to enable its implementation. The lack of central funding was a barrier to implementation for many DHBs.

That was a real sort of stop start process in terms of that national acceptance. Mainly because the Ministry wouldn't fund it. We got to a point where eventually we said we don't want to wait for the national thing.

Executive manager, DHB 'D'

In the case of at least one participating DHB, the lack of funding commitment from the MoH eventually contributed to the failure of the DHB to assimilate the tool.

The Ministry did not recognise the costs of interRAI and did not provide funding for it. Following the lack of commitment to interRAI from the Ministry of Health it fell off our priority list and we stopped funding it.

Local policy manager, DHB 'E'

The lack of principal support from the MoH undermined the acceptance and commitment of many DHBs to implement the *interRAI*-HC tool.

6.4.3 National governance and accountability

The Minister of Health (the Minister) expected the MoH to establish a national governance or steering committee of key stakeholders and experts to lead, oversee and support the national implementation of the *interRAI*-HC tool. He saw such a group as an important enabler of system-wide change readiness.

The smart thing would have been to have built the [national] steering committee made up of these three geriatricians and this lady geriatrician academic and these two people out of the Ministry and a couple of big providers or some bloody things. It would have been to get a supervisory body up and running as we did for cancer or primary healthcare rollout.

Minister of Health

He indicated that a national steering group should receive financial support (from the MoH) to oversee implementation of the *interRAI*-HC tool.

Probably quite a small budget: for the National Group, two or five million

Minister of Health

The Minister's expectations were shared by many participants in DHBs.

Until there is a national office staffed with knowledgeable people and operating you know saying the standard for training will be this, reports will take this format the macro level will be leaderless.

interRAI Project Manager, DHB 'D'

The Minister thought the MoH should have used existing national DHB accountability frameworks to drive *interRAI*-HC implementation across DHBs, noting such frameworks held DHBs to account in other service settings.

Therefore ideas that work often work best as a result of being driven down through existing accountability channels. So if we are to make progress on say a cancer strategy then we have to have the strategy written, it has to be written by those who are involved, it has to have a degree of ownership, it has to have some cash put to it, it has an implementation plan developed. It often benefits by having committees looking over it make sure it does everything and that things go well. That did happen in cancer. It happens a lot in mental health. And then you get to measure it. You get to measure DHBs progress. And then you can drive things.

Minister of Health

However, the MoH lacked an accountability framework around its Health of Older Peoples' Strategy, so there were no performance indicators available with which to hold DHBs to account for service delivery (such as assessment) to older people.

*We've got the vision and the actions and then we get done to the outcomes and we've got nothing. It's not just an *interRAI* problem it's actually a more systematic problem in the way we monitor DHBs. We've never been able to develop an indicator for the HOP area.*

HOP Team Manager, MoH

The research suggests the establishment of a national governance group of expert key stakeholders, together with clear performance indicators and accountabilities would have influenced DHBs' acceptance and commitment to implement the



interRAI-HC tool positively. A national group could have controlled the nature of the services targeted for change, coordinated activity and monitored progress. It could have reinforced the need for and scope of change, demonstrated principal support, engaged stakeholders across DHBs and led, supported and monitored the implementation of the *interRAI-HC* tool. In short, a national governance group could have facilitated alignment between local implementation and national policy intent.

6.4.4 The culture of the health system

Neither the Minister nor the MoH considered New Zealand's publicly funded health system as generally open to change, learning or innovation.

Well I mean you could hardly accuse the New Zealand health system of being at the forefront of innovation. It seems to me that it is common for an idea to not make it across the corridor let alone make it across the country.

Minister of Health

Participants in DHBs generally agreed, often adding that regardless of national policy, individuals or groups within DHBs were able to block or stall the introduction of change for essentially personal reasons.

*Sometimes you can have people in influential positions who are still questioning the need for it [*interRAI-HC*]. And therefore It's easy for people particularly at senior levels to divert the resource because they don't necessarily agree with it as the priority.*

Executive Manager, DHB 'D'

In health there are people that go out of their way to make things not work and they sabotage things and there are no sanctions.

Operational Manager, DHB 'F'

Many participants noted that key individuals or groups with vested interests can moderate the degree of control and influence exerted on the health system by local DHB policy staff, executive management and even national policymakers.

The health system is ridden by the - fiefdoms is a good word to use, by endless subcultures. One DHB verses another; one profession verses another, one department

of a hospital, which is usually the largest and most complex factory in the town. So the fiefdoms exist.

Minister of Health

Stuff takes a long time and I often wonder why. People don't change in a hurry in the Health Sector. That's because of vested interests at all levels that cause the sector and the organisations not to change. This must frustrate governments trying to change a system with people already in place with vested interests in not changing quickly.

Operational Manager, DHB 'A'

The Minister referred to difficulties in engaging with the MoH about progress in the implementation of the *interRAI-HC* tool at DHBs, which impacted negatively on his level of trust in officials in the MoH.

It became normal for me to try and find out something [about the implementation of interRAI-HC] and to not be able to get a handle on it".

Minister of Health

This research found a lack of trust pervades the health system in New Zealand. A participant from the MoH noted particular difficulties between the MoH and DHBs.

But somehow we can't sort of trust each other (Ministry and DHBs) or something. We spend way too much duplicating.

HOP Team Manager, MoH

Other participants alluded to distrust of the Ministry by service providers.

There was recognition that the drive for standardisation of assessment was not about the client but was about the needs of the Ministry of Health

Core trainer, DHB 'A'

Some clinicians alluded to both a systemic lack of clinician trust in managers and misalignment between the interests of managers on one hand and clinicians and their patients on the other.

I think the fear is that it's [the interRAI-HC tool] been promoted on the basis that it will save you money. That isn't one of our aims.

Geriatrician, DHB 'D'

Many clinicians and some managers pointed to a need to improve trust and cooperation between health professionals to create a climate of health system-wide, organisational (DHB) and individual readiness to achieve the benefits expected from changes such as the introduction of the *interRAI-HC* tool.

We have to improve trust between clinical groups and need to get to a point where we trust all health professionals to do their job and so avoid duplication of assessment and service that occurs because one clinician thinks he or she can do a better job than another – "I'm a better clinician than you". We need to develop an industrial model of care and employ production engineering principles to do things properly.

Geriatrician, DHB 'C'

There was a strong sense among operational managers and clinical staff that the health system is adversely affected by a culture of continuous and too much change, leading to change weariness. Change weariness was identified as a cause of resistance to further change, particularly if experiences with previous change are negative.

Considering that we're living in an environment of change in health its extremely difficult to introduce change. That's because there's so much change that people become really resistant to it. And there's not all good change.

Local policy manager, DHB'D'

Clearly, participants do not view the New Zealand health system as one that is either change ready in a general sense or even open to change. Many characterise the health system and participating DHBs within it as hierarchic, insular and composed of silos. Participants characterised the health system as being in a constant state of change and lacking a culture of learning and trust. The research indicates that the culture of the health system in New Zealand impacts negatively on system-wide, DHB, service group and individual readiness to implement planned change events and realise benefits. Moreover, some participants regard the health system's leaders as seemingly blind to the cultural complexities of introducing new ways of working

and the importance of creating system-wide or organisational readiness to implement change.

There is a lack of understanding of the cultural aspects of introducing new ways of doing things and of introducing new technology.

Executive Manager, DHB'A'

6.4.5 External Environmental pre-introductory change readiness: key points and the development of SoRT

The health system, as an external environment of the DHBs, clearly influences the readiness of DHBs to implement planned change events. Findings indicate a clear, well communicated national vision and strategy for the implementation of the *interRAI-HC* tool which includes a compelling change message enables understanding and acceptance for change. National leadership and funding by the MoH demonstrates central commitment and strengthens DHB belief in principal support for change. The establishment of competent, inclusive national governance also demonstrates principal support for the change. An accountability framework, tied to funding, together with key performance indicators that support national policy intent focuses the attention of DHB executive managers on the achievement of policy intent. A health system culture characterised by learning and trust is likely to foster both collaboration between DHBs and general openness to change.

An environmental scan to assess the change readiness of other DHBs provides an indication of the level of system-wide support for the change and the extent of possible collaboration and risk sharing. In the case of the *interRAI-HC* tool most DHBs were not open to change, mainly due to a lack of understanding and belief in the need for change and to a perceived lack of principal support. Table 18 shows the external environmental contingencies and themes emerging from the analysis of participants' data that influenced the change readiness of participating DHBs to implement the *interRAI-HC* tool. It also shows the key questions derived from the research relating to external environmental pre-introductory change readiness to implement the *interRAI-HC* tool successfully. These contingencies and key questions are used to develop Section One of the SoRT, related to the assessment of external environmental support for a planned change event.

Table 18: Developing SoRT - Environmental pre-introductory change readiness: contingencies, themes and associated questions

Contingency factors	Key questions in the development of SoRT
Alignment of planned change to National vision and strategy	<p>National vision and strategy</p> <ul style="list-style-type: none"> • Is there a clearly articulated a vision for the change & where it fits with national health strategies? • Has the national vision & strategy been communicated to stakeholders?
National Leadership	<p>Central leadership</p> <ul style="list-style-type: none"> • Is the Ministry leading the change? • Are national performance indicators developed to drive accountability for success?
Central funding	<ul style="list-style-type: none"> • Has the Ministry of Health Provided specific funding for this change?
<p>National governance group</p> <p>Accountabilities & Performance Indicators</p> <p>Health system culture: trust, learning, flexibility, agility openness to change, innovativeness, collaboration</p>	<p>National governance & accountability</p> <ul style="list-style-type: none"> • Has a National Group of key experts been established to lead this change? • Have accountabilities been established? <p>Sector culture</p> <ul style="list-style-type: none"> • Is the sector generally collaborative, with key stakeholders identified & engaged? • Is there a climate of high trust between the Ministry and DHBs (vertical) and between DHBs (horizontal)? • Is the sector flexible, agile, innovative, open to change?

6.5 Step Two – Creating organisational pre-introductory change readiness

Findings suggest that step two, the creation of organisational pre-introductory change readiness, is the most critical of the four steps identified in creating readiness to implement and assimilate a planned change event. This is because organisational preparation reduces the likelihood of problems emerging during the adoption and assimilation steps that will impact stakeholder acceptance and commitment to the planned change event negatively.

Table 19 shows the number of codes and categories that were collapsed into each of the eight themes that were found to influence the creation and maintenance of organisational pre-introductory change readiness. These themes relate to characteristics and activities at all organisational levels.

Table 19: Themes influencing pre-organisational change readiness to implement the *interRAI* HC tool

Codes	Categories	Themes
31	5	Local Vision and Strategy (Figure 11)
24	4	Local DHB Leadership (Figure 12)
24	4	Local Governance and Accountability (Figure 13)
33	5	Organisational Culture (Figure 14)
31	7	Communication and Engagement (Figure 15)
41	4	Planning (Figure 16)
9	3	Organisational Support (Figure 17)
20	2	Project Management Structure and Process (Figure 18)

6.5.1 Local (DHB) vision and strategy

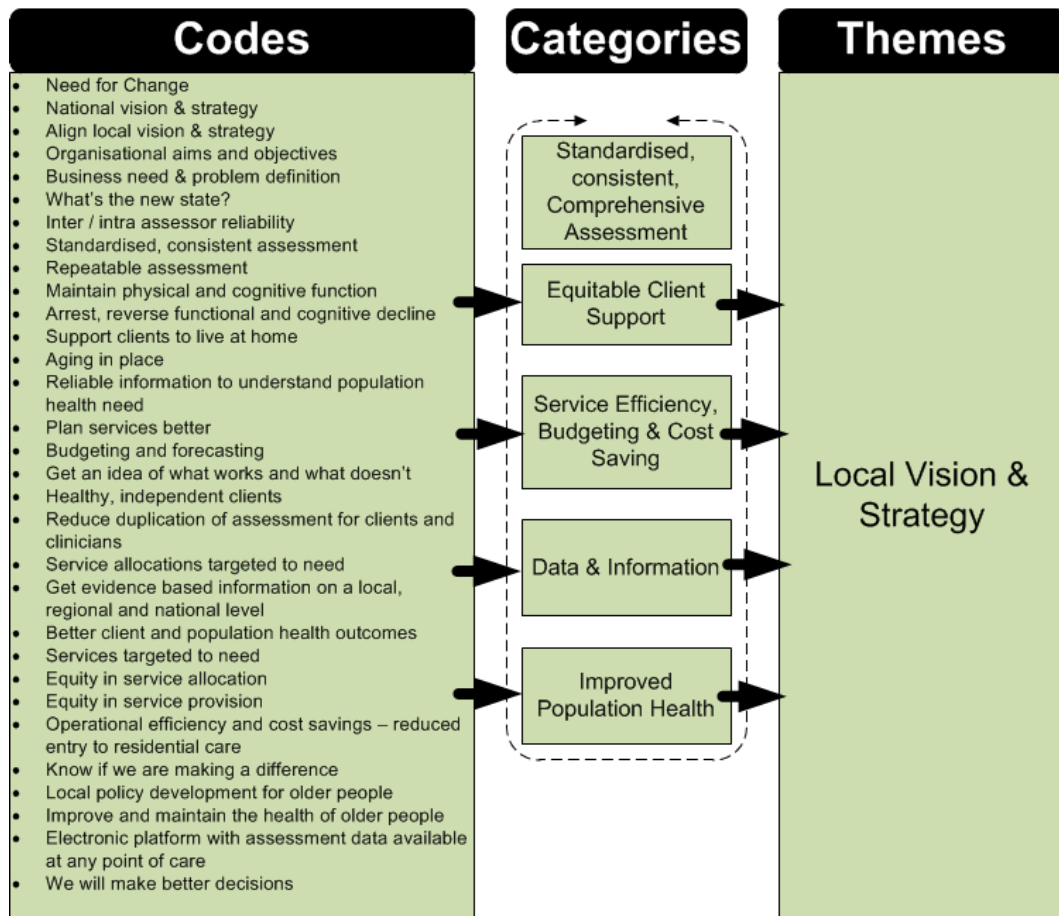


Figure 11: Step two, a local vision and strategy?

Participants agreed that there should be a clear line of sight from local implementation of change events to local vision and strategy and from there up to national vision and strategy. Vertical alignment through the health system was seen as building an integrated, collaborative health system, with its elements working towards common goals.

The system and DHBs are supposed to be working together, collaboratively. When you're looking at change you always need a reference point [for the vision]...who is the driver of change? In this case [interRAI-HC] it was the Ministry and our changes should follow the highest point of direction.

Operational Manager, DHB 'A'

I think until you've got common strategic vision it's very hard to cross some of those barriers because you'll have professional, not jealousies, professional boundaries that are really quite fixed and siloed. That is a real barrier.

Operational manager, DHB 'D'

However, participants operating at all organisational levels reported their DHBs lacked a vision and strategy for implementing the *interRAI-HC* tool and its place in achieving service goals for older people.

I don't know that I have a vision no. I see it as a useful tool and a process like many that we have and many that we need.

Executive manager, DHB 'D'

[We didn't know] the overall vision of what it was all about, no and why this DHB wanted to implement it.

Operational Manager, DHB 'D'

Some executive managers with an understanding of the national goals for the *interRAI-HC* tool did not align local strategy and activity to meet them.

We had the system wide view and we should have remained connected to maintain that system wide view.

Executive Manager, DHB 'C'

However, as shown in Chapter 5 (Section 5.5) many executive managers had a poor understanding on the *interRAI-HC* tool, which resulted in incomplete, poor quality change messages. This impacted negatively on many participants' understanding of the need for the *interRAI-HC* tool and consequently on their acceptance and commitment to the change event.

If people do not know why it is being used they won't be on board with it.

Needs Assessor, DHB 'E'

Executive managers in most participating DHBs failed to ensure that the local implementation of the *interRAI-HC* tool was firmly linked to local and national

vision and strategic intent in the minds of change recipients. The lack of understanding of the need for, nature and purpose of changing to the *interRAI-HC* assessment tool at the executive, local policy management and service delivery levels contributed to the lack of acceptance and commitment to the *interRAI-HC* tool shown by participants at the service delivery level in DHBs 'C', 'E' and 'F'.

6.5.2 DHB leadership

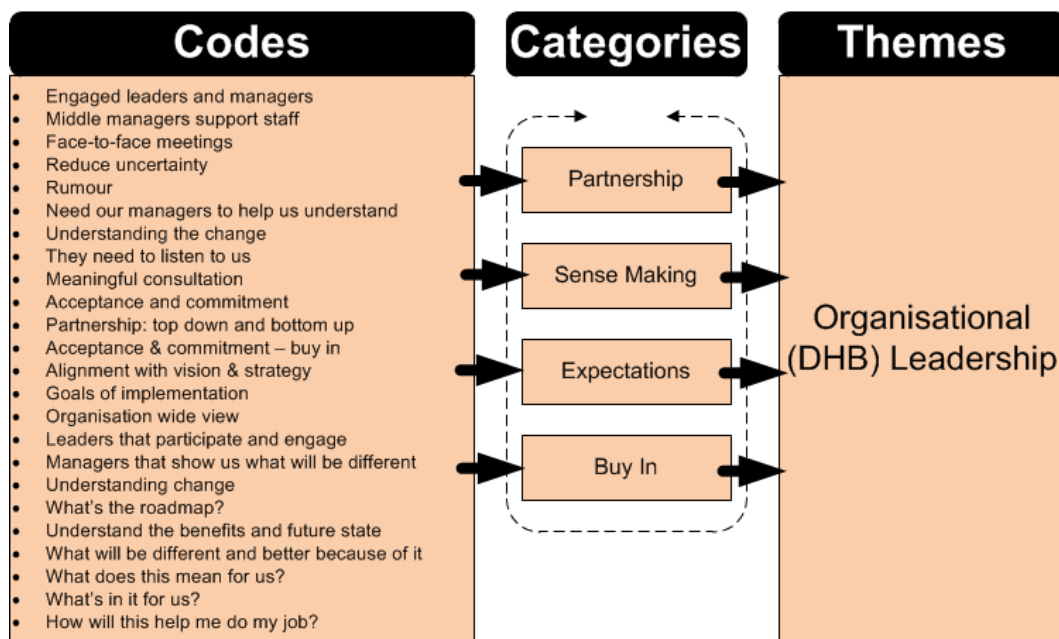


Figure 12: Step Two, local leadership?

Local policy managers, operational managers, clinicians and change recipients, expected organisational leaders and executive managers to engage employees and other stakeholders proactively prior to the introduction of the *interRAI-HC* tool. They expected executive managers to help them understand the nature of the *interRAI-HC* tool, the need for change, how change will be achieved, how the organisation will support the change, how they will be impacted, what the desired new state looks like and the expected benefits.

Leadership helps people understand how it will apply to them. It helps them understand, what it means for them. It helps them to see where they are going, where it's taking them. Why it's just not an irritating practice but is actually taking the whole system forward.

Local Policy Manager, DHB 'B'

It's the leadership that needs to be committed and they need to listen to staff concerns and address them where they can and explain where they can't. They need to say I hear what you are saying but we need to do this and this why and this is what we will get from it and this is what you'll get from it.

Operational Manager, DHB 'F'

Clearly, change recipients wanted to engage with credible, well-informed executive managers who demonstrated knowledge, understanding and commitment to the *interRAI-HC* tool. They also wanted a partnering relationship with executive managers that would help them make sense of change, accept change, commit to change and build self-belief. They wanted to know the organisation was committed to the change event and able to support them through the change.

*...staff need to respect the knowledge of who is implementing it. So whether that be the executive managers or the trainers or the *interRAI* manager the issues that they raise about the things that aren't going right with it, that manager understands why.*

Executive Manager, DHB 'C'

While some executive managers recognised their role as sense-makers and in supporting and engaging regularly with staff and stakeholders to address their concerns, others emphasised a more task oriented approach.

*Leadership, clarity of purpose and clarity of expectation. I think it's really important that people are clear whether this is something I can chose to accept or something I have to accept. Sometimes we're not clear on that and I think in *interRAI* we were.*

Executive Manager, DHB 'D'

However, regardless of the executive management view, operational managers and change recipients generally indicated executive managers did not engage with them or appear committed to the *interRAI-HC* tool. The poor level of executive management's knowledge and understanding of target services and of the *interRAI-*

HC tool itself implied poor organisational commitment and undermined stakeholder acceptance and commitment to change. It also rendered effective feedback between senior managers and employees difficult in some DHBs.

I think the most significant barriers to successful implementation are a lack of organisational commitment, managerial commitment, management engagement and support for staff and a lack of understanding of the assessment system by managers. When these are not present there is a lack of buy in for change on the part of staff. It will be in danger of being seen as “just another project” with no real intention behind it. Organisational commitment was not present in our DHB and senior management did not demonstrate a commitment to it or show interRAI as being valuable.

Operational Manager, DHB ‘A’

It’s the leadership that needs to be committed and they need to listen to staff concerns and address them where they can and explain where they can’t. They need to say I hear what you are saying but we need to do this and this why and this is what we will get from it and this is what you’ll get from it.

Operational Manager, DHB ‘F’

It is noteworthy that executive managers in DHBs ‘C’, ‘E’ and ‘F’ agreed that many senior managers did not understand the *interRAI*-HC tool or what change would mean for change recipients or the organisation as a whole.

I understood what it (interRAI) could achieve but did not ensure all on the Executive Team understood it or where we should go with it. We did not have a long term idea of what we would get 5 to 10 years down the track and so did not get clinical buy in. We needed to be clear about questions such as “what is interRAI?”, “how do we use it?”, “how do we embed it?” Answering these questions is critical to success.

Executive Manager, DHB ‘C’

The reported lack of understanding at senior levels created uncertainty among change recipients, with staff unable to obtain meaningful feedback from management particularly in DHBs ‘C’, ‘E’ and ‘F’.

In our service, we did not know what was happening with the implementation or where it was going and we could not get any answers to our questions when we asked.

Needs Assessor, DHB ‘E’

Findings suggest that the poor knowledge and understanding of the *interRAI*-HC tool reportedly demonstrated by many organisational leaders impacted negatively on their credibility, leadership and their perceived commitment to change. This poor level of understanding indicates many executive managers in participating DHBs do not fully appreciate their important role as sense-makers of change for their employees. It also suggests an explanation for the task oriented rather than relationally oriented leadership style reported for most executive managers in participating DHBs. It is noteworthy in this context that executive management's understanding of the *interRAI*-HC tool was apparently particularly poor in DHBs 'C', 'E' and 'F' and that these DHBs failed to fully adopt the *interRAI*-HC tool.

6.5.3 Local governance and accountability

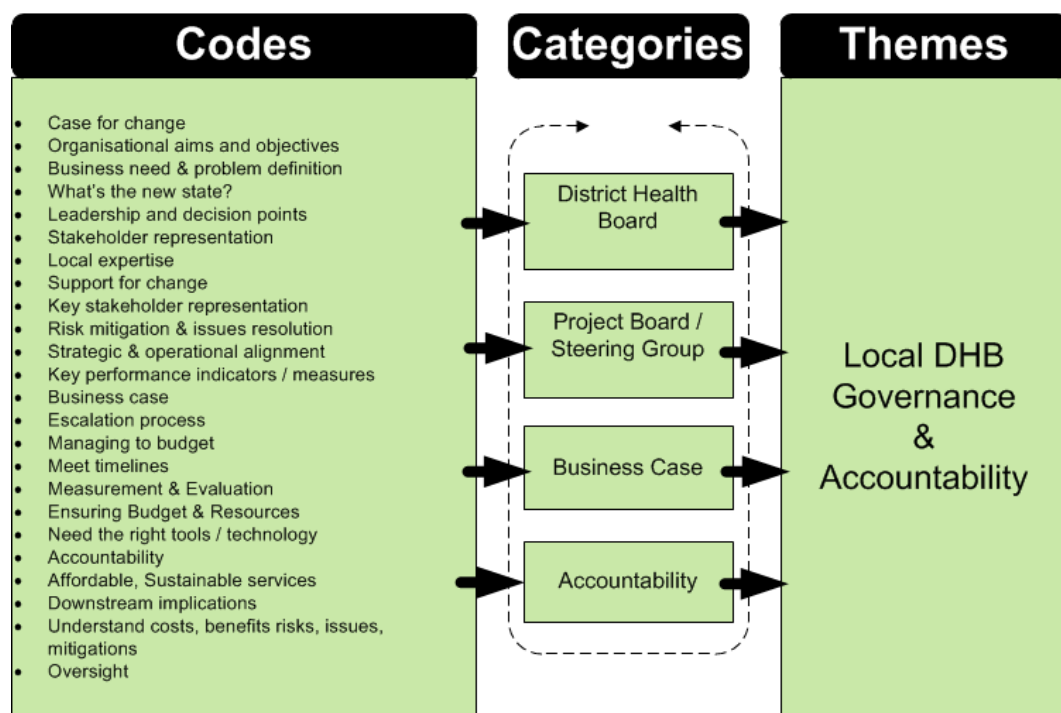


Figure 13: Step two, local governance and accountability?

Most participants agreed that DHB approval (at board level) to implement the *interRAI*-HC tool was important in creating organisational acceptance and commitment to the change.

We have that commitment right at board level so that there can't be anybody buying out of this in the organisation. It's about having it driven through the DAP and what your plan is for the next one, two or three years, for out years really. I think that you've got to have the Board, because at times you have to use that board approval as your baseball bat basically.

Executive Manager, DHB 'D'

DHB approval at Board level holds executive managers to account for the success of implementation and provides change managers with authority to challenge those resistant to change.

The business case – a local accountability document

A comprehensive, approved business case was considered a key enabler of pre-introductory change readiness and an important accountability document. An approved business case clearly stating the need for change, describing the implementation process and desired end state, the resources required, the expected costs and benefits, the indicators of success and assigning broad accountabilities signals a DHB's commitment and allocation of resources to the change (principal support). Organisational commitment and principal support for change can build change recipients' confidence in the DHB's ability to implement change successfully, facilitating their acceptance and commitment to a planned change event.

The business case was used to describe the vision and need for change and establish and allocate required resources, - budget, technology, staffing, training and backfill, to outline a plan and describe benefits. We have looked at downstream implications and are comfortable this is affordable and we have or can get the required resources. We are comfortable we have an adequate contingency and have built on-going costs into out-year service planning.

Operational Manager, DHB 'D'

However, few NASC managers and clinical staff interviewed could describe the contents of their organisation's business case for implementing the *interRAI*-HC tool.

We did not have any documented aims. Not even the idea of a standardisation and consistency of assessment was explicitly stated. I'm not aware of any business case and we just did what we were asked to.

Needs Assessor, DHB 'F'

Executive managers and local policy managers viewed the business case as an important decision support tool, enabling judgements about the capacity and capability of the DHB to assimilate the *interRAI-HC* tool successfully.

The cost of implementation may be a barrier and the importance of a robust business case that includes a road map for continued roll out and on-going financial, process and workforce development must be understood.

Executive Manager, DHB 'D'

Findings suggest that disseminating the relevant contents of an approved business case to an organisation's operational managers and stakeholders can reduce uncertainty and increase their belief in the organisation's commitment and ability to implement planned change successfully.

An organisational governance structure

Participants generally agreed that the implementation of complex planned change such as the *interRAI-HC* tool requires governance and oversight from a local Steering Group. However, only participants in DHB 'D' reported the establishment of an engaged and functional Project Board, with representation from major stakeholders. Its role was to ensure implementation aligned with both organisational strategic intent and the business case for change, reinforce the need for and purpose of change, strengthen accountability for implementation, support change managers (project implementation group) and change recipients, ensure the provision of resources allocated in the business case, ensure meaningful stakeholder engagement, resolve escalated issues and drive and monitor activity. Participants in DHB 'D' reported that the Project Board provided a strong link between the change event, stakeholders and executive management.

All new significant projects come to the executive team and a member of the Executive Team sits on the Steering Group or Programme Board for that project or implementation. They are there to help provide governance and to support and guide the project.

Executive Manager, DHB 'D'

While DHB 'C' established a steering group, it appears to have been dysfunctional.

The interRAI steering group was set up but prior to the model of care steering group we had the interRAI steering group. It also included quite a wide spread of people involved in that steering group, including we had Sally Keeling who was doing some of her other work as well. It included planning and funding and it included Nigel Miller the project manager and the IT person and representation of Health of Older Persons. So it was quite a comprehensive steering group

Local Policy Manager, DHB 'C'

I noted that the committee was losing key players and I set up a meeting between the operational services and the interRAI project steering team to try to get everyone on the same page with respect to how interRAI was to be implemented going forward.

Operational Manager, DHB 'C'

The Chief Executive in DHB 'A' viewed the oversight and implementation of change events as the responsibility of his executive management. However, there was no evidence of executive manager involvement or oversight of the implementation of the *interRAI*-HC tool at this DHB. Those interviewed in DHBs 'C', 'E' and 'F' also indicated a similar lack of senior management oversight of the implementation of the *interRAI*-HC tool.

I think the CE of an organisation like the DHB should lead thinking about what is possible and implementation of interRAI should be led by the next level of management down. These managers can create the environment most conducive to implementing such change.

Executive Manager, DHB 'A'

DHB 'D' drove local governance and accountability for success from the DHB Board level down to the work group level, vertically integrating organisational oversight (DHB Board, Project Board, Project Manager, Project Implementation Group). The establishment and efficient functioning of the Project Board were important in demonstrating organisational support and commitment to change, enabling the creation and development of organisational (DHB), work group (NASC service) and individual (change recipient) acceptance and commitment to change and change recipients' belief in the organisation's ability to successfully implement the *interRAI*-HC tool.

6.5.4 Organisational culture

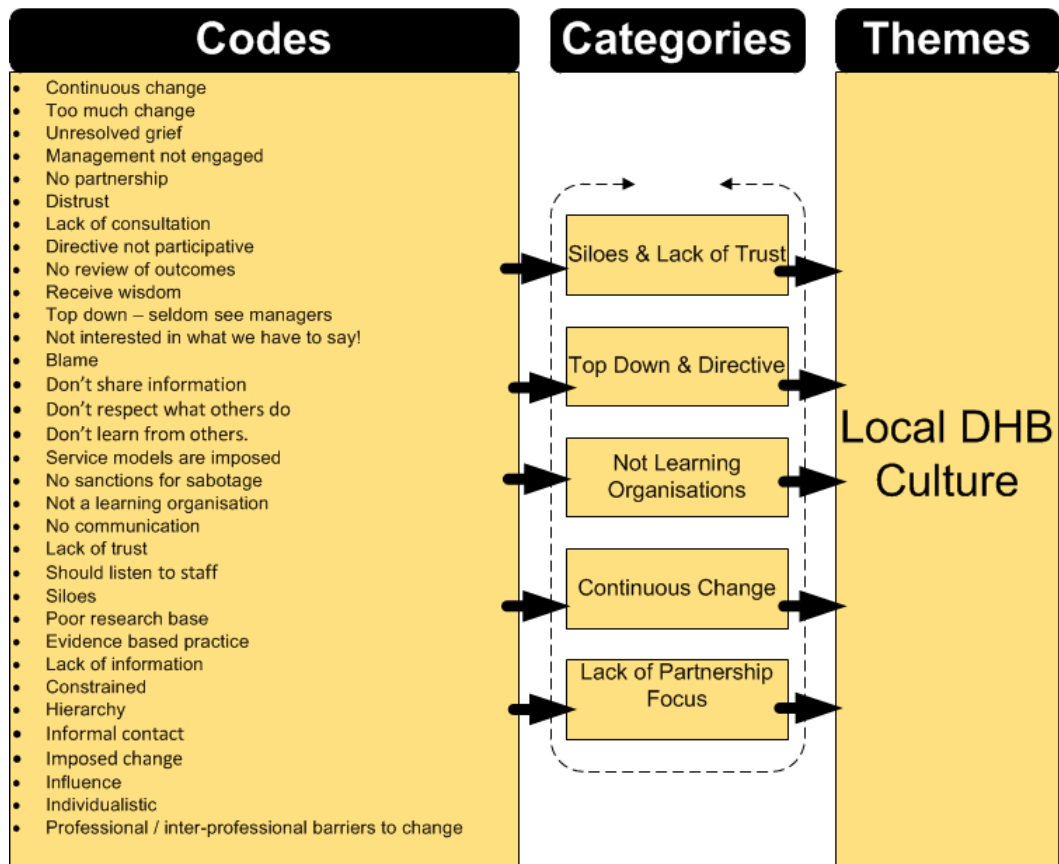


Figure 14: Step two, local culture?

The lack of trust that reportedly pervades the health system and its component DHBs is highlighted in Section 6.4.4. Participants generally characterised learning organisations in the following ways.

[The learning organisation] Completes the cycle: implement, evaluate, take corrective action and improve services. A learning organisation has systems in place for building on existing knowledge.

Operational Manager, DHB 'B'

The people in it are encouraged to reflect on their practice and where practice is benchmarked against other similar organisations and against best practice.

Executive Manager, DHB 'F'

These responses indicate organisations demonstrate a culture of learning by critically reviewing, evaluating and changing what they are doing and by having systems in place for comparing performance with others and for capturing, managing and applying knowledge to new situations.

Participants generally agreed DHBs displayed few of these characteristics. Hierarchic structures and service and administrative siloes are considered barriers to the dissemination of learning across and between DHBs, to learning from others and to openness to change.

It [learning organisation] wouldn't mean anything to me as far as the DHB is concerned. The DHB calls itself a leaning organisation but I would like the organisation to explain what it means.

Operational Manager, DHB 'F'

Our DHB is "one eyed". We don't share information from others and we don't respect what others do so we don't learn from others. And the organisation does not seem to want to learn from the bottom up. We receive wisdom from the top down and the organisation does not seem interested in what we have to say. Then there's always a challenge in how one takes learning from one area of the system or organisation and gets it across others. Silos remain an issue.

Operational Manager, DHB 'C'

Findings suggest strong links between learning, evaluation and service improvement. A culture of learning enables the development of feedback loops between management and employees, between employee groups and between organisations. Such feedback loops can break down siloes and build relationships within DHBs and across the health system. Increasing the number and strength of relationships and the resulting increased system-wide complexity could provide more opportunity for the emergence of new ways of working, openness to change and positive attitudes to change at all levels in the health system.

Many participants complained of the culture of constant change and instability within both the health system and DHBs. This instability was found to impact negatively on acceptance and commitment to further planned change events.

In the environment of change in health it's extremely difficult to introduce change and maybe that's because there's so much change that people become really resistant to it.

Executive Manager, DHB 'D'

People get change weary and stressed out and then become negative about change.

Geriatrician, DHB 'C'

At the same time there were structural and managerial changes going on that did not help the implementation of interRAI. There was too much external change going on and we did not have a good change management process to cover this.

Local Policy Manager, DHB 'E'

Operational managers and change recipients expressed frustration at the imposition of change rather than engagement about change. Many participants referred to a DHB culture of direction rather than consultation and 'telling' rather than 'listening' which negatively influenced their attitude, acceptance and commitment to change and often led to the subversion of change events.

Generally it's [change] forced onto us and we are told here it is, use it. It seems to me that change is done to us rather than done with us. We are the people on the floor and we are not consulted and so it doesn't work. You can boycott something in so many different ways.

Needs Assessor, DHB 'E'

These findings point to the need for a culture characterised by greater inclusion and engagement in order to improve health system and DHB change readiness both generally and for specific planned change events.

6.5.5 Communication and engagement

The theme of communication and engagement permeated all steps in the creation and development of change readiness.

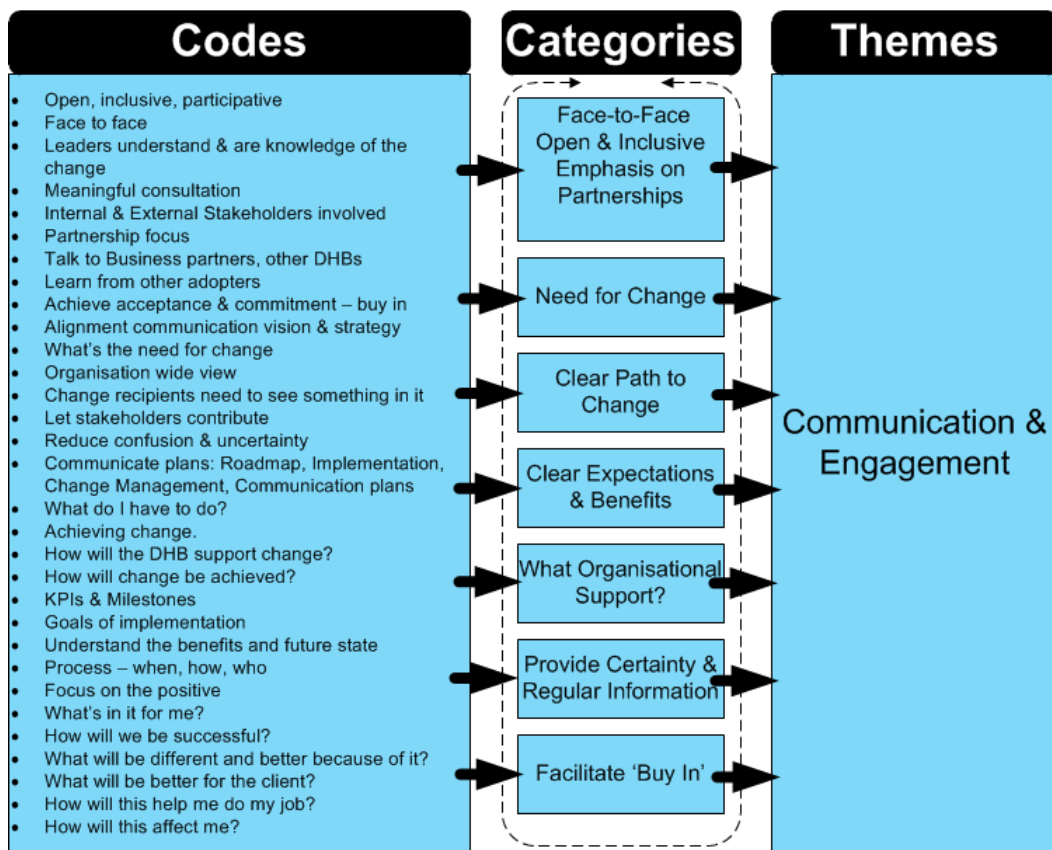


Figure 15: Step two, local communication and engagement?

Findings related to the themes of Local DHB Leadership (section 6.5.2), Organisational Culture (section 6.5.4), Planning (section 6.5.6) and a Project Based approach (section 6.5.8) show the importance of engaging and communicating with all internal and external stakeholders, particularly change recipients, in creating organisational pre-introductory change readiness. This demonstrates the interconnectedness of these themes. In creating organisational pre-introductory change readiness, face to face meetings, the distribution of key documents (the roadmap for change, the change management and communications plans) and regular electronic updates to all stakeholders enable stakeholder understanding, reduce uncertainty, invite participation and build acceptance and commitment to the implementation of the *interRAI-HC* tool.

Broad engagement of all stakeholders ensures issues are identified and resolved and to achieve buy in and acceptance of the need for change.

Executive Manager, DHB 'C'

Participants recognised the need for improved communication about change, particularly regarding the cultural context (telling versus two-way communication) and developing positive affective responses to change.

I've never been accused of over communication in relation to change or a project. I think we under communicate significantly and communication is probably one of the biggest issues around change management of any form.

Executive Manager, DHB 'D'

We always underestimate the need for communication and we tend to equate telling people things with communication. We base a lot of communications around rationality but give no thought to the emotional content or context. Then we are surprised when people behave in ways that appear irrational but make perfect sense. We need real engagement and need to ask fundamental questions of ourselves when we communicate such as "did I tell or did I communicate?" Being right is not the issue.

Executive Manager, DHB 'C'

Creating a shared vision, identifying and including stakeholders and their engagement by knowledgeable and enthusiastic champions are important aspects of communication and engagement in developing pre-introductory change readiness.

It [interRAI-HC] needs to be sold. People need to see it as being useful to actually be worthwhile investing time and effort and keeping the information up to date.

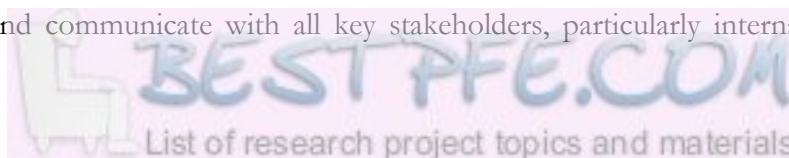
Geriatrician, DHB 'D'

Change recipients wanted to be convinced of the need for and the purpose and benefits of a change to the *interRAI-HC* assessment tool.

The organisation needs to be clear about the relevance of interRAI to the service and the client and it needs to be clear about the purpose of introducing interRAI and the benefits they expected to get from it. How is it going to help us make services better for our clients for instance. They need to communicate all of this, the DHB needs to sell it to us.

Needs Assessor, DHB 'C'

However, this study found that even the more successful participating DHBs failed to engage and communicate with all key stakeholders, particularly internal change



recipients outside the services directly targeted for change and external organisations and work groups impacted by change. For example, DHB 'D' reportedly communicated well with key external change recipients but failed to engage important internal stakeholders.

We proactively got the providers [of home based support services] in because of the interest around the tool and discussed what services were available and how the interaction might work between assessors and those providers.

interRAI Project Manager, DHB 'D'

It [implementation of the interRAI-HC tool] was signed off for phase one which was implementation in the NASC only. But I don't know how much district managers and other people in the DHB understood what phase one actually meant.

Operational Manager, DHB 'D'

Managers in DHBs 'C', 'E' and 'F' recognised that communication and stakeholder engagement were particularly poor across their DHBs regarding the implementation of the interRAI-HC tool. This was seen as a serious failing.

I think there could have been a better communication plan. Because yes it started in NASC but there is no future plan about where it's going to go to next. So there is a whole lot of people either worried or wondering whether it would be implemented into their service next and what that would mean for them.

Operational Manager, DHB'D'

It was regarded as an implementation only and the wider implications and goals were not accepted by clinicians.

Executive Manager, DHB 'C'

Staff buy- in and understanding of the tool is essential and we did not do well at this.

Operational Manager, DHB 'E'

Overlooking important stakeholders by participating DHBs highlights both the fragmentation and the silos at the cultural core of both the health system and its component DHBs and the impact of this fragmentation on the creation of organisational and external stakeholder pre-introductory change readiness to

implement planned change events. It is noteworthy that those participating DHBs (DHBs 'A', 'B' and 'D') that managed to assimilate the *interRAI-HC* tool were also those that reportedly achieved the highest levels of engagement and communication with and between key stakeholders at the pre-introductory step of the *interRAI-HC* tool change event.

6.5.6 Planning

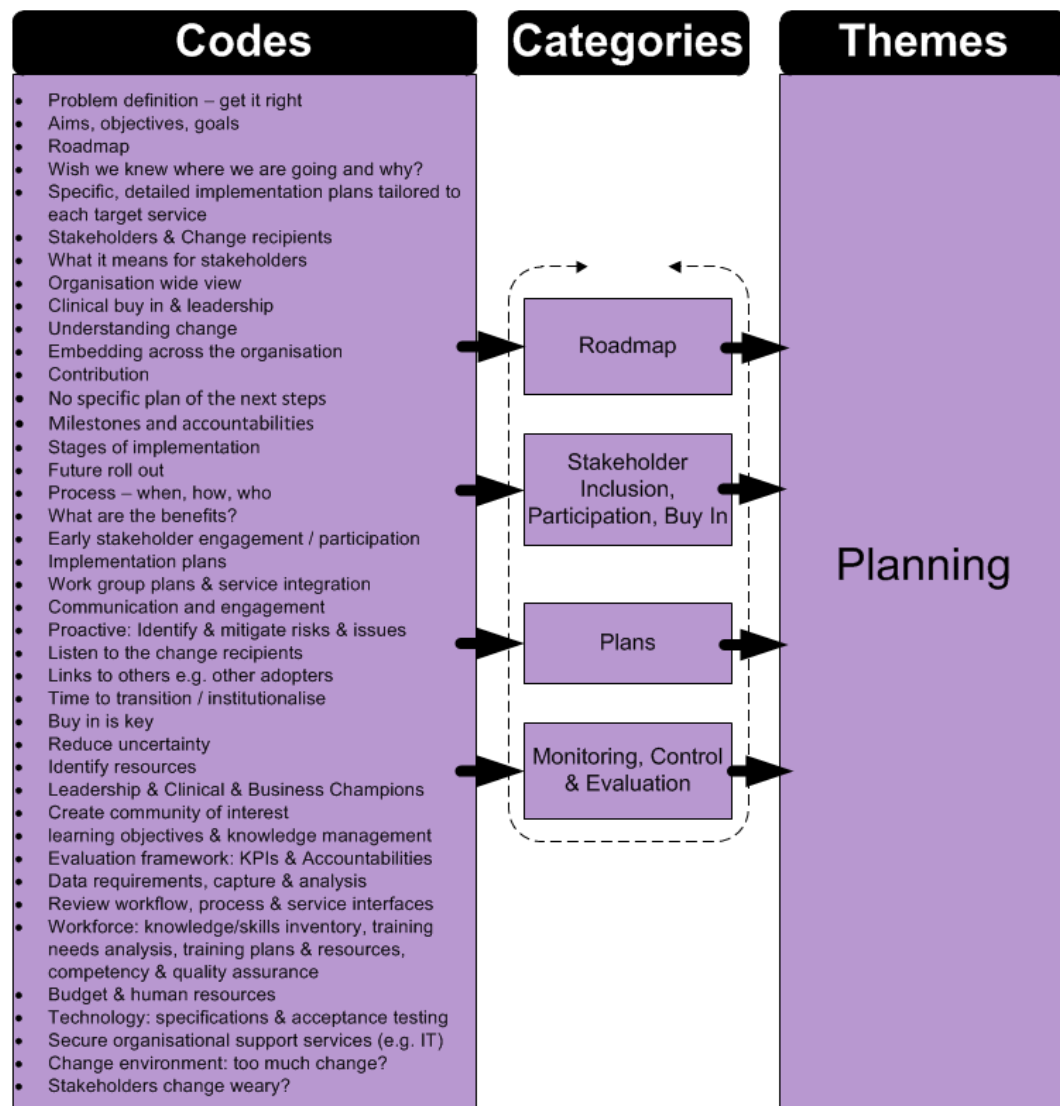


Figure 16: Step two, planning?

The Roadmap - linking vision, strategy and operations

Findings suggest the development and communication of a high level organisational roadmap aligned to the vision and strategy for implementation of the *interRAI-HC*

tool is important in creating pre-introductory organisational change readiness. Participants described the essential components of the roadmap as: a description of vision and strategy driving the change; the need for change and how the *interRAI*-HC tool would meet that need; how the tool would be implemented; how change fits with service delivery; which services would be affected; what is required of change recipients; and the benefits to each stakeholder group. This shows a roadmap can reinforce important change messages. The roadmap helps both to reduce uncertainty for those impacted and create organisational understanding and acceptance of the need for change, stakeholders' role in the change event, the benefits of change and how the new state will be achieved.

For me one of the reasons about that [change readiness for interRAI] is that the expectation is created that the new state post implementation is going to be better than the old state pre-implementation. There are several things that spring to mind; clarity of purpose, communication with stakeholders both in terms of the people putting it in and the people using it and the people, I said both but there is three and the people on the receiving end of it.

Executive Manager, DHB 'D'

However, none of the participating DHBs developed an organisational roadmap and few participants could articulate their organisation's overall plan for the implementation of the *interRAI*-HC tool.

We did not look at where we wanted to go with it and only implemented it in one area. I understood what it (interRAI) could achieve but did not ensure all on the Executive Team understood it or where we should go with it. We did not have a long term idea of what we would get 5 to 10 years down the track and so did not get clinical buy in.

Executive Manager, DHB 'C'

I don't think anyone really knows where we are on the road map because they've never actually seen the map.

Core trainer, DHB 'A'

Define what is to be achieved and plan meticulously

Clearly defining the problem to be solved and clearly articulating goals to be achieved were considered critical in maintaining the links between vision and strategy, a roadmap and detailed implementation plans.

The core thing about the failure to implement new process or technology (successfully) is failing to get the problem definition right as we don't do our analysis right and then people's perceptions drive the direction of implementation rather than data driving it.

Executive Manager, DHB 'C'

So we need to start with the real substance of the issue and not the problem and that is to answer the question of what is it we are trying to achieve or fix. Once that is understood we can select our tools, processes and methods to achieve our goals.

Executive Manager, DHB 'A'

There also needs to be clarity about what is to be achieved and then all the components must be planned and in place to allow you to achieve your goals.

Executive Manager, DHB'D'

The complexity of the *interRAI*-HC tool, the number of stakeholders and services impacted by its implementation and the complexity of their relationships meant the change event required meticulous planning..

*You need really good [planning] process in an organisation of this size to implement anything as big as *interRAI*. It was just huge because it is district wide. It involves all sorts of disciplines around it. Then you need good processes right from Board level right down through SLT.*

Executive Manager, DHB 'D'

We need robust implementation processes and plans with solid groundwork and foundations laid for change. People need to be engaged, problems need to be anticipated and delays minimised or there will be negative impacts on change.

Geriatrician, DHB 'F'

Findings suggest an organisational roadmap, a detailed organisational plan for change and specific change plans for each service or work group impacted by change reduces uncertainty about change, facilitates stakeholder participation, acceptance

and commitment to change and can build belief in the organisation's ability to achieve planned change events successfully.

Minimise the impact of other changes and take a staged approach to large projects

Participants' frustration at the constant state of change endemic to the health system and its DHBs is noted in section 6.5.4. Participants generally agreed that constant change impacted negatively on their acceptance and commitment to the *interRAI-HC* tool.

Having to cope with too much change at once is a real barrier to successful implementation. It is important to note also that unresolved grief from previous change impacts negatively on new change and this is not always appreciated by management.

Operational Manager, DHB 'C'

*For us too we've not only had *interRAI* to deal with we also had changing systems within the DHB to cope with. So it didn't help that it wasn't just the one thing. I mean there was management. There was lots of things happening at the same time. Perhaps to introduce it into a settled environment with a settled supporting system will help us manage it better.*

Needs Assessor, DHB 'A'

Trying to achieve too much change at once was regarded as a significant factor in the failure of DHB 'C' to fully adopt the *interRAI-HC* tool. Participants agreed planning should ensure a stable working environment to minimise change recipient stress, mitigate resistance to change and facilitate acceptance and commitment to change.

**InterRAI* may have worked if it had been introduced in isolation but we were going through a total organisational redevelopment at the time and we were also introducing the restorative model of Home Based Support Services provision. This was not thought through very well. There was just so much change at once that it was all a bit much for staff.*

Geriatrician, DHB 'C'

It is noteworthy that DHBs 'A' and 'D' actively planned and created a stable environment in which to introduce the *interRAI-HC* tool. Planning aimed to manage

the impact of recent service changes and no other change was introduced into the NASC service during the implementation of the *interRAI*-HC tool. Participants in these two DHBs reported this aspect of planning was an important factor in maintaining commitment to the *interRAI*-HC tool at these two DHBs.

We know this is huge change so we've worked to introduce it into a stable service environment with an embedded model of care that will help us manage it better.

Operational Manager, DHB 'D'

Findings indicate that a complex change event such as the *interRAI*-HC tool requires an incremental or staged approach to implementation which should be reflected in planning.

So you need a time frame for change because you need to do it in stages so there's not too much change for people at once. By having a timeframe and planning it in stages we managed it.

interRAI Project Manager, DHB 'D'

A staged approach to implementation provides time for change recipients to understand and make sense of aspects of a planned change event. Planning the implementation in stages (e.g. technology set up and acceptance testing, workforce training and competency development) was found to facilitate later readiness to fully adopt and assimilate the *interRAI*-HC tool into daily working routine.

Engage and involve stakeholders in planning

Findings show the importance of stakeholder and particularly change recipient participation in the planning process to the successful implementation of the *interRAI*-HC tool. Participants saw the involvement of internal and external stakeholders as providing opportunities to consolidate support for change, identify and mitigate risks and issues and build understanding, acceptance and commitment for the *interRAI*-HC tool among stakeholders.

The barriers to successful implementation would be not garnering the support of the people who predominantly use the tool with clients.

Executive Manager, DHB 'A'

A broad engagement of all stakeholders to ensure issues are identified and resolved and to achieve buy in and acceptance of the need for change. You need other groups on side to make things work. It is important not to stifle people's common sense and knowledge and to allow for their inputs in the planning phase. Other people might do things better than the project planning team.

Executive Manager, DHB 'C'

However, efforts to both identify and communicate with stakeholders appear particularly limited in DHBs 'C', 'E' and 'F'. Perceptions of the quality of engagement with stakeholders varied within DHB 'C' according to the level at which participants operated within the organisation.

There was broad engagement of all stakeholders to ensure issues are identified and resolved and to achieve buy in and acceptance of the need for change.

Executive Manager, DHB 'C'

Important stakeholders became very negative towards interRAI because they were not involved in the implementation.

Geriatrician, DHB 'C'

I'm not aware of anything [regarding interRAI] from my perspective. They bought us in late in the piece.

Operational Manager, DHB 'E'

The poor level of stakeholder engagement in DHBs 'C', 'E' and 'F' reportedly led to limited stakeholder acceptance and commitment to the *interRAI*-HC tool because key stakeholders lacked a sound understanding of both the tool itself and purpose of change.

If people do not know why it is being used and are not on board with it then people will not use it.

Needs Assessor, DHB 'E'

Many participants referred to highlighting the value and benefits of the *interRAI*-HC tool to each stakeholder group, particularly change recipients.

You can't drive something like this from a cost perspective, people are more interested in what's in it for them and their patients.

Executive Manager, DHB 'A'

For the group that is doing the implementation I think it's absolutely essential that they see a benefit to the client because this a change in work practice and culture and how we do things. I think they need to see some gain for themselves in using the tool.

Executive Manager, DHB 'D'

Those receiving outputs (reports) from *interRAI-HC* assessments were focussed on benefits for workflow and clients.

The information has to be in a format that is makes sense... it has to be a clinically relevant tool with information that actually leads to a change in someone's care I guess to improve their quality of life.

Geriatrician, DHB 'D'

Needs assessors were also clear they would not want to use the *interRAI-HC* tool if it failed to improve their day to day workflow or the health and independence of their clients.

Because the client is the centre of what we are doing, is the centre of what I'm doing, otherwise why would you worry..... Being client centred about it, looking at the clients need and looking at it from their perspective, that's what you are here for. You are not here for you, you're not here for the organisation or for the policy makers in a way.

Needs Assessor, DHB'D'

The *interRAI-HC* tool's international validation as a comprehensive geriatric assessment tool lent it credibility and increased its pre-introductory acceptance among key stakeholders, particularly those with clinical backgrounds.

The fact that it is such a internationally validated and evidence based tool is good so you can get buy in from GPs and from providers and all people involved in health, it's clinically relevant.

Needs Assessor, DHB 'A'

In communicating the need for change, executive managers focussed on overall organisational needs and benefits. However, clinicians, assessors and stakeholders interacting with clients were more concerned that the tool was useful to them in their daily work and improved outcomes for clients or patients. Clinicians were generally distrustful of a purely managerial approach to business needs and benefits.

It's understanding the business imperative clearly and matching the solution close to it and not getting half way through and saying well actually this isn't actually going to deliver what we want, whether it's because we haven't understood the need properly or we haven't understood the proposed solution properly.

Executive Manager, DHB 'D'

I think the emphasis should be on it being a clinical tool that is clinically useful in managing old people day by day. And if the emphasis gets taken away from that the information you get will be rubbish. Because unless people see it useful day by day the information going into it will just be sufficient to keep the bean counters happy and it won't be useful information. So I think it has to be a clinically relevant tool.

Geriatrician, DHB 'D'

There was general agreement that engagements with clients should emphasise improvements to services.

It's worth noting that as far as clients are concerned it's the services they receive that are important, not the needs assessment.

Core Trainer, DHB 'A'

The research confirms the importance of early engagement and communication with stakeholders and inviting them to contribute to planning. Engagement on the benefits of change should focus on each stakeholder group, which may involve adjusting the approach to each stakeholder group to reflect their differing interests in the change event. Participants generally agreed that engagement provides stakeholders with a sense of inclusion and control over the change and reduces uncertainty. Stakeholders can express their views, needs, concerns, risks and issues as valuable contributions to planning. Early engagement also allows time for stakeholders to understand and accept the impact of change.

Identify and liaise with others introducing the *interRAI*-HC tool

Many participants involved in service delivery demonstrated a strong desire to learn from others and become more “joined up” across the sector. Liaising with other organisations implementing the *interRAI*-HC tool was seen as an opportunity to develop organisational and system-wide change readiness and capability to effect change by helping to identify ways to implement the *interRAI*-HC tool efficiently and effectively and reducing waste by minimising the repetition of mistakes

On-going interaction with other organisations using interRAI builds learning and reduces isolation for users.

Operational Manager, DHB ‘A’

We contacted and visited other DHBs to find out what worked well, what didn’t work well. We used the experience of others from New Zealand, we had all the international information and we applied that. We worked with DHB ‘A’ a lot. You know it was just little things often but it helped us identify and problem solve.

Operational Manager, DHB ‘D’

However with the exceptions of DHBs ‘D’ and ‘A’ there was little engagement, site visits or knowledge sharing between DHBs.

We wanted to go to (another DHB’s name) to see how they implemented there but this did not happen.

Needs Assessor, DHB ‘F’

The lack of liaison and collaboration between DHBs represented a lost opportunity to mutually enhance change readiness through joint planning and consultation at the pre-introduction step and collectively resolving problems during the adoption and assimilation steps. The lack of engagement and communication between most participating DHBs further illustrates the fragmented nature of the publicly funded health system in New Zealand and the system-wide lack of a culture of learning and organisational knowledge management.

Identify and recruit business and clinical champions

Participants agreed that business and clinical champions, knowledgeable about the *interRAI*-HC tool and respected by change recipients can be powerful sense-makers, influencers, advocates and creators of acceptance and commitment to the change event within both target services and the DHB as a whole.

Having a champion who understands interRAI and who can go round the services explaining it and working with them is important too.

interRAI Project Manager, DHB 'B'

And its ownership by influential champions really -having someone who is there who has a lot of knowledge of where that vision is going to keep the enthusiasm going and to keep us on track to meeting objectives.

interRAI Receiver, DHB 'D'

Medically qualified champions were considered particularly useful in creating change acceptance and commitment among other medical staff, particularly where change requires adjustments to practice.

Staff listen to clinical leaders and a clinical champion would have been a great help. Clinicians did not buy into interRAI. There was a lot of resistance to it. They did not understand the tool and they did not engage.

Operational Manager, DHB 'C'

However, only DHB 'C' identified and recruited a medically qualified clinical champion when implementing the *interRAI*-HC tool.

The organisational champion was our Chief Medical Officer.

interRAI Project Manager, DHB 'C'

Failure to engage clinicians as change agents was seen as a lost opportunity to create acceptance, commitment and a community of interest in the *interRAI*-HC tool by participants.

We had a champion but in [DHB 'C'] the barrier was not obtaining a community of users who understood what interRAI was all about. Another big barrier was people not knowing what we were doing and what the results would be. There was a lack of information and a lack of understanding around interRAI.

Operational Manager, DHB 'C'

There was no interface between clinicians and the interRAI tool at our DHB. That didn't help.

Needs Assessor, DHB 'E'

Plan for success: develop indicators of success, measure and evaluate

DHB 'A' developed key milestones, performance indicators and a balanced scorecard (BSC) approach to evaluating the success of the *interRAI*-HC tool's implementation. The performance perspectives selected to develop the BSC related to NASC service clients, operating and service costs, business process improvement and organisational learning and growth.

We developed information capture sheets and as assessments were performed we collected information onto these sheets to help us answer all the questions raised with respect to the costs and benefits of implementing interRAI, the risks of implementing it, the requirements of using the tool and service allocation and service gaps.

Local Policy Manager, DHB 'A'

Participants in DHBs 'B' and 'D' indicated that the development of indicators of success and an evaluation framework began after the physical adoption of the *interRAI* HC tool and was still a work in progress following assimilation of the tool into the NASC service (and at the time of interview).

I'm working with Planning and Funding and the NASC. We're starting to look at the analytics, what we need to do is decide exactly what we want in terms of KPIs and Momentum that's our software provider will put them in for us. At this stage it's been put in as an assessment tool to replace the existing tool.

interRAI Project Manager, DHB 'D'

DHBs 'C', 'E' and 'F' did not develop indicators of success or an evaluation framework against which to evaluate either the progress of the implementation of the *interRAI*-HC tool or the success of the change event.

The benefits of implementing interRAI with respect to what our DHB wanted to achieve were not made clear from the beginning. Not enough thought was given during the implementation to gathering information on the benefits to clients, to process efficiency or the system of care in general.

Clinician, DHB 'C'

It is noteworthy that both the Minister and the MoH wanted the implementation of the *interRAI-HC* tool to succeed and be shown to succeed and expected DHBs to develop tools to evaluate success (though the MoH acknowledged the health system lacked a culture of measuring and assessing the success of planned change events).

One hopes that's what DHBs are doing [developing an evaluation framework], but we haven't specified those things. We have really underdeveloped outcome measures for the Health of Older People area. We do our little frameworks and we do our strategies, we've got the vision and the actions and then we get down to the outcomes and we've got nothing. So it's [evaluation] not just an interRAI problem it's actually a more systematic problem.

HOP Team Manager, MoH

The absence of tools and indicators to measure and evaluate the success of the *interRAI-HC* tool's implementation in all DHBs except DHB 'A' led to the inability of most participating DHBs to provide feedback or demonstrate benefits of change to stakeholders, particularly change recipients. The inability to show benefits later impacted negatively on the ability of DHBs 'C', 'E' and 'F' to create readiness to fully adopt the *interRAI-HC* tool into target services. This was because change recipients' belief in the utility of the tool was not reinforced and their commitment to change was reduced. The establishment of national accountabilities and key performance indicators for the implementation of the *interRAI-HC* tool may have encouraged DHBs to evaluate the change event.

Technology: specifications, support requirements and acceptance testing

Change recipients stressed the importance of establishing comprehensive specifications for the purchase of *interRAI-HC* related technology to ensure its performance to user and organisational requirements. However, there was general agreement among participants that the development of such specifications often did not receive adequate attention during planning for change events.

This is usually not well planned, poorly resourced and without consideration of downstream implications for staff and the wider stakeholder communities. This is particularly true of implementations with a heavy IT focus and particularly with respect to service and software upgrade issues.

Assessor Team Leader, DHB 'B'

The lack of consultation with stakeholders on specifications for the purchase of *interRAI*-HC assessment products resulted in significant problems for all participating DHBs following adoption of the tool (see section 6.6.3).

There are issues around accessing and retrieving data because of software problems and because we didn't completely understand the software capability when we purchased it we didn't buy the software modules needed to analyse the data. Fully understanding the software and the implications of software purchasing was one of the big lessons of this project.

interRAI Project Manager, DHB 'B'

*The issue of version control is also important, particularly with a software based tool considered for national roll out. Every service was using a different version of *interRAI* software. DHB 'F' was on the classic version, DHB 'B' was on a different version and I don't know what other DHBs were using. This makes corrections and updates to client data and data transfer difficult, also different versions have different functionality.*

Operational Manager, DHB 'B'

These comments highlight the poor coordination and collaboration between the DHBs implementing the *interRAI*-HC tool. They did not work together to establish technology requirements, despite sharing both hardware and software. Following physical adoption of the tool, the frequent failure of technology and the inability to retrieve and transfer data, share information and track clients across regions meant that many expected benefits could not be delivered and caused considerable disruption to workflow. Problems with workflow and the failure to realise key benefits eroded acceptance and commitment to the *interRAI*-HC tool among those interfacing with the tool.

Issues with IT undermine staff confidence and reduce buy in. This certainly happened at our DHB.

Operational manager, DHB 'A'

I think issues of access and making sure technology works and things like that are important as well. It will almost certainly need on-going support during that process because there are always problems that crop up during the course whether it's the technology or the tool or the how you respond to it. So on-going implementation needs quite a lot of support.

Geriatrician, DHB 'D'

Belief that new technology will perform as expected is identified as a key factor in building organisational pre-introductory change readiness (stakeholder acceptance and commitment) for the *interRAI-HC* tool. The development of robust specifications and acceptance testing protocols prior to adoption builds this belief and, by extension, self- and organisational efficacy by ensuring that technology will perform as intended.

Substantial IT support is required and all hardware and software should be rigorously tested prior to implementation to ensure it performs as intended.

Core Trainer, DHB 'A'

None of the DHBs participating in this study designed or implemented robust acceptance testing regimes prior to adoption of the *interRAI-HC* tool. Subsequently, frequent technology failure contributed to increasing resistance to the tool in those DHBs lacking supportive leadership and adequate technical support from their own Information Technology Support Services (DHBs 'C', 'E' and 'F').

Staff had to move from a paper based system to an electronic assessment and the software didn't work properly....especially in community settings. In the end assessors had to load up the assessment onto computers and do the assessment in the client's home then upload the assessment when they came back to the office because we had wireless coverage issues. Issues with IT undermine staff confidence and reduce buy in.

Operational Manager, DHB 'A'

It was hard to promote the tool and get clinical buy in for using the tool because with all the issues it was hard to get them to see the value of the tool and the information it provides.

Local Policy Manager, DHB 'F'

Acceptance testing should also be applied to the outputs of the *interRAI*-HC tool to ensure reports have utility to the receiving health professionals and to clients and their families. Any subsequent modifications should be completed prior to adoption of the tool to enable smooth workflow between services and enhance stakeholder acceptance of the change.

We did send full assessment reports out to clients and family and to providers but this was too much. They didn't find it useful so we developed a summary report that got sent after a while.

Needs Assessor, DHB 'A'

Findings suggest product (e.g. *interRAI*-HC tool technology) specifications and product support specifications together with rigorous acceptance testing regimes should be developed and documented during planning for change events and applied prior to purchase and implementation respectively. The development of these documents should extend outside the implementing organisation or DHB to include the participation of other organisations and groups impacted by the change. This enables the inclusion of their requirements in these documents and reduces the probability of technology failure or problems associated with workflow across services. It also reinforces confidence in new technology, thereby building acceptance and commitment to adopt the planned change event.

Review and adapt workflow and process to support change

Planning for the implementation of the *interRAI*-HC tool in DHBs 'A' and 'D' included the review and revision of NASC service work process and documentation prior to the implementation of the tool. DHB 'A' recorded the reasons for any changes to NASC service documentation as part of a 'lessons learned' log. Both DHBs reported this activity in the pre-introductory phase enabled change recipients to maintain normal workflow during the adoption of the *interRAI*-HC tool.

We talked about what would happen after we'd done the assessment and how would we access those services. We created these things called post-assessment guidelines so people could follow up, you know it was clinical information, if this is happening this is what you do about it.

interRAI Project Manager, DHB 'D'

Participants in DHB ‘A’ reported that developing a good fit between NASC service processes and the *interRAI*-HC tool led to the identification of better ways of working and the realisation of unexpected benefits such as the ability of needs assessors to provide better advice to clients. The maintenance of smooth workflow and the early demonstration of benefits for clients built confidence in the *interRAI*-HC tool and commitment to assimilate it into the NASC service.

We changed our client consent documentation and the way we recorded services. We also revised the way we provided assessment information to providers and we improved the way we provided notes to clients. After using interRAI we have become more aware of service gaps and more aware of which services are publicly funded and which are not. This has allowed us to provide better advice to clients and their families.

Core Trainer, DHB ‘A’

In contrast, DHBs ‘C’, ‘E’ and ‘F’ did not make efforts to align work processes in the target services to the *interRAI*-HC tool.

We did not plan for the impact of the tool on peoples’ work. If people don’t know that then it will be a much harder to implement it because people won’t understand what’s happening with the work flow at all.

Executive Manager, DHB ‘C’

This resulted in duplication and re-work. In DHBs ‘E’ and ‘F’ the NASC services were not involved in the change event, so work processes in the target services (assessment) using the *interRAI*-HC tool were not aligned to those in the NASC service (service coordination). As a result, needs assessors in the target services (specialist rehabilitation services) were required to assess clients by both the SPA assessment tool used by the NASC service and the *interRAI*-HC tool so that service coordination could follow assessment. This duplication of workload decreased the tool’s utility to users, reducing their acceptance and commitment to fully adopt and assimilate the tool.

Findings suggest reviewing existing workflows and processes for fit with a planned change such as the *interRAI*-HC prior to its introduction allows adjustments that

facilitate a smooth transition during implementation of the change event and can lead to additional benefits. This can reduce workplace stress and help to maintain change recipient commitment during the adoption phase of planned change.

An adequate workforce with appropriate qualifications, knowledge and skills

Most participants agreed that needs assessors using the *interRAI*-HC tool should be clinically trained and qualified and hold current practising certificates. These practitioners were considered likely to possess the cognitive and affective elements best suited to the administration of the *interRAI*-HC assessment tool.

Fundamentally we need clinically trained and qualified staff in place as assessors. InterRAI is basically a clinical tool and that requires clinical expertise.

interRAI Project Manager, DHB 'B'

However, prior to implementing the *interRAI*-HC tool relatively few clinically trained needs assessors were employed in DHB NASC services. The six DHBs participating in this study applied various approaches to matching the skills and knowledge of needs assessors with the clinical nature of the *interRAI*-HC tool. DHB 'B' disestablished its NASC service and contracted that function to a third party because it considered existing NASC service staff lacked the appropriate skills and knowledge to administer the *interRAI*-HC tool.

We established a new NASC service so that new staff could be recruited with the right skills and qualifications.

Local Policy Manager, DHB 'B'

In contrast, DHB 'C' paid little attention to aligning the skills and knowledge of change recipients with appropriate administration of the *interRAI*-HC tool.

We did not plan the change management process well and what this change would mean for people's roles. We implemented interRAI in the community team as an assessment tool but we didn't look at the changes required in how they needed to work with the tool.

Executive Manager, DHB 'C'

This oversight, coupled with reportedly poor training and failure to enforce the use of the *interRAI-HC* tool led to its dwindling use by change recipients in that DHB during its adoption.

Both DHB ‘A’ and DHB ‘D’ performed a training needs analysis and assessed the knowledge and skills and training needs of each change recipient in their NASC service to aid preparation for the implementation of the *interRAI-HC* tool. The approach taken by DHB ‘D’ was the more rigorous. A staged training programme and plan was developed for existing staff and a decision taken to recruit only clinically qualified assessors in the future. A comprehensive orientation and training programme was developed for all new staff.

We needed to do some up skilling around professional issues and around clinical things, more clinical more medically and clinical I mean around the assessment process. Over time we will have all health professionals with a current practicing certificate as assessors in our NASC.

interRAI Project Manager, DHB ‘D’

Develop a training plan

Following a training needs analysis both DHBs ‘A’ and ‘D’ developed training plans. The *interRAI-HC* assessment process represents a significant departure from existing assessment practice, requiring change recipients to acquire substantial new knowledge and skills. That training needs assessors to use the tool required significant workforce development was recognised by the Ministry of Health (MoH).

This is a workforce development change for assessors. You need to be trained to think differently and do assessments differently and use the information differently. That will be a big issue in success.

HOP Team Manager, MoH

However, only DHBs ‘A’, ‘B’ and ‘D’ appeared to recognise the extent of change required of change recipients and the need for a comprehensive, methodical approach to training.

These are people who were well into their career, maybe five years away from retirement, good nurses, good physios, good social workers, never used a computer. They wouldn't have a clue. Their whole job before that was paper based. So the whole idea of a computer was a shock to them, but we introduced them to computers. From their health professional background we saw that we needed to do some up skilling around professional issues and around clinical things, more clinical more medically and clinical I mean around the assessment process.

interRAI Project Manager, DHB 'D'

These DHBs also recognised that achieving competency in the use and interpretation of the *interRAI-HC* tool takes time and requires significant support.

So there is a lot for staff to learn around the interRAI tools,, the software, the process of assessment and service coordination and around learning about what is available in the community to support older people. All this takes about 6 months and needs to be recognised by managers overseeing implementation. Failure to do so [allow time] impacts very negatively on the success of implementation

Core Trainer, DHB 'A'

Training programmes require the availability of appropriate training manuals and tools, expert users as trainers, an orientation programme, the preparation and implementation of relevant training plans, mentorship and peer support and competency audit programmes. These are required to ensure the tool is administered comprehensively and consistently.

There needs to be a well-considered and well prepared training programmes and robust training for assessors and for others impacted by the tool. Training needs to be on-going post implementation and designed to include peer review of assessments. You'd also want to make sure there was an orientation plan and an induction plan so for anybody new coming into the service

Core Trainer, DHB 'A'

Participants in DHBs 'C', 'E' and 'F' reported that these resources were not provided and that training was of a poor quality and consistency both prior to and during the introduction of the *interRAI-HC* tool. Staff in DHBs 'E' and 'F' reported the lack of organisational commitment to the change impacted negatively on their commitment and self-efficacy and contributed to a high staff turnover and the loss of expertise in the use of the tool.

The training is expensive and time consuming and a lack of training or staff to train users was an issue for us. People left and that gave us [more] problems with access to the training that needs to be in place.

Local Policy Manager, DHB 'F'

It [training] means everyone using the tool having a good understanding of it. The super user did have it but not all of us. I needed a better understanding than I was given.

Needs assessor, DHB 'E'

It is noteworthy that despite the clinical qualifications and skills of change recipients, the lack of training contributed to the eventual disuse of the *interRAI*-HC tool in DHBs 'E' and 'F'. This suggests that a high level of prior cognitive readiness does not reduce the requirement for comprehensive training for significant change events. In the case of DHB 'F' the recruitment of staff already disillusioned with *interRAI*-HC tool was to have an additional negative effect on change readiness to implement the tool.

*Some of the new staff came over from [another DHB] as they did not want to continue using it (*interRAI*) there because they were disillusioned with it. So at the team meeting around the issues with *interRAI* it was decided not to continue.*

Clinical Nurse Manager, DHB 'F'

The training programme within DHB 'D' focussed on the process and task requirements of the *interRAI* HC-tool and was continually under review for its effectiveness.

We're constantly reviewing the whole process around it (training) and therefore what needs to be done, what competencies need to be learned and what information needs to be given in the training.

Operational Manager, DHB 'D'

Prior to training with the *interRAI*-HC tool needs assessors were provided with computers to develop basic computer literacy to ensure sufficient competency to operate in the new electronic working environment.

Everybody had a computer so that they could work around that keyboard, send emails, receive emails and were computer literate really.

interRAI Project Manager, DHB 'D'

This was followed by a comprehensive orientation to the *interRAI-HC* tool to build a sound knowledge and understanding of both the tool itself and the purpose and aims of its implementation.

We provided some pre-education around the background of the tool and what it's there to achieve and what some of the difference are between the way that people have been assessing and will be assessing using interRAI.

Operational Manager, DHB 'D'

Next, needs assessors were provided with two weeks of intensive training in the use and interpretation of the *interRAI-HC* tool. This period included interaction with other health professionals to increase their understanding of the interdisciplinary nature of the *interRAI-HC* tool. Training was based on internationally published *interRAI Training Manuals*, mentorship and continuing peer support and audit programmes designed to enhance competency and enable the standardisation and consistency of assessment.

Well there is those [presentations] around what services you might utilise and how to refer on and what your package [of care] might look like and the cost of that and who might meet the threshold for entry into residential care and how to utilise respite and all the rest of it. There's a whole lot of information around that.

Operational Manager, DHB 'D'

Importantly, once they were trained, needs assessors were only permitted to use the *interRAI-HC* tool to assess the disability support needs of older people.

There is no going back once they've done the training, they couldn't go back to assessing the old way [the SPA assessment tool].

Operational Manager, DHB 'D'

It is noteworthy that receivers of *interRAI-HC* tool output (assessment reports) from the NASC services in DHBs 'A' and 'B' were consulted on their training needs only

after complaints from those receiving the new reports following the tool's implementation. This highlights the importance of a comprehensive stakeholder analysis and engagement during planning to ensure smooth interfaces between individuals and work groups impacted by a change event.

We developed and delivered 2 hours of training to receivers on the interpretation of interRAI outputs. This did improve the level of satisfaction with the tool.

Operational Manager, DHB 'B'

The study shows that significant development of change recipients' cognitive readiness (computer and clinical assessment skills) was required to achieve pre-introductory change readiness, regardless of their professional backgrounds. Controlling the pace of the change event through a staged approach to training (e.g. DHB 'D') reduced the amount of change staff was exposed to at one time. This reduced workplace stress and allowed time to build both cognitive readiness (their knowledge, skills and understanding of the *interRAI-HC* tool) and belief in their ability to effect change. Findings also show the importance of addressing the training needs of other stakeholders, particularly those outside the target services or the organisation. Developing and ensuring a good match between the cognitive attributes of change recipients and the operating requirements of the *interRAI-HC* tool was fundamental to their readiness to adopt this tool and, by extension, to adopt other similar change events.

Resource the change

Participants agreed if the business case or subsequent planning indicates a project is unaffordable or cannot be resourced it should not be executed.

Dollars is the big thing. Budget you have to have. You know if you haven't got money you're not going to be able to do it. That comes from a sound business case.

Local Policy Manager, DHB 'D'

There was general agreement that recognising, allocating and committing the resources required to implement the *interRAI-HC* tool enhances stakeholders' belief

in organisational commitment to change and the capacity of the organisation to make the change successfully.

The other I think is a very clear expectation of what we're in for because we've got a record of significantly underestimating projects and saying that's what we need, yep that looks right, we'll cope here and we can do that without actually saying now what this is going to involve is actually quite significant. It's going to require a change management component, its going to require an IT component and it's going to involve an evaluation probe. So I think interRAI was well researched and well understood for what it was going to do and therefore there weren't any nasty surprises as we went through.

Executive Manager, DHB 'D''

The importance of negotiating and acquiring dedicated support, particularly support for technology to ensure the continuation of normal business was recognised as a particular issue by those impacted by the change to the *interRAI*-HC tool.

The IT support should be available to address breakdowns and issues quickly otherwise the implementation will be compromised, the credibility of the tool will be impacted and staff buy in will be reduced.

Core Trainer, DHB 'A'

Some participants indicated difficulties in negotiating the release of resources from services (e.g. Information Technology Services) required to implement the *interRAI*-HC tool. These problems were increased when the required support services experienced costs but no benefits from such implementations. These difficulties reinforce the fragmentation and silos that exist within DHBs and the poor culture of collaboration which can result in conflict and impact change events negatively.

if in the business case the benefits of implementation are suggested to accrue to a place different to where the costs are generated then the change management process around resource management can be difficult. This means the cost benefit analysis must be rigorous and that's a good thing. It is difficult to accrue benefits to one service and costs to another. It causes conflict and reduces the incentive to implement.

Executive Manager, DHB 'E'

Planning for and acquiring temporary backfill staffing to replace change recipients undergoing training and enable normal workflow during the adoption and

assimilation of the *interRAI*-HC tool were found to be key to increasing change recipient acceptance and commitment to change. Ensuring these resources was seen to demonstrate organisational principal support and build change recipient belief in the ability of both their service and the organisation to implement change while maintaining normal business.

Backfill during training is important. If there is insufficient staff to maintain normal business and implement the change to interRAI then staff buy in is reduced, even leading to resistance to change.

Operational Manager, DHB 'C'

However, only DHB 'A' planned and budgeted to provide backfill staffing to support change recipients during their training and the implementation of the *interRAI*-HC tool.

Back fill for staff undergoing training is essential so that normal business can be maintained and other resources need to be available as required. Therefore there needs to be a robust budget attached to the implementation.

Core Trainer, DHB 'A'

It appears DHBs 'C', 'E' and 'F' did not properly plan to ensure that adequate funding and human resources were provided to implement and maintain the *interRAI*-HC tool. This undermined belief in the ability to achieve change and, eventually, commitment to the tool.

There was no commitment to continued support for interRAI. Planning and Funding had to apply each year to the Board for funding and eventually we lost assessors staff and lost enthusiasm for implementing it.

Local Policy Manager, DHB 'E'

They used a lot of resources on interRAI but the process was not properly supported and it was set up to fail. The implementation was not thought out well and so it was not successful.

Needs Assessor, DHB 'F'

Plans

The change management plan

Middle managers and change recipients generally indicated that they wanted to see a change management plan both for the organisation and for their service. Findings suggest that change management plans should clearly address the desired new state, the need for change, how change will meet that need, the change process, identify the stakeholders and services impacted and describe what change would mean for each stakeholder group. The dissemination of change management plans and opportunities for stakeholders to engage with executive managers on these plans would have increased their understanding and acceptance of the *interRAI*-HC tool, reduced uncertainty and confusion, provided guidance for the change process and facilitated commitment to change.

I guess a plan, a plan of what the sponsors want, where it needs to go, who would be the users, how they would work with it to get the best from it and who would benefit and who would get the outcome reports and how they would use them. Also there's acceptance that people are on board philosophically and will do those things and want to be part of it.

interRAI Project Manager, DHB 'D'

Change recipients also wanted change management plans to reflect recognition of the time it takes to achieve readiness to adopt changes such as the *interRAI*-HC tool. Participants complained that managers often underestimated the time change recipients needed to accept and commit to a change event and to develop cognitive readiness for change .

Staff need to be consulted and given time to accept the change and understand how it can help them provide a better service to clients.

Needs Assessor, DHB 'A'

However, none of the participating DHBs developed change management plans for the implementation of the *interRAI*-HC tool.

*We got this a bit wrong. We need to be clear about questions such as "what is *interRAI*?", "how do we use it?", "how do we embed it?" Answering these questions*

is critical to success. ‘We did not plan the change management process well and what this change would mean for people’s roles.

Executive Manager, DHB ‘C’

The communications plan

Most interviewees indicated that their DHBs’ communications regarding the implementation of the *interRAI*-HC tool were poorly targeted or incomplete, resulting in considerable misunderstanding, confusion and emotional impact.

We always underestimate the need for communication and we tend to equate telling people things with communication. We base a lot of communications around rationality but give no thought to the emotional content or context. Then we are surprised when people behave in ways that appear irrational but make perfect sense. We need real engagement and need to ask fundamental questions of ourselves when we communicate such as “did I tell or did I communicate?”

Executive Manager, DHB ‘C’

I think there could have been a better communication plan. Because yes it started in NASC but there is not future plan about where it’s going to go to next. So there is a whole lot of people either worried or wondering whether it would be implemented into their service next and what that would mean for them.

Operational Manager, DHB ‘D’

*I certainly think that from the perspective of staff who suddenly started receiving the faxed version of the *interRAI* tool that could have been communicated and planned for better.*

Clinician, DHB ‘D’

While executive managers generally acknowledged the lack of communication, local policy managers in DHBs ‘C’ and ‘F’ indicated that significant steps were taken to communicate the *interRAI*-HC change event to stakeholders.

*The communication plan involved all areas. There was a whole lot of presentations around *interRAI* in different places throughout the DHB that clinicians and other people could go to. So they get an understanding of what it was all about which I think worked pretty well.*

Local Policy Manager, DHB ‘C’

We spoke to geriatricians and consultants in the ATR services and we engaged the NASC service and service managers across the DHB. We also went and discussed

implementation with Home Based Support Service Providers and with Aged Residential Care. We set up some interRAI discussion forums and invited national champions to address these and take questions.

Local Policy Manager, DHB 'F'

This was not a view shared by operational Managers and change recipients in DHBs 'C', 'E' and 'F', who were particularly negative about the extent and quality of their organisations' communication and feedback about the implementation of the interRAI-HC tool.

Most of this [communication and feedback] is not well done in this organisation unfortunately.

Operational Manager, DHB 'C'

Operational managers and change recipients expected senior figures in their organisations to communicate with employees frequently both orally and in writing prior to, during and after the implementation of change. They wanted two-way feedback with senior staff listening to and addressing the concerns of employees.

There needs to be frequent communication with staff and this needs to be clear and two way, with management and senior clinicians listening to problems.

Operational Manager, DHB 'C'

It would have been good to have a sheet of frequently asked questions and answers prior to implementation and had a forum established to access further information on interRAI.

Service Coordinator, DHB 'E'

The research found that employees expect well-developed and widely communicated change management plans which reduce uncertainty about the scope and impact of change. Communication plans that describe how senior managers and clinicians will engage with employees about a change event and how employees and stakeholders can feedback to management and present their concerns about change show that the organisation wants to engage with stakeholders about change throughout the change process. Findings suggest the communication plan should include copies of the

roadmap for change, the change implementation plan and the change management plans. Later communications to specific stakeholders might include their work group plans such as training plans on which change recipients in particular might provide comment.

Planning - summary

Participants, particularly operational managers and change recipients, had much to say about the importance of planning in creating and maintaining change readiness to introduce the *interRAI-HC* tool. Robust, inclusive planning gave direction, reduced uncertainty, enabled stakeholder input, created buy in for change and created belief in the organisation's commitment, principal support and its ability to introduce and assimilate the *interRAI-HC* tool.

Robust planning includes the following: defining the problem to be solved; developing a roadmap for change; creating stable working environments; the inclusion of stakeholders; the identification and engagement of respected, influential champions; developing specifications and acceptance testing for technology and other products; reviewing and adapting workflow to the change; developing a workforce with a high degree of cognitive readiness to adopt planned change; creating and implementing change management and communication plans; and developing an evaluation framework.

6.5.7 Organisational support

This study found that organisational support is critically linked to planning as a key enabler in creating pre-introductory change readiness and building change readiness throughout the change process. The following were identified as key elements of organisational support by study participants: engaged and supportive managers; the recruitment of champions who actively engage and work with stakeholders; the allocation and commitment of resources (human, financial, training manuals and materials etc.); the provision of adequate support for technology; and recognition by senior managers of the time it takes for change recipients to assimilate complex change. Findings show planning should ensure these elements of organisational support are in place prior to adoption of the *interRAI-HC* tool.

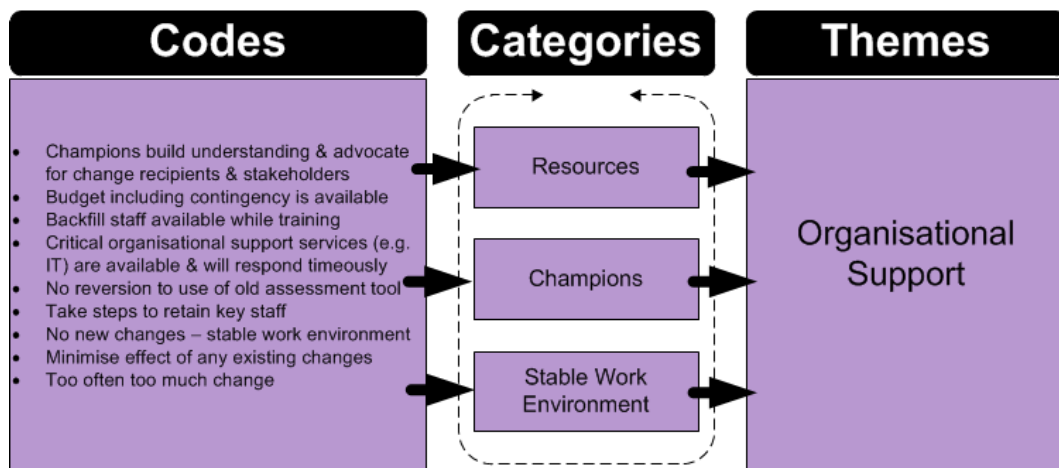


Figure 17: Step two, organisation support (pre-introduction)?

However, participants in all DHBs except DHBs ‘A’ and ‘D’ generally agreed the introduction of the *interRAI*-HC assessment tool was not well supported by their organisations.

This has not been done well in the past. I think there is a realisation at the Executive Team level that Senior Management needs to be more active in supporting change.

Executive Manager, DHB ‘C’

*I think it fair to say the Older Peoples’ Health Services was left to implement *interRAI* largely on its own and this had a huge negative impact on success.*

Operational Manager, DHB ‘C’

*They [executive managers] hold meetings with interested parties but *interRAI* fizzled. No on-going [organisational] support was demonstrated.*

Needs Assessor, DHB ‘E’

In the case of DHB ‘B’, where the NASC service was an external agency contracted to the DHB, change recipients reported that there was good support from their organisation but little support from DHB ‘B’.

*Our management are willing to sit with us and engage and listen to our experiences and take advice from us. Management at DHB ‘B’ does not engage. They do not have any internal *interRAI* users which makes it difficult to engage within the DHB and between the DHB services as they have no hands on experience. Their solution is*

a Service Level Agreement type arrangement and trying to develop better communication between the parties.

Operational (NASC) Manager, DHB 'B'

Organisational support in the pre-introduction phase

The identification and recruitment knowledgeable and engaged champions to provide advice during planning and advocacy and support for change recipients was generally considered an important element of organisational support. Participants agreed that champions can be effective in creating and building pre-introductory change readiness by developing change relevant knowledge, understanding and skills in change recipients and other stakeholders, thereby enabling the development of positive attitudes to change events such as the implementation of the *interRAI-HC* tool.

It's important having a champion who is there who has a lot of knowledge of where that vision is going to keep the enthusiasm going and to keep them [those impacted by change] on track.

Operational Manager, DHB 'D'

Only DHB 'C' recruited a clinical champion (who was a geriatrician). However, it is noteworthy that the clinical champion was unsuccessful in attracting support for the *interRAI-HC* tool among both fellow clinicians and NASC service staff.

We did not provide effective, clear clinical leadership. We did not have a long term idea of what we would get 5 to 10 years down the track and so did not get clinical buy in. We should have thought of it as a change to the Clinical Service Model.

Executive Manager, DHB 'C'

DHB 'A' lacked an identified champion. However the implementation of the *interRAI-HC* tool was driven by a strong partnership between the Local Policy Manager and the NASC service manager. These managers emerged as business champions and set out to build a community of users within the NASC service. Participants in DHB 'D' indicated championship for the *interRAI-HC* tool was provided by an executive manager.

A General Manager came and said we're going to do this So that champion role is a definite bonus.

interRAI Project Manager, DHB 'D'

Participants in the other DHBs indicated that no organisational business or clinical champions were identified or recruited or emerged to facilitate the implementation of the *interRAI-HC* tool.

The provision of sufficient funding, training resources and support from the DHB's Information Services Division prior to implementation of *interRAI-HC* tool were considered key elements of organisational or principal support for the change in assessment tool. The lack of these resources emerged as a significant contributing factor in undermining stakeholder belief in principal support and organisational commitment to the *interRAI-HC* tool and, eventually, in failure to fully adopt the *interRAI-HC* tool in DHBs. 'C', 'E' and 'F'.

Lack of funding and staff education also reduced buy in.

Geriatrician, DHB 'C'

Other DHBs carried on with their pilots but we stopped due to IT and funding issues.

Needs Assessor, DHB 'E'

We provided funding but not enough.

Local Policy Manager, DHB 'F'

All participating DHBs except DHB 'A' failed to allocate an appropriate budget for backfill staffing to maintain normal business while change recipients developed competency in on the *interRAI-HC* tool.

*There needs to be proper on-going training, resources need to be available to maintain business during this transition period. This requires backfill of positions while training occurs and people get up to speed with *interRAI* so we don't fall behind while we train. We did not get this support.*

Geriatrician, DHB 'C'

A budget line for backfill staffing was specifically included in DHB 'A's business case after consultation with change recipients on their requirements to achieve full assimilation of the *interRAI*-HC tool.

We provided adequate resources, including adequate backfill while staff were training and coming up to speed with the new tool to allow business as usual to continue during this period.

Local Policy Manager, DHB 'A'

Securing adequate support for technology from the DHB's Information Technology Support Services prior to the introduction of the *interRAI*-HC tool was seen as essential to minimising technology failures and enabling rapid and effective responses to such failures. The promise of effective and rapid technical support builds belief in the maintenance of workflow, reduces change recipient stress and thus helps to maintain pre-introductory change recipient acceptance and commitment to change.

Technical support is very important and the hardware and software must be robust and reliable.

interRAI Manager, DHB 'C'

*Some participants suggested that subsequent to acceptance testing, the performance of all technology should be checked by the DHB's Information Technology Support Service immediately prior to introducing the *interRAI*-HC tool to clinical service. It is important to get all the technical parts to work. This should be sorted well before implementation of assessments.*

Executive Manager, DHB 'C'

The importance of organisational support to create a stable work environment for the implementation of the *interRAI*-HC tool is also addressed in section 6.5.6 (Planning).

6.5.8 Project management structure and process

The theme of a project based approach to the creation of change readiness to adopt and assimilate the *interRAI*-HC tool was found to contain two aspects or sub-themes. These aspects were project management structure and process and project

management process control. Project management structure and process emerged in association with the creation of pre-introductory change readiness while project management process control was predominantly associated with the creation of change readiness to fully adopt and to assimilate the *interRAI*-HC tool.

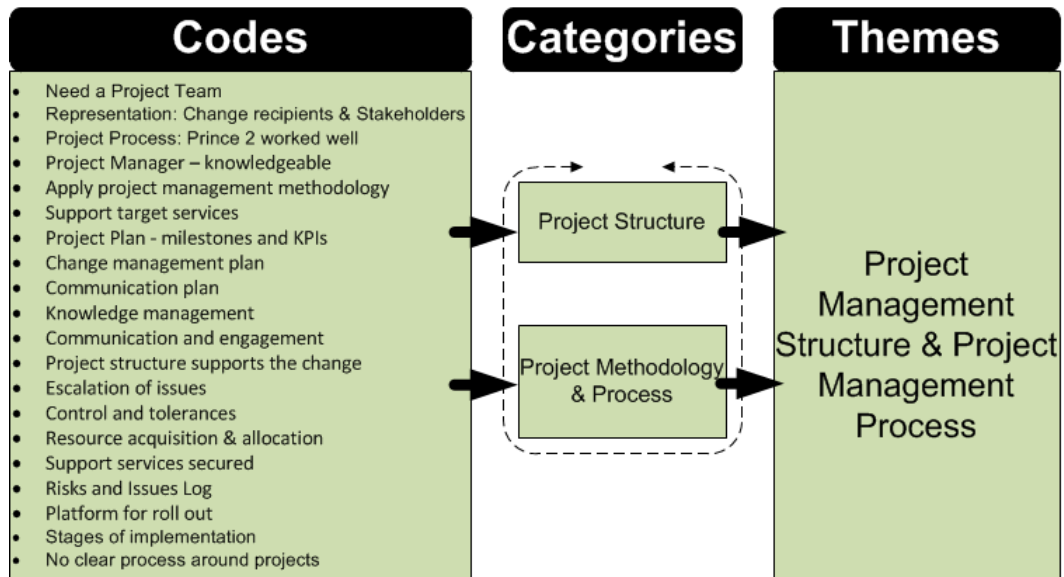


Figure 18: Step two, project management structure and process?

Establishing project management structure and processes

Participants generally agreed that managing change events successfully is facilitated by a project based approach. Participants identified the components of project management structure as the establishment of a project steering group, the identification of a project manager and the establishment of a project implementation group. Project management processes were identified as the development of a project plan to guide and control the change event, processes to capture and manage knowledge and lessons learned from the implementation of the *interRAI*-HC tool, the establishment and maintenance of a risks and issues log together with documented mitigation strategies and risk profiles (likelihood and impact), the development and communication of change management and communication plans..

Project management structure

Only DHB ‘D’ appeared to establish a functioning governance structure (Project Board) to oversee and support the activity of the project manager and project implementation group implementing the *interRAI*-HC tool. The role of the Project Board is outlined in section 6.5.3 (local governance and accountability).

There was a Project Board, they then oversaw the plans, signed off on the PID [Project Initiation Document]. There were monthly reports [by the project manager] and monthly highlight reports [to executive management]r and that included budget progress.

interRAI Project Manager, DHB ‘D’

While all participating DHBs except DHB ‘E’ employed full time or part time project managers, only two DHBs (‘A’ and ‘D’) established functional project implementation groups to support the project manager. Both these DHBs adhered closely to project management principles in implementing the *interRAI*-HC tool. In DHB ‘A’ the local policy manager created and chaired the project implementation group in partnership with the NASC service. The group assumed the authority of a steering group and there was little interaction between this group and executive managers.

The Portfolio Manager for DSS in Planning and Funding wanted the DHB to use it [interRAI] and did a lot to get it off the ground.

Core Trainer, DHB ‘A’

A project team was established which met weekly to plan the implementation, address issues, receive reports on progress against plan and keep the project on track, ensure goals and timeframes were met, to provide project support and agree and coordinate remedial action where that was required. It was led by our local policy manager for older peoples’ health services. The group reviewed the implementation and acted to support the project.

Operational Manager, DHB ‘A’

While DHB ‘C’ did establish a project steering group to implement the *interRAI*-HC tool, the group reportedly became dysfunctional.

The interRAI steering group was set up and included quite a wide spread of people. We had people from planning and funding, the Chief Medical Officer, the interRAI project manager, The IT division and representation from the Health of Older Persons services. So it was quite a comprehensive steering group.

Local Policy Manager, DHB 'C'

I noted that the committee was losing key players and I set up a meeting between the operational services and the interRAI project team to try to get everyone on the same page with respect to how interRAI was to be implemented going forward.

Operational Manager, DHB 'C'

The project managers employed by DHBs 'B', 'C', 'E' and 'F' were local policy managers based in the DHBs' Planning and Funding division rather than the services targeted for change. Participants report that the relationships between project managers and target services in these four DHBs were not strong and change recipients reported that communication and support from project managers was generally poor. This together with the physical separation between project managers and change recipients led to disconnection and difficulties in resolving emerging issues which reportedly contributed to the unsuccessful outcomes in DHBs 'C', 'E' and 'F'.

It (Project Management) was in the Planning and Funding Division. However, the division took a back seat during the implementation and left it largely to the operational services. Then every time the Older People's Health Service ran into problems the Planning and Funding Division told them it was their problem. This was a mistake as the people developing the vision should be driving the implementation and monitoring outcomes.

Executive Manager, DHB 'C'

The Ministry of Health was not convinced that DHBs generally achieved an optimum skill set in selecting and positioning project managers, particularly in cases where change events involved significant involvement with clinical services.

If people don't look for competent project management, that if they [project managers] don't see how it is integral to the service. I'm just noticing the thing that is making me nervous is that some DHBs for example is, if you ask chief executives to assign someone to the project [interRAI adoption], some people automatically assign the chief information officer. And that by definition tells me that they don't really understand

what is all required. While technically it is a lot of IT attached to it that isn't going to be the core thing that has to change. A good project manager [who is also a] service development person will be a better resource to lead it because they make it the workforce issue.

HOP Team Manager, MoH

DHBs 'A' and 'D' employed full time, respected project managers who were committed to implementing the *interRAI*-HC tool and who understood the behaviours required of change recipients.

Our project manager came from the NASC service and was knowledgeable about services for older people with disabilities.

Local Policy Manager, DHB 'D'

These two DHBs also established project implementation teams with a good knowledge of older peoples' support needs and NASC service processes. In both cases the project implementation teams were based in the NASC service and this arrangement strengthened the relationship between the project manager, the project implementation group and change recipients.

A project team was established which met regularly to address issues, receive reports on progress against plan and keep the project on track, ensure goals and timeframes were met, provide project support and agree and coordinate corrective action where required.

Operational Manager, DHB 'A'

This arrangement facilitated close monitoring of change recipient acceptance, commitment and attitudes to the *interRAI*-HC tool throughout the change process, enabling early action to maintain acceptance and commitment.

Project management processes

A project plan was considered a basic tool for managing and controlling the planning and preparation for the adoption and the assimilation of the *interRAI*-HC tool.

You can't implement something like this if you don't have a project plan to pull it all together with milestones and timelines and agreed performance indicators.

Local Policy Manager, DHB 'C'

However operational managers and change recipients in DHBs 'E' and 'F' reported the absence of project plans while in the case of DHB 'C' executive managers and others in the organisation disagreed about the presence of a project plan, indicating a significant degree of organisational decoupling.

We had an implementation plan and we followed it.

Executive Manager, DHB 'C'

Our DHB did not have a project plan or operations plan for implementing interRAI that everyone was on board with.

Operational Manager, DHB 'C'

We are not aware of any aims and objectives or plan. We were told to use the interRAI tool if we wanted to use it.

Needs Assessor, DHB 'C'

While acknowledging the importance of developing and maintaining knowledge management systems to build organisational capability, most participants indicated their DHBs lacked knowledge management systems to capture learning from implementation of the *interRAI-HC* tool.

But we so often ignore the knowledge capital that exists within our organisation and we need an engagement strategy that builds our projects through the layers in the organisation so that existing knowledge on any issue is captured. Project managers need to be able to tap into that knowledge.

Executive Manager, DHB 'C'

A number of participants recognised the lost opportunities with respect to failing to capture organisational knowledge and learning.

So much has been lost in terms of knowledge in the DHB because so many people have left and their knowledge has not been captured. This happens so often and then

it's harder to get change and we lose the authority to drive change and we then need to re-educate new managers and staff who often want to test ideas again and repeat things we have already done or tried with stakeholders. We end up not looking good with them.

Operational Manager, DHB 'C'

These responses highlight the lack of a culture of knowledge management and organisational learning across the health system. Only one participating DHB had established organisation-wide processes to capture knowledge and learning from the implementation of change events.

Part of our project office plan is that you capture knowledge, the lessons learned. The Project Office uses the shared drive to capture what we learn and create a central sort of lessons learned log as it were and publishes things that are different or can come out of each project. This gets added to over time.

Operational Manager, DHB 'D'

The establishment of robust risk management processes increased belief in the organisation's capacity to implement the *interRAI-HC* tool through increasing preparedness for planned change.

There was a risk register and we identified and logged the risks as they came up and we worked through all the issues as they came up at the time really. So we reduced the barriers to change.

Operational Manager, DHB 'D'

A well maintained risk register increases overall organisational and cross-organisational change readiness through the identification and mitigation of risks and issues that might impact the organisation or its external partners.

6.5.9 Organisational (DHB) pre-introductory change readiness: Key points and the development of SoRT

Findings suggest the focus in creating organisational pre-introductory change readiness should be at the whole of organisation level and encompass all relevant stakeholders, including those external to the DHB. This study found that creating and developing organisational pre-introductory change readiness is concerned

essentially with developing understanding, acceptance and commitment to change and belief in the organisation's capacity to achieve the desired change among all stakeholders at all organisational levels. The creation of stakeholder understanding and sense-making is facilitated by appropriate, complete change messages that align change events to local and national strategy and address discrepancy, principal support, organisational efficacy, the development of change recipient self-efficacy and the valence of change to the health system, the organisation and stakeholders. Engaged, knowledgeable executive managers who value and demonstrate partnership with key stakeholders and enable organisational feedback processes during change events are likely to develop an organisational culture of trust, openness to learning, collaboration and one generally supportive of change.

A robust business case, organisational and work group plans and a project management approach provided structure and guidance for the *interRAI*-HC implementation in the more successful DHBs, increasing belief in their ability to achieve the desired change and signalling organisational commitment and support for the change. Plans that include relevant training programmes, mentorship and competency assessment demonstrate intention to provide principal support and support the development of change recipients' cognitive readiness. A governance structure to oversee the change event and the allocation of resources reinforces organisational support for the change and indicates issues will be addressed. The establishment of key performance indicators and a robust evaluation framework provide a mechanism to assess the progress and success of change and facilitate feedback to managers and stakeholders that can later increase commitment to change.

Table 20 shows the contingencies and themes found to influence organisational pre-introductory change readiness to implement the *interRAI*-HC tool and the key questions derived from the research that relate to organisational pre-introductory change readiness to implement the tool. These contingencies, themes and key questions were used to develop Section Two in the SoRT, related to assessing organisational pre-introductory change readiness to implement a change event.

Table 20: Developing SoRT - Organisational pre-introductory change readiness; contingencies, themes and associated questions

Contingency Variables	Pre-introductory Change Readiness – Internal or Organisational Themes
Strategic alignment	<p>Local Governance & Accountability</p> <ul style="list-style-type: none"> • Is the change intention signalled in the District Annual Plan (DAP) or the Regional Plan? • Has a robust business case (BC) for change been developed in collaboration with key stakeholders? • Has the organisation established a panel to assess its capacity and capability to meet the requirements of both implementation and downstream implications of change as set out in the Business Case? • Is the Business Case signed off (approved) by the DHB’s Board? • Is a local Programme Board or Steering Group established to oversee the change event/implementation?
Project Management Structure and Process	<p>Project Management Structure and Process</p> <ul style="list-style-type: none"> • Is the Steering Group / Project Board actively supporting the change? • Is an effective and knowledgeable Project Manager and Project Plan in Place? • Are the resources allocated through the business case being provided? • Are support services e.g. the Information Services Division providing the expected level of support? • Is there a formal, regularly updated, risks and issues log for the project? • Are organisation-wide structures and processes in place to capture and manage the knowledge gained from implementing this change? • Are there documented change management and communication plans?
Strategic alignment of change with : National / local vision and strategy	<p>Alignment with National / Local Vision and Strategy</p> <ul style="list-style-type: none"> • Is the planned change aligned to national and / or local vision and strategy?
Leadership style	<p>Organisational Leadership</p> <ul style="list-style-type: none"> • Are executive managers clear they expect change to happen, creating partnership with stakeholders and helping them to make sense of the change?

Table 20: Developing SoRT - Organisational pre-introductory change readiness; contingencies, themes and associated questions (continued)

Contingency Variables	Pre-introductory Change Readiness – Internal or Organisational Themes
<p>Characteristics of the change event e.g. the electronic nature of <i>interRAI</i>-HC tool</p> <p>Change recipient qualifications, skills, attributes and beliefs</p> <p>Task structure</p> <p>(Key) Staff retention</p> <p>Other adopters</p>	<p>Planning</p> <ul style="list-style-type: none"> • Is the problem definition right? • Is there an organisational roadmap aligned to national/local strategy and to the Business Case for change? • Have all stakeholders been identified and are they engaged in the planning process? • Are both Organisational & Work Group Plans developed? • Have all stakeholders been assessed for their likely response to change? • Have clinical and business champions been identified & recruited? • Are emerging issues being addressed or resolved quickly? • Are robust specifications/requirements developed, documented & communicated to vendors regarding the required functionality & performance of technology and its Integration with existing patient management systems? • Has a Technology Acceptance Testing regime been established and resourced? • Are workflows, processes, documentation & reporting/outputs for each work group aligned with the change event? • Is staffing adequate and has the workforce in each affected work group the required qualifications, knowledge & skills to implement the change successfully? • Is a comprehensive, integrated training, peer support and competency audit programme in place for each work group? • How will success be measured— are milestones, key performance indicators and a change event evaluation framework in place? • Have sufficient resources been allocated to ensure success post-introduction of the change event? • Are other changes occurring or have they recently occurred in target service(s)?

Table 20: Developing SoRT - Organisational pre-introductory change readiness; contingencies, themes and associated questions (continued)

Contingency Variables	Pre-introductory Change Readiness – Internal or Organisational Themes
Presence of other adopters	<p>Communication and Engagement</p> <ul style="list-style-type: none"> • Has the roadmap for implementing the planned change been communicated effectively to the whole organisation & particularly to internal & external stakeholders affected by change? • Are all those affected or impacted identified & engaged in the planning process? • Are managers and clinical and business champions engaging stakeholders? • Are we leveraging the experience & learning of other adopters? • Are change recipients & stakeholders being monitored for understanding/ acceptance/ commitment/change readiness to introduce the change event? • Are change recipients accepting of and committed to change? • Have our plans (Implementation, Change Management and Communication Plans) been communicated effectively to and understood by all stakeholders?
Organisational culture Organisational structure: hierarchy versus organic	<p>Organisational Culture</p> <ul style="list-style-type: none"> • Is our organisation characterised by a culture of learning, evaluation and knowledge management and sharing with others? • Are processes in place to capture and utilise learning and knowledge gained from this change event? • Is there a culture of trust and partnership between managers and employees, particularly with respect to services targeted for change? • Is our organisation generally collaborative, non-hierarchic, open to change?
Change history Other simultaneous changes Key resources e.g. backfill and Information Service Support:	<p>Organisational Support</p> <ul style="list-style-type: none"> • Do change recipients believe that the organisation will support this change event with adequate resources? • Are we confident sufficient resources have been allocated to achieve the desired change e.g staff backfill and support from the Information Services Division? • Have clinical or business champions been recruited who are able to influence and work alongside change recipients? • Are the working environments of those targeted for change stable or disrupted by present or recent change? • What previous experience do employees have of organisational or service change?

6.6 Step Three – Change readiness to fully adopt the change event

Step three, the creation of organisational readiness to fully adopt a planned change event reflects the transition from preparing for a planned change event to its implementation. Table 21 shows the number of codes and categories that were collapsed into each of the five themes identified as influencing the creation and development of organisational, work group and individual readiness to fully adopt the *interRAI*-HC tool.

Table 21: Themes influencing change readiness to fully adopt the *interRAI* HC tool

Codes	Categories	Themes
22	5	Local DHB Leadership (Figure 19)
31	5	Communication and engagement (Figure 20)
17	5	Organisational Support (Figure 21)
33	4	Project Management Process Control (Figure 22)
30	6	Building capacity, Capability and Belief in the ability to implement the change event successfully (Figure 23)

6.6.1 Local leadership during introduction of the *interRAI*-HC tool

Change recipients and other stakeholders expected continued face to face engagement with executive managers during the adoption of the *interRAI*-HC tool.

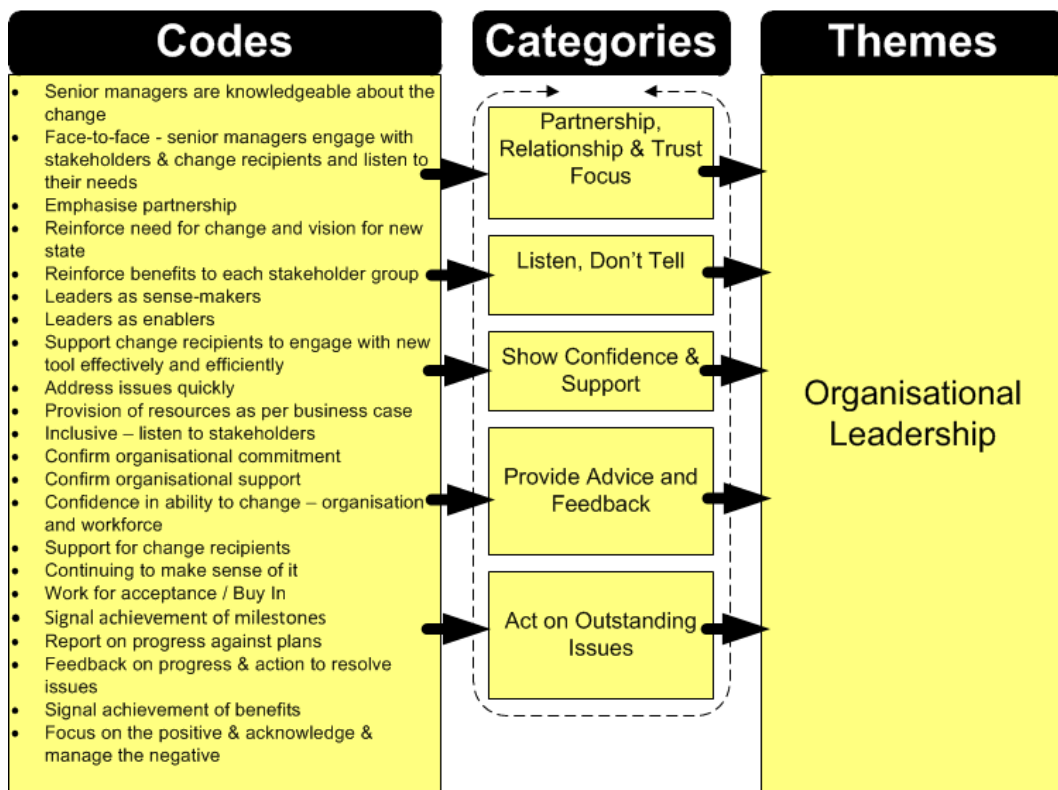


Figure 19: Step three, leadership during adoption?

Operational managers and those impacted by the *interRAI*-HC implementation wanted a partnership between themselves and supportive executive managers who would listen and respond to any issues and concerns arising from implementation. Change recipients valued opportunities to provide and receive feedback about the progress of the implementation and the identification and resolution of emerging issues. Open engagement with senior managers helps to maintain belief in the organisation's commitment and support for those implementing the tool. However, operational managers, clinical staff and needs assessors generally reported that that executive management generally did not engage in participative, collaborative leadership. They indicated that the quality of their relationship with executive managers impacted their acceptance, commitment and belief in principal support for implementation of the *interRAI*-HC tool.

We also need to know we have support from senior management and that they give us regular feedback on how we are doing and how issues are being addressed and how clients are benefitting. We don't get any of that and it's not very motivating.

Needs Assessor, DHB 'C'

Operational managers and change recipients expected executive managers to demonstrate commitment and provide direction and motivation..

It's the leadership that needs to be committed and they need to listen to staff concerns and address them where they can and explain where they can't. They need to say I hear what you are saying but we need to do this and this why and this is what we will get from it and this is what you'll get from it.

Operational Manager, DHB 'F'

Participants in DHB 'D' generally agreed that executive managers showed commitment, support and belief in the organisation's ability to implement the *interRAI-HC* tool. Change recipients indicated this enhanced their belief in the organisation's ability to achieve the desired change and their commitment and enthusiasm to fully adopt (and assimilate) the tool.

Senior managers are on steering groups for all new initiatives and will facilitate resourcing if required. The Executive team get regular updates on all important projects and often asks the project manager to report to the Executive Team in person to follow progress.

Executive Manager, DHB 'D'

Our leadership wants a joined up approach and is helping people understand how this will apply to them and how they can learn more about what we're doing.

Operational Manager, DHB 'D'

Conversely, operational managers and change recipients in DHBs 'C', 'E' and 'F' reported that the lack of executive leadership, feedback and support eroded their commitment and support for the *interRAI-HC* tool during its attempted adoption.

We have had little substantive support from senior managers on the implementation of interRAI. Managers will support initiatives like this in forums and in meetings but they don't come down to show support or to get the feedback from staff they might need to really progress initiatives.

Operational Manager, DHB 'C'

We're not receiving feedback on how the implementation is going and whether benefits are being achieved (and this) also makes it hard to support it.

Needs Assessor, DHB 'E'

Apparently unbeknown to executive managers, as commitment to the *interRAI*-HC tool fell in DHB 'C' operational managers and needs assessors themselves decided whether or not to use the *interRAI*-HC tool, particularly during busy periods. This behaviour was not corrected and the tool fell into increasing disuse, resulting in failure to adopt it across the target services.

*No that was the decision of their service manager (for assessors to use *interRAI* or not). That wasn't really tight enough so they went and they ended up doing a mixture of *interRAI* and old assessments. So if they were pushed for time they would just revert to the old assessment process.*

Operational Manager, DHB 'C'

The role of operational managers

Participants in DHB 'A' reported that while executive managers showed a lack of leadership and visible commitment there was a strong degree of leadership and commitment to the introduction of the *interRAI*-HC tool from key middle managers. The leadership style and commitment of these managers influenced the commitment of change recipients positively, contributing to the successful adoption of the *interRAI*-HC tool into the NASC service.

There was commitment from the Planning and Funding division (local policy manager) and within the NASC but I am not sure about higher up the organisation at the Executive Team level.

Operational Manager, DHB 'A'

Operational (middle) managers in DHB 'D' reinforced organisational commitment and change recipient acceptance of the *interRAI*-HC tool by ensuring that needs assessors did not revert to previous practice.

*Once you do training in *interRAI* that you don't go back.*

Operational Manager, DHB 'D'

In contrast, operational managers in DHBs ‘C’ and ‘F’ demonstrated a lack of commitment to the *interRAI*-HC tool which reinforced needs assessors’ belief in the organisation’s lack of commitment and ability to achieve change. This belief reduced their commitment to the *interRAI*-HC tool.

Its use was a decision of their service manager. That wasn’t really tight enough so they ended up doing a mixture of interRAI and old assessments.

Local Policy Manager, DHB ‘C’

We have a new service manager who does not support it. It has basically fallen over and we’ve stopped using it.

Operational Manager, DHB ‘F’

These findings suggest an important role for operational managers in supporting, managing, championing and even initiating change events. Committed and engaged middle managers can motivate change recipients in organisations lacking visible executive management commitment (DHB ‘A’), while operational managers lacking commitment to change (DHBs ‘C’ and ‘F’) can undermine change by failing to motivate staff and enforce planned change.

6.6.2 Communication and engagement

As indicated in section 6.6.1, those affected by change expected continuing and direct communication with executive managers during the adoption of the *interRAI*-HC tool. Direct engagement was viewed as an opportunity for executive managers to reinforce change messages and provide feedback to stakeholders about the progress of the adoption of the *interRAI*-HC tool. It was also viewed as an opportunity for stakeholders to raise concerns and contribute their ideas and provide their own feedback about change to executive managers. Continuing meetings with executive managers also reinforced a sense of continuing partnership and organisational interest and support.

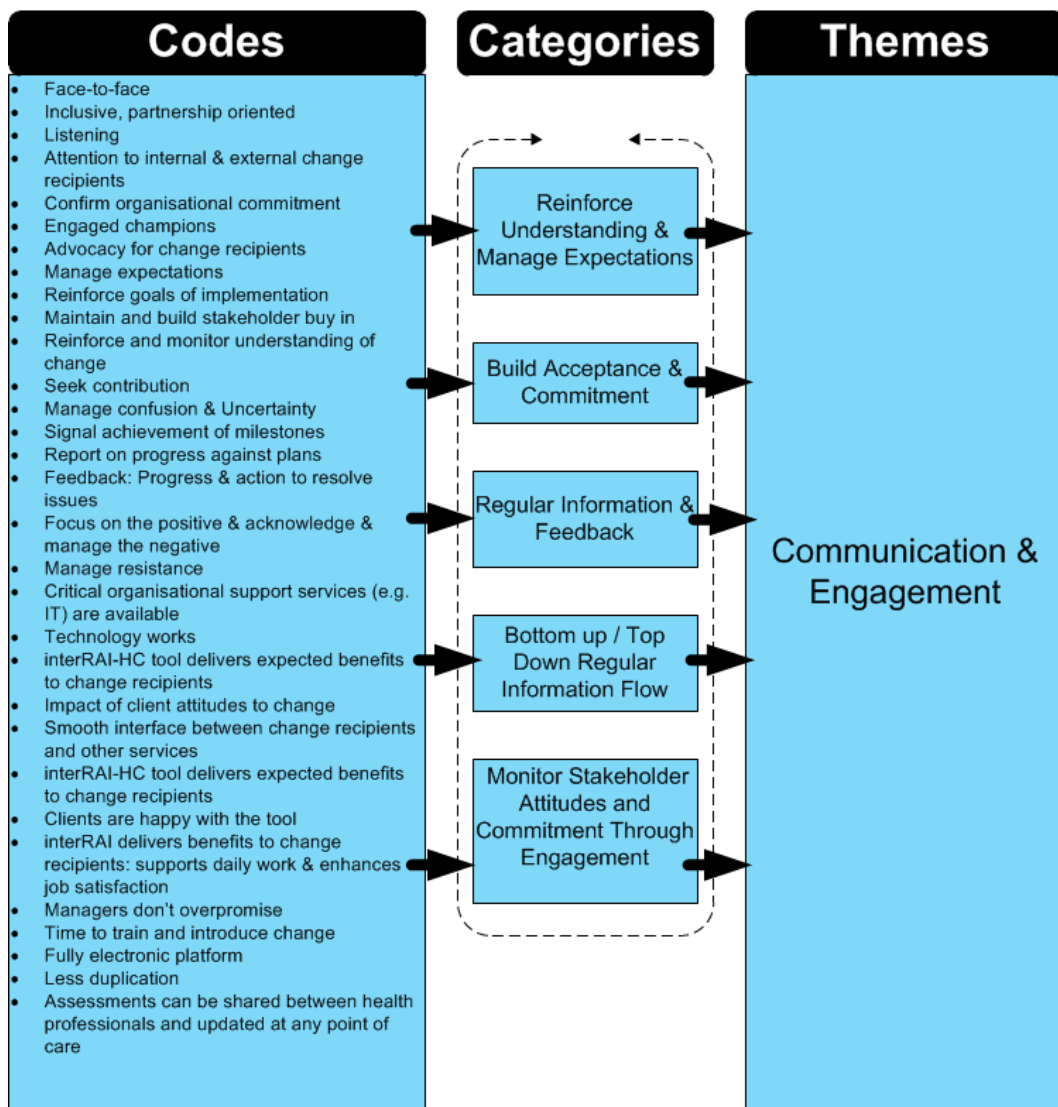


Figure 20: Step three, communication and engagement during adoption?

Continuing direct communication between stakeholders, particularly between managers and change recipients during the introduction of the *interRAI-HC* tool reinforced understanding, acceptance, commitment and belief in the need for change, organisational commitment and capacity to fully adopt the tool.

It's about working with people, getting and keeping people on board with it, understanding it, happy to use it and putting it into place.

interRAI Project Manager, DHB 'D'

[Continuing] *Broad engagement of all stakeholders ensures issues are identified and resolved.*

Executive Manager, DHB 'C'

Good communications with all stakeholders around implementing the tool and what it means for them is important. Also describing why this is being done, what the desired outcomes and expected benefits are and stressing that this is not a new tool to reduce services to clients.

Operational Manager, DHB 'E'

Many participants thought stakeholders' acceptance and commitment to the *interRAI-HC* tool should be confirmed immediately prior to the commencement of implementation to maximise the probability of successful adoption.

You need to have commitment on both DHB funding and planning and as well as by whoever performs assessments in the NASC as well as the hospital services. Because the concern I have is that you may get to a point where we're going to implement it but we don't actually utilise it and get any of the benefits we have wanted. So you do need a reasonable amount of buy-in by a broad range of people in order for us to get the benefits we're going to get. Otherwise we'll lose them and they'll do their thing.

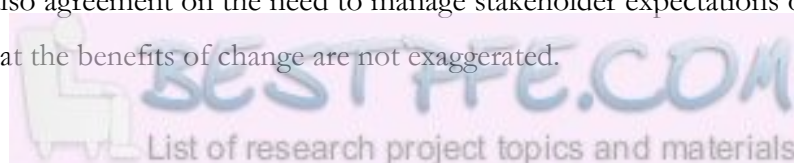
HOP Team Manager, MoH

Participants also suggested that stakeholders' acceptance, commitment and satisfaction with the *interRAI-HC* tool should be monitored throughout the adoption (and assimilation) of the tool to enable timely and effective action to identify and address any causes of reduced commitment to change. Operational managers and champions engaging with stakeholders were seen as important sources of communication and feedback on the continued change readiness of key stakeholders.

During its implementation several things spring to mind; clarity of purpose, communication with stakeholders both in terms of the people putting it in and the people using it and the people on the receiving end of it...that it is clearly articulated and the expectation is created and maintained that the new state post implementation is going to be better than the old state pre-implementation.

Executive Manager, DHB 'D'

There was also agreement on the need to manage stakeholder expectations of change to ensure that the benefits of change are not exaggerated.



We had meetings and you talk whenever you get the chance to talk. We talked to home-based support providers, Grey Power and the reference groups for older people so they'd know what to expect.

interRAI Project Manager, DHB 'D'

Change recipients were keen to provide feedback to managers about their experiences in introducing change and were keen to receive positive feedback from executive managers on their performance during adoption of the *interRAI-HC* tool. Study findings indicate this feedback is important in reinforcing self-efficacy and individual commitment to fully adopt change.

We're the ones using it but often we're not given the chance to have the feedback. I think that's really important because we've had a lot of change and it would be quite nice to have been part of that change. That's where knowledge and feedback is lost, it gets stuck in the middle and doesn't get to the top.

Needs Assessor, DHB 'D'

You want to know you are doing a good job don't you? . It would be good to know how things are going and what difference we are making. Feedback is really important.

Needs Assessor, DHB 'C'

The absence of opportunities to provide and receive feedback was seen as a barrier to maintaining commitment to the *interRAI-HC* tool..

It [communication} would involve some kind of periodic feedback loop I think to say you are on track or you're not on track because it's quite hard to keep going when you don't get that at all.

interRAI Project Manager, DHB 'D'

Bottom up written feedback in the form of reports was considered an important means of building organisational learning, capability and general change readiness.

Monthly reports go up to management and these often contain learning and experiences.

Core Trainer, DHB 'A'

6.6.3 Organisational support

The study found that maintaining stakeholder acceptance and commitment to change during the adoption of the *interRAI-HC* tool depended to a great extent on stakeholders' belief in principal support developed during the pre-introductory phase of change being transformed into certainty of principal support from the DHB. Findings suggest this is achieved chiefly through the provision of allocated resources and time to achieve the desired change, the support of champions, the maintenance of a stable working environment and the speedy resolution of emerging problems.

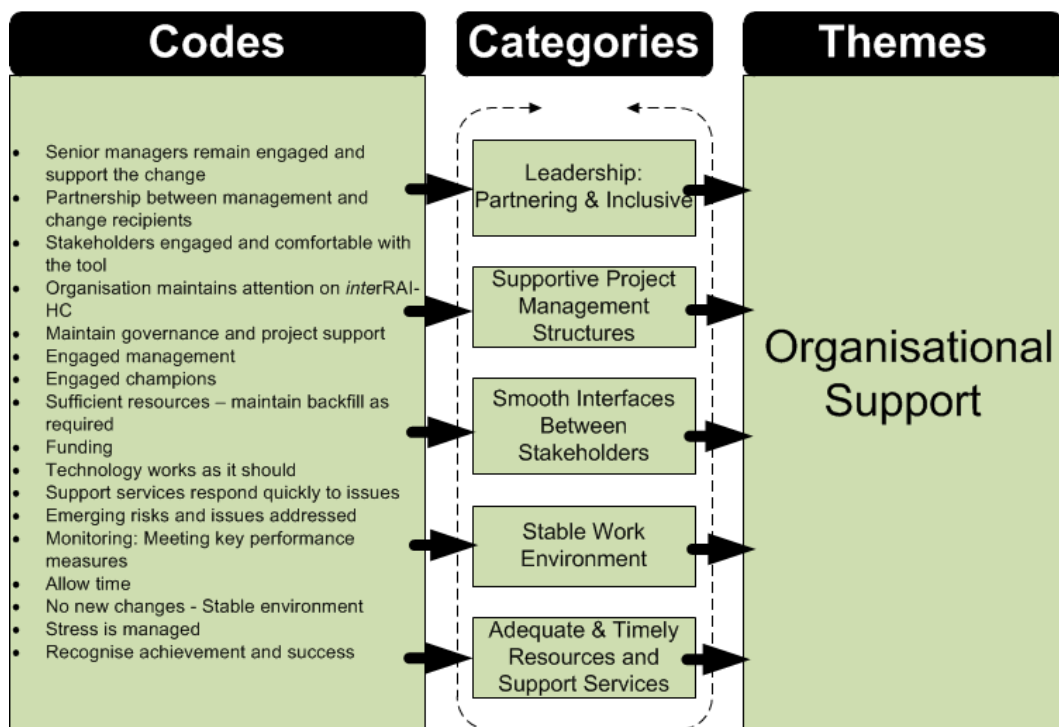


Figure 21: Step three, organisational support during adoption?

Change recipients in particular, stressed the importance of monitoring the adequacy of resources and technical support during the transition from pre-introduction to the adoption of the *interRAI-HC* tool. Resources and support were considered essential not only to achieve the planned adoption but to address emerging problems and residual risks and issues. Participants identified the principal resource elements of organisational support for the implementation of the *interRAI-HC* tool as a budgeted contingency fund, additional staff to support change recipients, the continued support of the DHB's Information Technology Support Services and the allocation of sufficient time to achieve competency in the tool.

On-going financial support, IT support and continued training and monitoring of assessor performance is essential to successful transition to business as usual. Management needs to acknowledge that time and effort is required to attain and maintain competency in the tool.

Corer Trainer, DHB 'A'

The IT department needs to remain fully engaged to address system issues.

Needs Assessor, DHB 'B'

The failure of some participating DHBs, particularly DHBs 'C', 'E' and 'F' to provide the necessary resources to support staff during the adoption of the *interRAI* HC tool led to intense work pressure, frustration and stress, which impacted negatively on acceptance and commitment to the change.

The pressure of work and the lack of IT support and lack of time allocated to implement the tool properly meant that people just stopped using it.

Needs Assessor, DHB 'E'

The pressure to maintain normal workflow caused many needs assessors in DHBs 'C', 'E' and 'F' to abandon the *interRAI*-HC tool, particularly when workloads reached a high intensity.

Why were staff so resistant to interRAI? I think it was related to the time it takes to do an interRAI assessment compared to the old SPA assessment. It took too long and staff went back to the old SPA just to get the work done.

Operational Manager, DHB 'C'

Technology failures were compounded in DHBs 'C', 'E' and 'F' by inadequate technical and logistical support from the DHBs' Information Technology services.

We had a collision of dedication actually, they [the Information Services Division] didn't have the capacity to support us.

Local Policy Manager, DHB 'C'

These issues impacted on change recipients' ability to perform their daily work, causing frustration which reduced their acceptance and commitment to the *interRAI*

HC tool. It also led to declining belief in the organisation's commitment and capacity to achieve change.

The pressure of work and the lack of IT support and lack of time allocated to implement the tool properly meant that people just stopped using it. We kept losing internet connections which did not help buy in for the long run.

Needs Assessor, DHB 'E'

We get lots of IT issues and if they don't get fixed then we don't use the tool.

Needs Assessor, DHB 'C'

In contrast the Information Technology Support Services in DHBs 'A' and 'D' were engaged and supportive immediately technology issues became apparent, helping to maintain belief in the organisation's commitment and ability to fully adopt (and assimilate) the tool.

The IT department was just great. They really got on board with it, they've been very supportive and worked hard to make all those things work and had a good relationship with the software vendors in Canada as well. I think they (the NASC service) have done that turnaround and got on board too.

interRAI Project Manager, DHB 'D'

The importance to maintaining change readiness of continuing to provide a stable working environment throughout a planned change event is addressed in section 6.5.6, while findings related to the role of champions are described in section 6.5.7. Findings suggest that in order to be effective during the adoption (and assimilation) of the *interRAI*-HC tool champions should not only provide advice and advocacy, but work alongside those impacted by change and use their expertise to aid adoption and resolve issues.

It's also really important that champions work with the assessors and help get things done. We didn't get that kind of support from ours.

Operational Manager, DHB 'C'

Findings also suggest that medically qualified champions may be no more (and perhaps less) effective than business champions in facilitating changes such as the

interRAI-HC tool into health services such as the NASC service where direct and interactive contact between doctors is limited. Key middle managers committed to implementing the *interRAI-HC* tool were successful agents of the tool's assimilation in DHBs 'A' and 'D'.

6.6.4 Project management process – controlling the change

The study found that while an engaged project management structure facilitates adoption, the focus of the project management approach to managing change events such as the *interRAI-HC* tool shifts from structure and process to controlling and supporting the change event during the adoption of the tool.

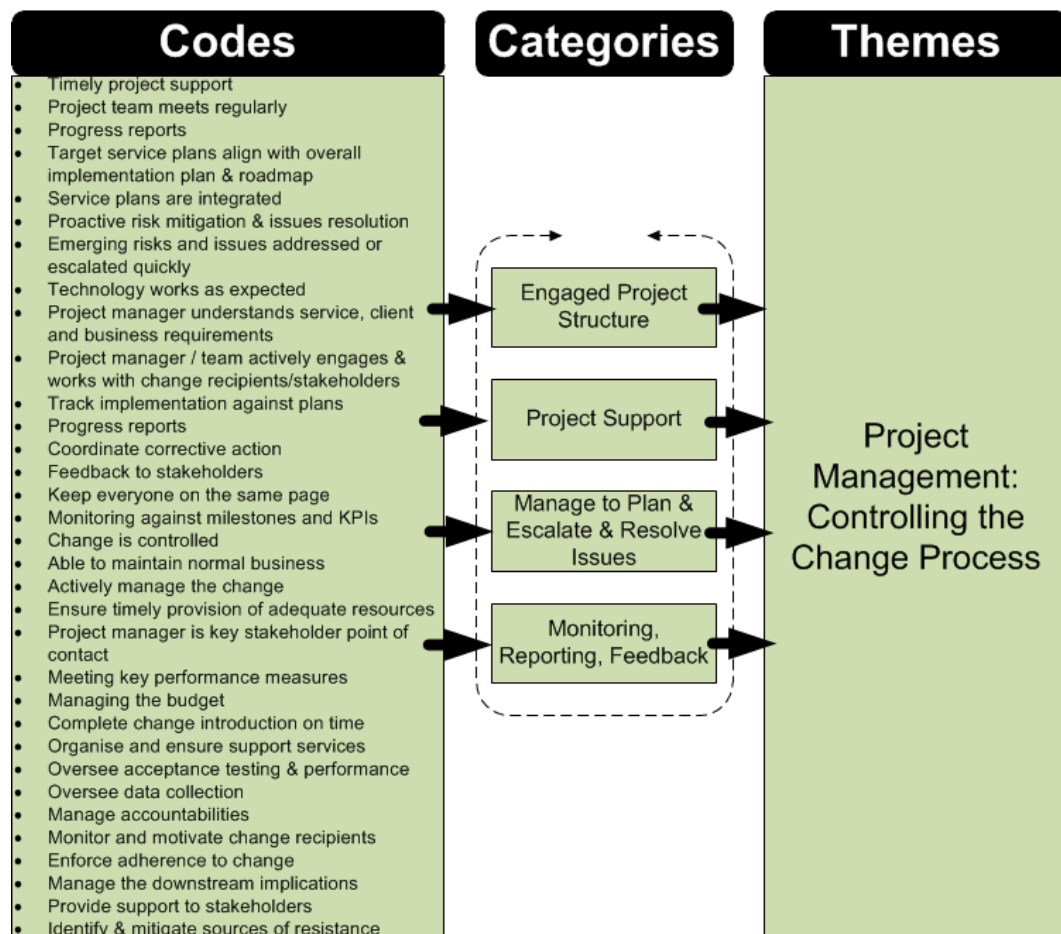


Figure 22: Step three, project management process control?

The research found that an engaged, active and supportive Project Board and project implementation team enhanced change recipient belief in the organisation's support

and commitment to implement the *interRAI*-HC tool and this increased their own commitment to the tool.

I think it important not to underestimate the difficulties in change. It is really important for the project manager and the interRAI project implementation team to work with the assessors, to roll up their sleeves and get their hands dirty. This did not happen at [DHB 'C'].

Operational Manager, DHB 'C'

In contrast to DHB 'C', the project implementation groups in DHBs 'A' and 'D' worked with change recipients. These groups monitored and ensured the availability of resources and alignment of the *interRAI*-HC tool's implementation with the project implementation plan, the change timeline and key milestones. The group in DHB 'D' monitored and reported progress to the Project Board and both groups remedied (or escalated in the case of DHB 'D') issues and deviations from the project plan.

The Project Team met regularly to assess progress against plan, allocate resources, address issues, receive reports on progress against plan and keep the project on track and ensure goals and timeframes were met, provide project support and agree and coordinate corrective action where required.

Operational Manager, DHB 'A'

When things were going, when we were at RAG stages you know red, amber and green when we were heading toward issues we could highlight issues up, escalate them. If we were in Red or Amber over an issue like in terms of a time frame we could escalate it up, you know, because we had the structure.

Operational manager, DHB 'D'

This study found that those participating DHBs that established an engaged and supportive project management structure that used project management processes to monitor, control and support the adoption of the *interRAI*-HC tool were successful in achieving full adoption of the tool into target services. The project management approach was found to enable the development of stakeholder (particularly change recipient) commitment and belief in the organisation's ability to adopt the *interRAI*-HC tool successfully.

6.6.5 Building capacity, capability and belief

While continuing to develop change recipients' acceptance and commitment to change and their cognitive readiness for change, full adoption requires them to develop the knowledge, skills and attitudes enabling a standardised, comprehensive assessment of the client and their contribution to the realisation of benefits.

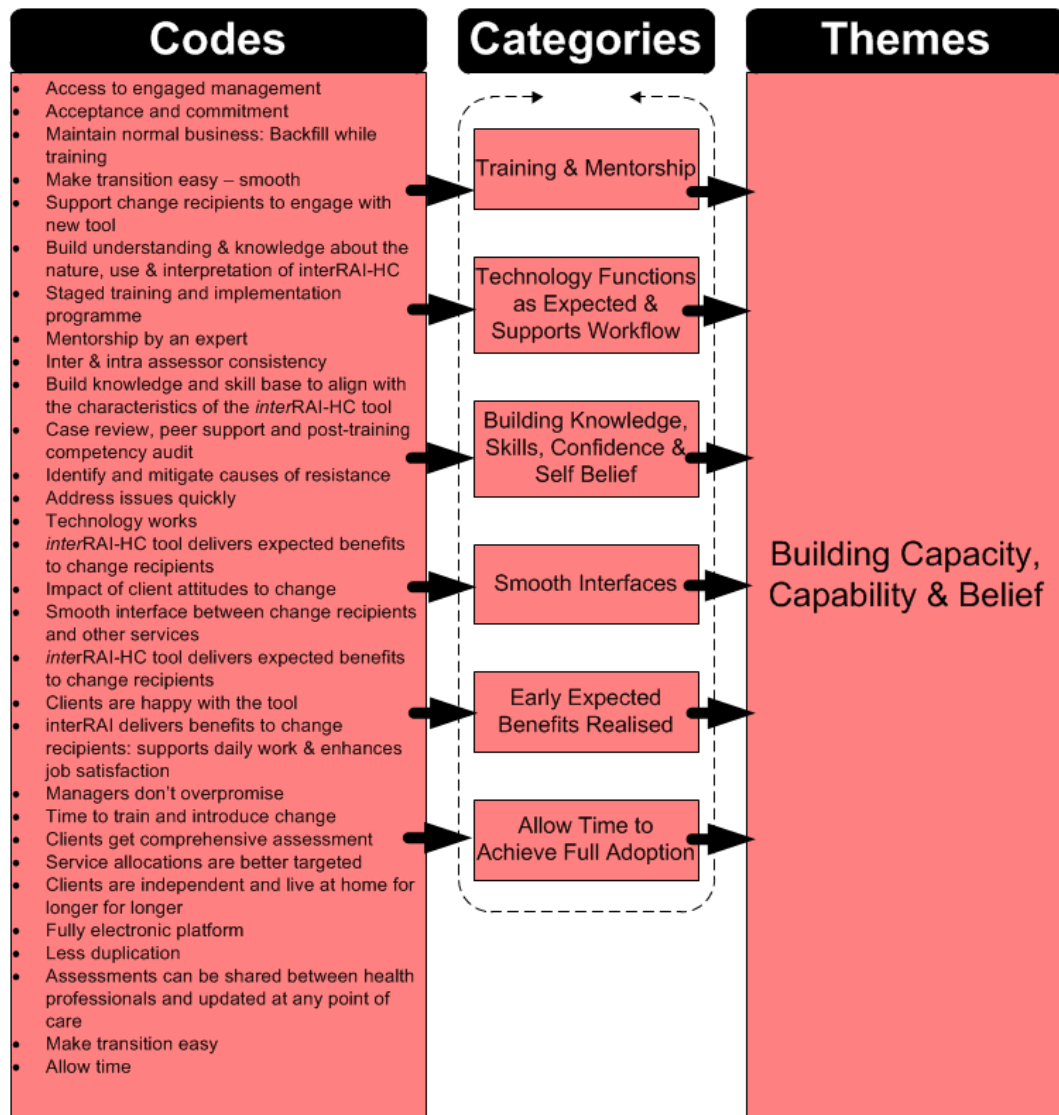


Figure 23: Step three, building capacity, capability and belief during adoption?

Participants agreed that readiness to fully adopt the *interRAI-HC* tool is critically dependent on continuing training, mentorship and competency development that strengthens change recipients' commitment and their belief in their capacity and

capability to master the tool (self-efficacy). Creating self-efficacy involves developing cognitive and affective characteristics that build readiness to adopt the tool successfully and make the change permanent. This study found that cognitive and particularly affective readiness to both fully adopt and assimilate the *interRAI-HC* tool is dependent on the characteristics of the tool and its utility to change recipients and their clients. This means change recipients' experiences of the tool are critical to full adoption. Creating positive experiences during the adoption of a change event is thus critical to its success. As the characteristics and experiences of the *interRAI-HC* tool influence readiness to both adopt and assimilate a change event, the findings related to these aspects of the tool will be presented in section 6.7 (Step Four; readiness to assimilate the *interRAI-HC* tool) and specifically section 6.7.3. It is noteworthy that many executive managers regarded ownership of the *interRAI-HC* tool by change recipients rather than change readiness as the most important element in moving through pre-introduction preparations and adoption to assimilation of the tool. It seems these managers expected ownership to precede change readiness, however this study suggests lasting ownership of a change event by change recipients develops from change readiness and positive experiences of the change.

Management can support change and the implementation of new technology and process but the service needs to own the implementation. If the service doesn't take ownership it won't work. And its ownership by influential champions really. So it's those people who can make it happen. InterRAI I think had strong ownership from within the business unit.

Executive Manager, DHB 'D'

Ownership implies not only acceptance and commitment to change but the acceptance of accountability for performance and outcomes. This requires confidence that the outcomes can be achieved. Findings from this study suggest that some executive managers may confuse ownership with championship and that what might be considered ownership by some dissipates rapidly if acceptance and commitment are diminished significantly at any stage of a change event.

Developing appropriate skills and knowledge

Participants agreed that the *interRAI-HC* tool is complex and change recipient readiness to use the tool requires the development of a more clinical (rather than social) approach to the client. As indicated in section 6.5.6 (Planning) only DHBs 'A', 'B' and 'D' developed robust training programmes which included a staged approach to developing the cognitive readiness of needs assessors for the adoption of the *interRAI-HC* tool.

During the adoption of the *interRAI-HC* tool, needs assessors were only allowed to progress to independent assessment of clients after five supervised client assessments completed to the satisfaction of the *interRAI-HC* trainer. Random reviews of assessor performance against competency standards were introduced to maintain the quality of assessment.

We're doing what is recommended in the training (manual) that every month five assessments are randomly reviewed and discussed against the competencies and the information is being sent back to the staff around them. It is very motivating.

Operational Manager, DHB 'D'

The quality of training was regularly reviewed and updated in the light of learning as adoption and assimilation of the *interRAI-HC* tool progressed. Regular case reviews, post-training competency assessment and feedback to needs assessors on their performance built change recipients' confidence both in the administration and interpretation of the tool and in their ability to successfully achieve the desired change (self-efficacy).

We're reviewing the whole process around it (training) and therefore what needs to be done, what information needs to be given in the training. And that we learn those competencies needed for new staff so that they are getting good information around it. The assessment part is one part of it, how they coordinate the services is still just as important.

Operational Manager, DHB 'D'

Regular service wide competency audit during the adoption of the *interRAI*-HC tool was considered important in achieving assessor competency, inter-assessor consistency, reliability and service quality over time in both DHB ‘A’ and DHB ‘D’.

We found that once people were trained in interRAI they thought they were masters at it. However audit showed there was slippage in assessment quality a few months after training.

Core Trainer, DHB ‘A’

The reportedly poor level of training and support in DHBs ‘C’, ‘E’ and ‘F’ contributed to the failure of these DHBs to adopt the tool successfully.

The super-users were not given extra time to become expert in the tool. A massive training manual was available to super users but we got nothing. I reverted back to the old assessment tool as it was difficult to get what I wanted from the interRAI tool.

Needs Assessor, DHB ‘E’

Mentoring and peer support

Mentorship and peer support provided in DHBs ‘A’ and ‘D’ during the adoption and assimilation of the *interRAI*-HC tool built change recipient confidence and commitment. These processes enhanced individual and work group belief in their ability to administer and interpret the tool effectively and develop a sound assessment of the client.

Mentorship is important [to assessor confidence] so that they can see the difference with the way they might have done a needs assessment before and the information that they’ve now got by going through that whole assessment [with a mentor].

Operational Manager, DHB ‘D’

You’re making quite big decisions sometimes and you need a bit of guidance I think. Our trainer has totally been there for us. We always feel that we can ask her things.

Needs Assessor, DHB ‘D’

In contrast, the lack of peer support, mentorship and competency audit in DHBs ‘C’, ‘E’ and ‘F’, during the attempted adoption of the *interRAI*-HC tool contributed to its discontinuation by many change recipients.



The super-users and trainers moved on so there was no one left to champion it. Out of ten trainers we only had two left using the tool at the end. I reverted back to the old assessment tool as it was difficult to get what I wanted from the interRAI tool.

Needs Assessor, DHB 'E'

In DHBs 'A', 'B' and 'D', mentorship, peer support, competency audit and constructive feedback to needs assessors on their performance with the *interRAI-HC* tool built cognitive readiness for full adoption. Positive feedback reinforced both their belief in self-efficacy and positive attitudes towards the tool. These processes also improved inter- and intra-assessor reliability, standardisation of assessment and assessment quality. These improvements together with positive experiences with the *interRAI-HC* tool contributed to change recipient readiness for its assimilation into daily work routines.

6.6.6 Readiness to fully adopt a change event: Key points and the development of SoRT

Findings indicate that during the physical adoption of a change event the focus of efforts to create and build change readiness should be at the level of the work groups and individuals impacted by the change. These work groups and individuals may be both internal and external to the organisation. While building acceptance and commitment to the planned change remains important, findings indicate there should be a significant shift to increasing other aspects of change readiness. These aspects include change recipient cognitive readiness (their capacity and capability to use the tool) and their belief both in their ability to achieve the desired change and in the organisation's ability to achieve change successfully. These are achieved at the individual and work group levels through continuing, relevant training, mentorship, peer support and competency audit and at the organisational level through the provision of adequate organisational support to fully adopt the change. Adequate organisational support includes the provision of a stable working environment free of other significant change, the provision of adequate resources to achieve the planned change, mechanisms to control the change process and escalate unresolved issues, engagement and feedback opportunities with executive managers and the management of expectations. Findings indicate that enthusiasm for the full adoption of a change event is increased if early expected or even unexpected benefits are

realised (such as improvements in the standard of assessment), particularly if these benefits accrue to change recipients themselves or their clients.

Table 22 shows the contingencies and themes that influenced change readiness to fully adopt the *interRAI-HC* tool and the key questions derived from the research that relate to organisational, work group and individual change readiness to fully adopt the tool. These contingencies, themes and key questions were used to develop Section Three in the SoRT, related to assessing organisational change readiness to fully adopt a planned change event.

Table 22: Developing SoRT - Organisational change readiness to fully adopt a change event; contingencies, themes and associated questions

Contingency Variables	Change Readiness During Introduction and Adoption of Change Event
Resistance to change Loss of key staff	Project Management – Change Process Control <ul style="list-style-type: none"> • Is the Project Board continuing to support the change? • Is the Project Manager demonstrably knowledgeable and effective? • Are allocated resources (including support services) provided at the expected level of support? • Are allocated resources provided to change recipients in a timely way? • Are emerging issues resolved or escalated quickly?
Leadership style	Leadership <ul style="list-style-type: none"> • Are senior managers providing support and recognising success?
Strategic alignment of change with policy intent Presence of other adopters	Communication and Engagement <ul style="list-style-type: none"> • Are internal and external clinical and business champions and trainers continuing to engaging stakeholders effectively? • Are knowledgeable senior managers engaging with stakeholders regularly, particularly those affected by the change?
Organisational culture & structure Key resources	Organisational Support <ul style="list-style-type: none"> • Are the resources and support services provided consistent with change messages? • Is the organisation acknowledging the concerns and efforts of change recipients?
Task structure Fit of change event with target services Existing / recent change Change recipient change history Change recipient qualifications, skills, attributes, beliefs Client / other health professionals' attitude to the change event	Building Capacity, Capability and Belief)Workforce Readiness) <ul style="list-style-type: none"> • Do those affected by change accept, commit to or own the change? • Are those affected by the change reverting to previous practice? • Are those affected by the change demonstrating competency? • Is retention of key staff (expert users and trainers) an issue? • Are change recipients experiencing the expected benefits of change?

6.7 Step Four – Change readiness to assimilate the change event

Step four is the creation of organisational readiness to assimilate a planned change event. Table 23 shows the number of codes and categories that were collapsed into each of the four themes identified as influencing the creation and development of organisational readiness to assimilate the *interRAI*-HC tool. These themes relate to characteristics and activities at all organisational levels that influence readiness to assimilate the *interRAI*-HC tool.

Table 23: Themes influencing change readiness to assimilate *interRAI*/HC tool

Codes	Categories	Themes
18	4	Communication and Engagement (Figure 24)
17	4	Organisational Support (Figure 25)
32	6	Building Capacity, Capability and Belief in the ability to achieve change successfully (Figure 26)
26	4	Demonstrating Benefits (Figure 27)

6.7.1 Communication and engagement

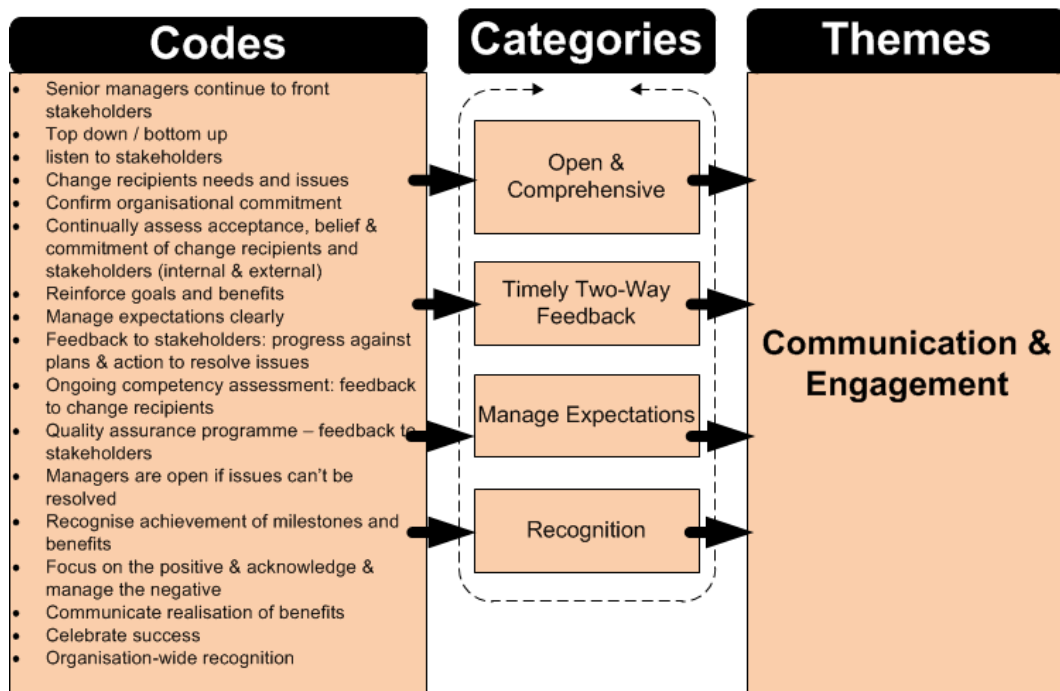


Figure 24: Step four, communication and engagement during assimilation of the change event?

Change recipients in DHBs 'A', 'B' and 'D' stressed the need to continue engagement and communication between executive managers and stakeholders after full adoption of the *interRAI-HC* tool into target services. Continued engagement was seen to signal continued organisational commitment to the tool which reinforced stakeholder commitment at the individual and work group levels in the event of persistent and unresolved issues. Regular feedback from management to stakeholders about the achievement of milestones and benefits and organisational efforts to resolve outstanding issues was found to maintain change recipient commitment and belief that assimilation would be successful. The lack of engagement, feedback and positive reinforcement of the *interRAI-HC* tool contributed to reducing change recipient commitment in DHBs 'C', 'E' and 'F', which failed to assimilate the tool.

[Managers] should motivate and feedback to users and clinicians around the outcomes achieved and the improvements required as the implementation progresses. This keeps people motivated. For example, a tool can go somewhere but we never hear the outcome. I sent assessments to the NASC for service coordination but I never got

feedback on how my assessment informed service allocation and delivery or how it affected client outcomes.

Needs Assessor, DHB 'E'

Not receiving feedback on how the implementation is going and whether benefits are being achieved also makes it hard to support it

Geriatrician, DHB 'C'

While DHB "B" was successful in assimilating the *interRAI*-HC tool by contracting NASC services to an external party, NASC staff in that service complained about the lack of feedback from DHB managers on the realisation of benefits expected from implementing the tool. It seemed to change recipients that having contracted the NASC service out, DHB managers no longer considered the service part of the DHB's operations.

We have not been provided with any feedback from the Planning and Funding division on how it has gone and we have had no feedback about how implementation has gone in other DHBs. It would be nice to get statistics from the DHB on entry to aged residential care, falls and fractures of neck of femur in the community and hospital admission and length of stay.

Operational Manager, DHB 'B'

The study found that continued engagement between managers and stakeholders demonstrates on-going organisational commitment to the change and support to change recipients.

It is important to continue to listen to the staff affected and to address outstanding issues. It is also important to celebrate success and recognise staff have done a good job. Most of this is not well done in this organisation unfortunately.

Operational Manager, DHB 'C'

Recognition of successful assimilation

Only participants in DHB 'D' reported that senior management recognised and communicated the NASC service's achievement in assimilating the *interRAI* HC tool to the whole organisation. This confirmed the importance of the change event to the organisation and to those involved in the achievement of the change. This formal

recognition of success by senior managers reinforced the DHB's and change recipients' commitment to the tool, created positive feelings towards the organisation in change recipients and signalled organisational acceptance that the change had been achieved.

Both the launch and the celebration of completion of the project was really a critical time. The chief executive provided certificates to the people involved with a lot of leaders of the organization being present. I think this affirmed that this was seen to be an important service development and important achievement in this organisation.

Executive Manager, DHB 'D'

Managing expectations

The careful management of expectations during the adoption and assimilation of the interRAI-HC tool emerged as a significant communications factor in commitment to assimilate the *interRAI-HC* tool. Participants indicated that many of those communicating change messages demonstrated a lack of understanding of the *interRAI-HC* tool and what could be achieved by its implementation.

People think it's the be all and end all of everything and it's not. It does an enormous amount that we couldn't do before and we need it to do optimal care planning but it doesn't do everything.

Local Policy Manager, DHB 'B'

Participants were clear that managing stakeholder expectations begins at the pre-introduction stage of change and becomes more important as the change event progresses. It requires a thorough understanding by those communicating the change messages of what can and what cannot be achieved within the scope and constraints pertaining to the change.

What it does and what it doesn't do and what it does for them {change recipients} like how it impacts on their practice. So it's got to be orientated to their environment rather than this is what this tool does and isn't it wonderful. Like this is how it fits into your scenario.

Local Policy Manager, DHB 'B'

Regular reinforcement of change expectations throughout the change process was considered essential to ensure stakeholders did not develop inappropriate or unrealistic expectations.

We had meetings and you talk whenever you get the chance to talk. We talked to home-based support providers, Grey Power and the reference groups for older people so they'd know what to expect.

interRAI Project Manager, DHB 'D'

All stakeholders need to continue to have a good idea of how interRAI assessment can integrate with their service delivery.

Operational Manager, DHB 'C'

Findings related to communicating and reinforcing change messages that describe benefits that cannot be realised within the scope of planned change are contained in section 6.7.3.

6.7.2 Organisational support

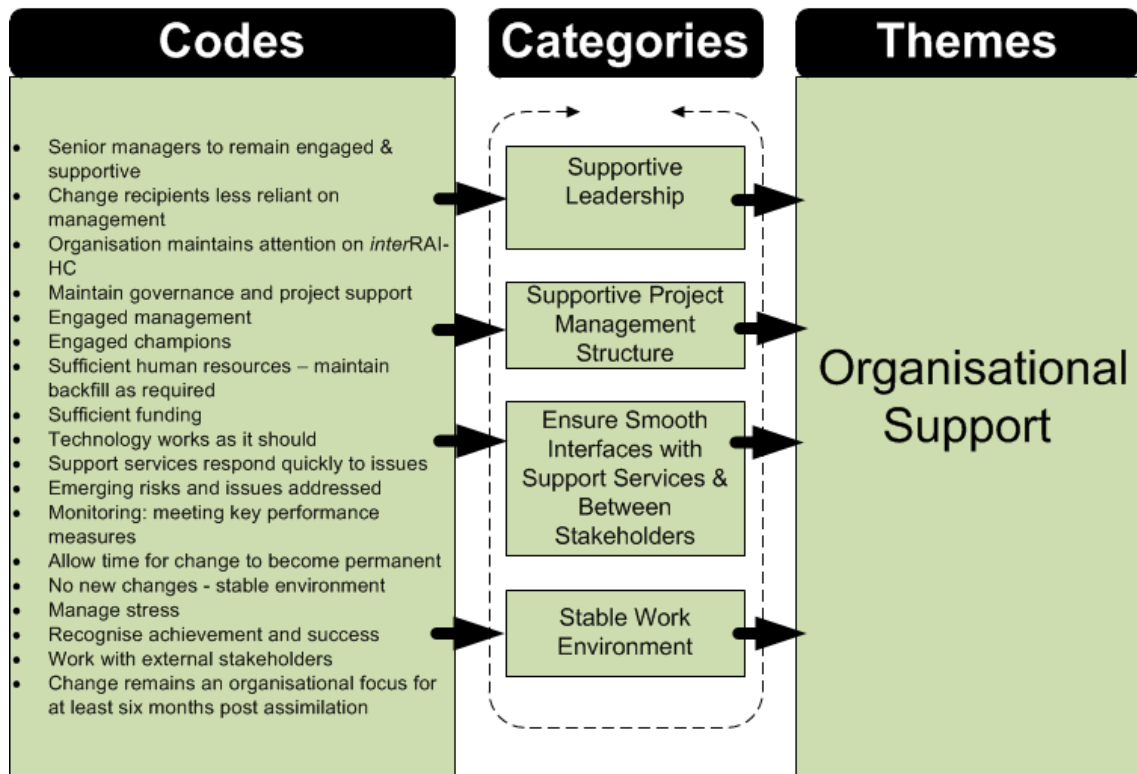


Figure 25: Step four, organisational support during the assimilation of the change event?

Participants, in particular change recipients, stressed the importance of continuing to both provide a stable work environment and monitor the adequacy of resources and technical support during the assimilation of the *interRAI-HC* tool. Many noted that assimilation of a complex change such as the *interRAI-HC* tool can take a considerable time and that there remained a risk that problems could emerge during this phase of change. They indicated that these factors should be recognised by organisational leaders.

On-going financial support, IT support and continued training and monitoring of assessor performance is essential to successful transition to business as usual. Management needs to acknowledge that time and effort is required to attain and maintain competency in the tool.

Corer Trainer, DHB 'A'

The IT department needs to remain fully engaged to address system issues.

Needs Assessor, DHB 'B'

Organisational leadership during assimilation

While participants still wanted direct engagement and feedback with executive management to continue up to the assimilation of the *interRAI*-HC tool, engagement with executive leadership did not emerge as a distinct theme in creating change readiness to assimilate the *interRAI*-HC tool. Instead it was found to be seen rather more as a category of the themes of organisational support and communication and engagement. Executive managers were expected to provide recognition of the achievement of key performance indicators and benefits and feedback on organisational efforts to resolve outstanding issues. Demonstrable organisational efforts to resolve remaining issues continued to reinforce change recipient commitment to make the change permanent.

There needs to be regular communication and feedback [with senior managers] on what is being achieved and the resolution of any outstanding issues.

Core Trainer, DHB 'A'

That organisational leadership did not emerge as a distinctive theme, but was subsumed into organisational support suggests that change recipients were becoming comfortable with the change, more able to resolve problems independently and less reliant on executive managers for support and the resolution of issues. It suggests change recipients were ready to move from understanding, acceptance and commitment to self-efficacy and ownership of the change as a workplace routine.

Project Process End Stage Control

This study found that the maintenance of a project management approach also did not emerge as a distinct theme associated with the assimilation of change. It too, was subsumed into the theme of organisational support. There was general agreement among participants that transition from full adoption to assimilation of the *interRAI*-HC tool is a critical phase which may fail because change events are often not monitored and supported through to completion.

There is always a lot on in health. Moving on to new projects and forgetting to maintain the ones already done leads to breakdowns, especially in the early stages of transition to business as usual. Lack of attention at the post project phase often leads to failure.

Executive Manager, DHB 'C'

Many participants at operational management and at the service delivery level in DHBs 'A' and 'D' suggested that project governance and support systems should remain in place for at least six months after the *interRAI*-HC tool is deemed assimilated into daily working practice. This was considered necessary to manage any further emerging issues, including the allocation of any additional resources required. Both DHBs "A' and 'D' maintained project implementation and governance (DHB 'D' only) groups for an extended period following successful assimilation to monitor and ensure the permanency of the *interRAI*-HC tool's implementation.

The steering group or project executive group and Project Manager should continue to own the outcome. But this ownership should be quickly transferred to the services using the tool to ensure embedding as business as usual. Issues arising during this phase should be addressed quickly.

Local Policy Manager, DHB 'A'

DHBs 'A' 'B' and 'D' were successful in assimilating the *interRAI*-HC tool into the target service while DHBs 'C', 'E' and 'F' were not (DHB 'B' contracted the NASC service to an external party). Findings suggest that functional, integrated, project management structures and process were significant enablers in maintaining and building organisational, work group and individual change readiness to assimilate the *interRAI*-HC tool. Findings show that organisational understanding and use of project management principles can build significant capacity to undertake change.

So I think that it's not just enough to appoint a project manager and a project manager knows how to work. Having an organisation who understands reporting by exception so that we need something done now and base lining things once we've agreed some start points. So with a time frame if we were going to go over by having a process for change about the time frame going over we managed it. And then once you've got that signed off you base lined again. Having that understanding in the organisation I think was useful.

Operational Manager, DHB 'D'

The study indicates that failure to establish structures and support processes to address emerging issues contributed to failure to fully adopt the *interRAI*-HC tool at DHBs ‘C’, ‘E’ and ‘F’. The experience of DHBs ‘A’ and ‘D’ shows that many of the issues that arose in other participating DHBs could have been anticipated or addressed relatively quickly through escalation if appropriate structures and processes had been in place.

We actually delivered on time, on budget. All of the things that we said we’d deliver because of that project methodology.

Operational Manager, DHB ‘D’

6.7.3 Building capacity, capability & belief – assimilating the change

Findings show that building organisational and stakeholder capacity, capability and efficacy continues long after the *interRAI*-HC tool has been assimilated into normal business processes. These activities become part of efforts to improve service quality and develop individual competency and expertise.

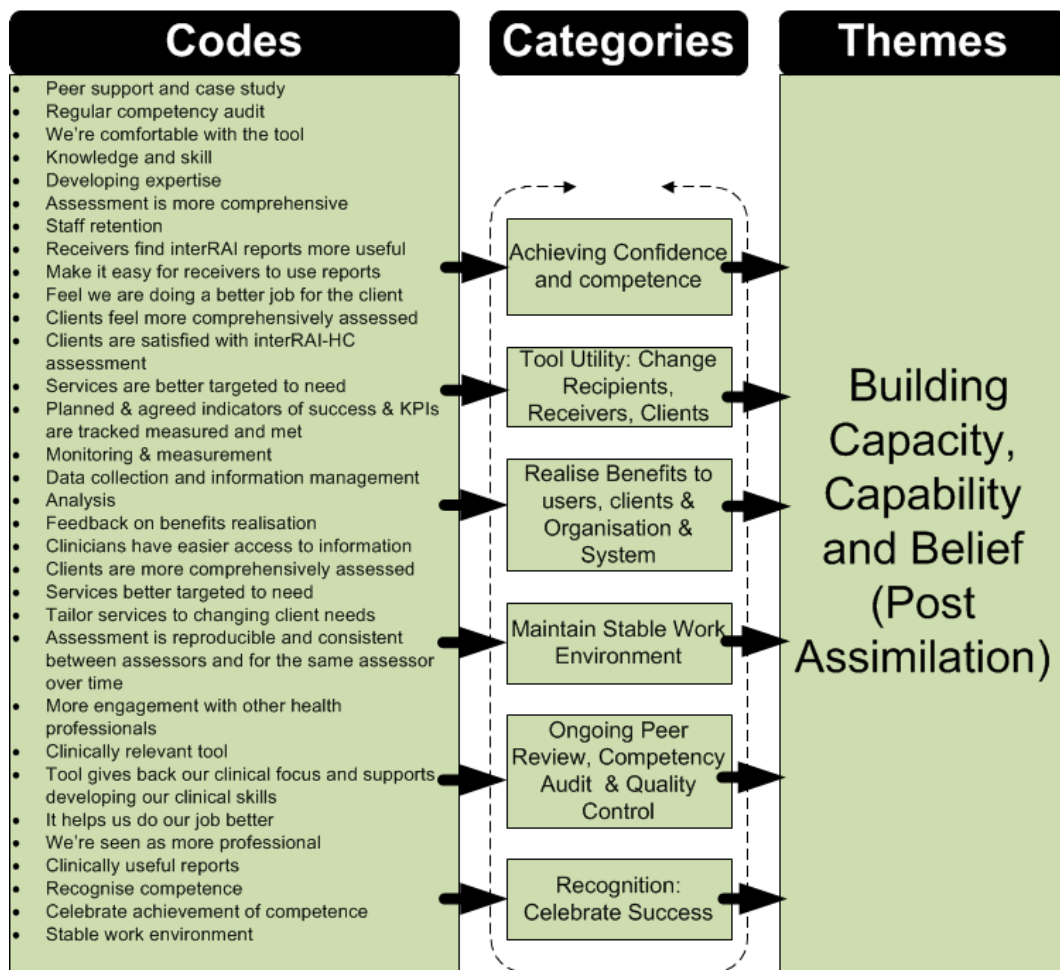


Figure 26: Step four, building capacity, capability and belief to assimilate the change event?

Achieving confidence and competence

Participants agreed that continuing mentorship, peer review and case review during and after the assimilation of the *interRAI-HC* tool develops user confidence in both the tool and their ability to administer it in a way that achieves a comprehensive, standardised assessment of the older person across the assessment service.

Our mentorship, peer support and case reviews are designed to get the basics right. We need to use the tool in the right way and achieve consistency in assessment across the service. We are building our skill base around assessment and capturing information in a consistent manner. Every month five assessments are randomly reviewed and discussed against the interRAI competencies and the feedback is sent to staff to build our competence.

Operational Manager, DHB 'D'

Clinical staff and operational managers indicated that it took four to six months for users to become fully competent and assimilate the *interRAI*-HC tool into service delivery.

Those assessors who used the tool longer than 6 months and became proficient in it would not want to go back to using the old SPA tool.

Local Policy Manager, DHB ‘A’

These findings highlight the importance of allowing time for change recipients to develop confidence and competence in the *interRAI*-HC tool and fully assimilate it into daily work routine.

Ongoing peer review, competency audit and quality control

In the case of DHBs ‘A’ and ‘D’ post-assimilation peer review of assessments and competency audits enabled service managers to give feedback that motivated needs assessors to improve performance and increased their belief in their ability to provide a professional, quality assessment. Achieving improvements in service quality was found to increase change recipients’ sense of professionalism, resulting in positive attitudes and emotional responses to the tool.

*There needs to be regular communication and feedback on what is being achieved. There should be quality audits every six months to improve service. Expert advice is that slippage in assessor performance occurs after 4 – 6 months so competency assessment tools must be used to assess how good an assessor’s knowledge and application of the *interRAI* tool is. The whole service is more transparent and professional.*

Core Trainer, DHB ‘A’

***InterRAI*-HC tool characteristics and utility**

Many participants reported that characteristics of the *interRAI*-HC tool and perceptions of its utility influenced its acceptability to users and thereby their confidence, commitment and readiness to adopt and assimilate the tool. These characteristics and perceptions included its alignment with the knowledge, skills and beliefs of users, perceptions of its advantages, its fit with the choice of target services,

its ease of use, change recipients' perceptions of the benefits and risks to clients of using the tool and its utility to both users and clients.

Alignment with the knowledge, skills and beliefs of users

Change recipients had mixed views about the *interRAI*-HC tool depending on their professional backgrounds and the ease with which the tool integrated into their daily work. Positive perceptions of the *interRAI*-HC tool were strongest in those users with nursing or allied health backgrounds. These staff found the clinical, evidence based nature of the tool and its objective and comprehensive identification of clients' disability support needs aligned with their knowledge, skills and beliefs regarding client assessment

The whole service is more transparent as other clinicians have easier access to information on our clients. Professional standards are improved, what we produce and how we produce it is improved and we are seen as more credible.

Core Trainer, DHB 'A'

Our assessors are clinically trained and they like using the tool and appreciate its evidence base.

interRAI Project Manager, DHB 'B'

Because it's more clinically focused and because they're trained health professionals then it's given them back some of their clinical focus that they weren't utilising by doing the previous needs assessment tool.

Operational Manager, DHB 'D'

In DHB 'C' where most needs assessors lacked clinical backgrounds or believed strongly in a social model of assessment and in DHBs where training and peer support were lacking, perceptions of the *interRAI*-HC tool were generally negative.

It's too clinical. It doesn't look at the social side of the client. The tool does not support our practice which has changed from being more qualitative to being more quantitative in terms of the information collected. We don't feel we know the client as well as we did when we were using the old SPA tool. The tool [interRAI] seems a very medical model of assessment, too medically oriented for some of us and there's not enough emphasis on social aspects. We do not think the interRAI assessment tool is user friendly for the client or the assessor.

Needs Assessor, DHB 'C'

Perceptions of the advantages of the *interRAI*-HC tool

DHB senior managers and local policy managers clearly saw the main advantages of the *interRAI*-HC tool lying in its potential as a business and decision support tool.

It means we get the data to inform service development in a way that supports ageing in place and we get data to help us plan and budget for services that maximise independence and function for older people with disability support service needs and make best use of available resources.

Local Policy Manager, DHB 'A'

I see it as a significant contribution to the decision process and therefore is a strong decisions support tool.

Executive Manager, DHB 'D'

Needs assessors with clinical backgrounds saw the tool as enabling them to assess clients more comprehensively and allocate services better targeted to clients' needs. This enhanced their sense of professionalism and status with other health professionals. Consequently these characteristics of the tool reinforced acceptance and commitment in those change recipients.

*Using *interRAI* made us more aware of what is available to clients by better identifying client needs.*

Needs Assessor, DHB 'A'

Those needs assessors lacking clinical knowledge and skills saw no advantage in changing to the *interRAI*-HC tool.

We don't feel we know the client as well as we did when we were using the old SPA tool. The tool seems a very medical model of assessment, too medically oriented for some of us and there's not enough emphasis on social aspects

Needs Assessor, DHB 'A'

Exaggerated claims of the advantages or benefits of changing to the interRAI-HC assessment tool and the poor management of expectations by senior managers in some participating DHBs resulted in unintended reductions in acceptance and commitment to the tool. Many managers apparently claimed that the tool would provide a single assessment data repository for older people and reduce the number of assessments older people experience. However, the lack of inter-connectivity between the *interRAI-HC* tool and the patient management and data collection systems operating in DHBs rendered this impossible. Negative attitudes towards the tool developed when these benefits could not be realised.

We're just putting it [interRAI data] in lots of different systems which is a bit annoying.

Needs Assessor, DHB 'B'

Change recipients in all participating DHBs reported that some senior managers had indicated the *interRAI-HC* tool would be fully electronic and that assessments would be available at any point of care housing a computer. However, electronic viewing was only available to staff within the NASC services of DHBs 'A', 'B' and 'D' while in DHBs 'C', 'E' and 'F' paper based assessments and reports only were available to change recipients. The failure to implement the *interRAI-HC* as a fully electronic platform reduced commitment and readiness to assimilate the tool in DHBs. 'C', 'E' and 'F'.

We ended up putting hard copies in the patient files but clinicians did not look at these assessments. It is supposed to be an electronic tool but it was not available online most of the time due to system failures. The idea was that the tool could be filed electronically and accessed and updated by other services coming into contact with an older person. This did not happen though.

Needs Assessor, DHB 'F'

These findings support the need for careful management of stakeholder expectations by knowledgeable managers. Indicating benefits to change recipients that cannot be delivered within the scope of change results in the erosion of commitment when these are not realised.

The choice of target service(s)

The choice of target service into which to implement the *interRAI-HC* tool impacted on change recipient attitudes towards the utility of the tool. Participants in DHBs 'B' and 'F' expressed dissatisfaction that they were required to introduce the tool into clinical settings for which the tool was not designed.

We also use it for hospital discharges, which isn't brilliant I don't think.

Needs Assessor, DHB 'B'

We were using the tool in hospital settings as well as community settings and it is a home care tool, not suited for assessing functional capacity in a hospital setting. It was the wrong tool for our use.

Geriatrician, DHB 'F'

Utilising clinical tools in settings of care considered inappropriate by clinical staff had a negative effect on both change recipients' perceptions of a DHB's management and acceptance, commitment and readiness to adopt the *interRAI-HC* tool in DHB 'F'.

Ease of use

Needs assessors, whether clinically trained or not, generally agreed that the *interRAI-HC* tool was not easy to use and took time to learn.

It was hard going at first but we got used to it with practice.

Needs Assessor, DHB 'A'

However, those in DHBs 'A' and 'D' indicated the fully electronic *interRAI-HC* platform established in the NASC service enabled easy updating of client information, increasing the efficiency of their work.

I think we're noticing the successes now. We're up to a year with some of our clients and we're actually now doing their reassessment and starting to update information that we gathered a year ago.

Needs Assessor, DHB 'D'

However, service providers receiving detailed reports from the *interRAI*-HC tool found these unhelpful initially, resulting in negativity towards the tool.

General Practitioners, home based support service providers, rehabilitation services and District Nursing complained that these [full] reports were too long and not particularly useful. We developed and delivered 2 hours of training to receivers on the interpretation of interRAI outputs. This did improve the level of satisfaction with the tool.

Operational Manager, DHB 'B'

In response, the NASC services in DHBs 'A', 'B' and 'D' actively engaged these receivers and worked with them to develop useful reports, increasing their utility and reversing the negative attitudes.

When it (the revised report) went to the homecare providers the feedback was that this is really good, useful information and they could care plan much better.

interRAI Project Manager, DHB 'D'

Thus, working with stakeholders to ensure smooth workflow during adoption and assimilation and continuing to make the *interRAI*-HC tool and its outputs as easy to use as possible increases stakeholder acceptance of the change.

Perceptions of the benefits and risks to clients

Participants in DHBs 'A', 'B' and 'D' agreed that the *interRAI* HC tool was superior to the existing SPA tool in identifying disability support needs and achieving appropriate service allocation.

Well the feedback I got from assessors was that they felt clients were getting more appropriate service allocations following interRAI assessments. InterRAI was reported to be better in informing need and in leading to better targeting of services to meet assessed need. Many assessors said interRAI detected needs more comprehensively than the SPA tool and made them more aware of services that were out there in the community for clients and were referring clients to services that they were not referring to previously.

Local Policy Manager, DHB 'A'

However, tension between the *interRAI*-HC tool's ability to identify additional needs and an inability to meet some of these due to funding constraints caused some dissatisfaction with the tool. Change recipients expressed an ethical concern that the use of *interRAI* HC tool might lead to identifying increasing numbers of clients with unmet disability support needs.

You might say well this is what we think this client needs and yet what we're told is you can only provide is a certain number of things.

Operational Manager, DHB 'A'

This problem was recognised by the MoH.

You could end up with a problem when you assess people but then we don't do anything with it. I'm quite careful not to lead it to say it's going to result in everybody getting the same services because that requires a whole different policy change.

HOP Team Manager, MoH

Client feedback on the tool appeared variable and it is noteworthy that it tended to mirror the attitudes of assessors towards the tool in each participating DHB.

Clients commented that they had not been so comprehensively assessed and that they had confidence in the assessment

Operational Manager, DHB 'B'

The length of time it takes to do interRAI assessments is a barrier and so is the lack of support for tool from clients because we get complaints about how long it is and about some of the questions.

Needs Assessor, DHB 'C'



We also performed a client satisfaction survey and clients reported that interRAI was not an improvement on the old assessment system but they found the assessment rewarding anyway.

Operational Manager, DHB 'C'

There was concern that clients did not understand the full reports generated from the interRAI-HC assessment.

The full assessment is pages of print and clients and families find it too much.

Needs Assessor, DHB 'B'

In response, DHBs 'A' and 'D' developed summary reports which clients and families found more useful, increasing their satisfaction and acceptance of the tool.

We ended up sending clients a summary letter. It's worth noting that as far as clients are concerned it's the services they receive that are important, not the needs assessment.

Core Trainer, DHB 'A'

Maintain stable working environment

Staff retention

In addition to the need for a stable work environment free of other change, many participants in DHBs 'B', 'C', 'E' and 'F' indicated that retention of key staff during the adoption and assimilation of the interRAI-HC tool became a significant issue that negatively impacted workplace stability and capacity, capability and belief in the ability to achieve desired change.

The turnover of staff has been a huge barrier (to successful adoption), it's been about a hundred per cent.

Local Policy Manager, DHB 'B'

Having staff leave that were the drivers of the plan did happen in our DHB. If there is insufficient staff to maintain normal business and implement the change to interRAI then staff buy in is reduced, even leading to resistance to change.

Operational Manager, DHB 'C'

DHB ‘A’ actively planned to maximise staff retention and thereby retain capacity and capability. The Planning and Funding division and the NASC service worked together to identify and address factors that might lead to staff loss following adoption of the *interRAI*-HC tool.

Staff retention is important and high staff turnover leads to a lack of stability in developing expertise in the tool. We have managed to retain our core trainers and our trained assessors by actively engaging them and addressing their issues.

Local Policy Manager, DHB ‘A’

The loss of key staff during adoption and assimilation of the *interRAI*-HC tool increases training requirements and, as in the case of DHB ‘E’, the loss of *interRAI* trainers impacts a DHB’s ability to fully adopt and assimilate the change. Findings show that in addition to compromising change efforts, the loss of trained staff represents waste and should be avoided

Manage resistance

Resistance to change was a factor destabilising the change efforts in the case of those DHBs (‘C’, ‘E’ and ‘F’) that failed to fully adopt the *interRAI* HC tool. Factors leading to the development of resistance included a poor match between the qualifications, knowledge and skills of change recipients and the requirements of administering the tool, the beliefs and attitudes of change recipients towards the tool, poor understanding of the tool, poor training and a lack of organisational support. As the examples of DHBs ‘A’, ‘B’ and ‘D’ show, these factors could have been addressed effectively prior to introducing the tool. This illustrates the importance of creating organisational pre-introductory change readiness. A critical factor in failure to fully adopt the *interRAI*-HC tool in DHBs ‘C’ and ‘E’ was that change recipients were allowed to abandon the tool and return to SPA assessment process. Change recipients in these DHBs sensed that the organisation was not committed to the tool, and this encouraged their resistance to its implementation. The lack of basic computer skills in change recipients in DHB ‘E’ created a lack of confidence in their ability to use the tool. The opportunity to use the existing paper-based SPA assessment tool enabled them to avoid or resist change.

Resistance to change from within the team and between teams is a big issue. We always used the old process and forms alongside interRAI and that worked against change. The new technology was also a challenge. We did not use computers much before interRAI and were completely paper based. Maybe the age of some staff was a barrier in terms of their attitude to change and their willingness to change.

Needs Assessor, DHB 'E'

The high general rate of simultaneous change in some DHBs created an unstable working environment. As a result, staff became change weary and resistant to further change.

The organisation should be aware of other changes going on in the organisation that impact on anything new they want to do. For example with the interRAI implementation there were so many things going on at the same time such as the introduction of the new model of care. The programme was so huge and slow and there were lots of bugs to sort out. It was just so stressful.

Needs Assessor, DHB 'C'

Many participants expressed concern that resistance to change was commonplace in DHBs because it usually attracted no sanction.

In health there are people that go out of their way to make things not work and they sabotage things and there are no sanctions.

Needs Assessor, DHB 'E'

The identification of those resistant to change enables their resistance to be managed. Participants in both DHBs 'D' and 'F' identified key people resistant to change. While change managers in DHB 'D' took steps to mitigate the source, this was not the case in DHB 'F'. The latter DHB further exacerbated resistance by employing needs assessors already resistant to using the *interRAI-HC* tool.

Even though we had the Board sign off we had people who were in a position of power, if you like at decision making level who got to a point where they were wanting to block it. However, having that Board sign off meant that you could actually push from the bottom up.

Local Policy Manager, DHB 'D'

We have a new service manager who does not support it. It has basically fallen over and we've stopped using it. Some of the new staff came over from Wellington as they did not want to continue using it [the interRAI-HC tool] there because they were disillusioned with it

Needs Assessor, DHB 'F'

The presence of key individuals in DHB 'F' resistant to the introduction of the *interRAI-HC* tool and the failure of managers to enforce the use of the tool in DHBs 'C' and 'F' contributed to their failure to fully adopt the *interRAI-HC* tool.

Achieving capacity, capability, confidence and competence

DHBs employing change recipients with beliefs, skills, knowledge and attitudes aligned with the nature of the *interRAI-HC* tool or providing comprehensive training, mentorship, peer support and competency audit to those change recipients lacking these factors were successful in achieving individual and work group self-efficacy and assimilating the *interRAI-HC* tool.

Findings show the nature and characteristics of the *interRAI-HC* tool itself influenced change recipient readiness to adopt and assimilate it into target services. This suggests the tool itself is an important contingency factor modifying the success of change attempts. The perceived utility of the *interRAI-HC* tool was a significant factor influencing full adoption and assimilation of the tool through modifying change recipient acceptance, commitment and belief in the benefits of change. Positive attitudes regarding utility were influenced by user skills, knowledge (cognitive attributes) and beliefs about best assessment practice, the ease of use of the tool and its impact on workflow and clients. Introducing the tool in ways not supported by its evidence base and purpose (e.g. into hospital based services) reduced its acceptance and utility to users, impacting their commitment to achieve change. Failing to achieve the claimed benefits of the tool also impacted negatively on commitment and attitudes to the tool.

6.7.4 Demonstrating benefits

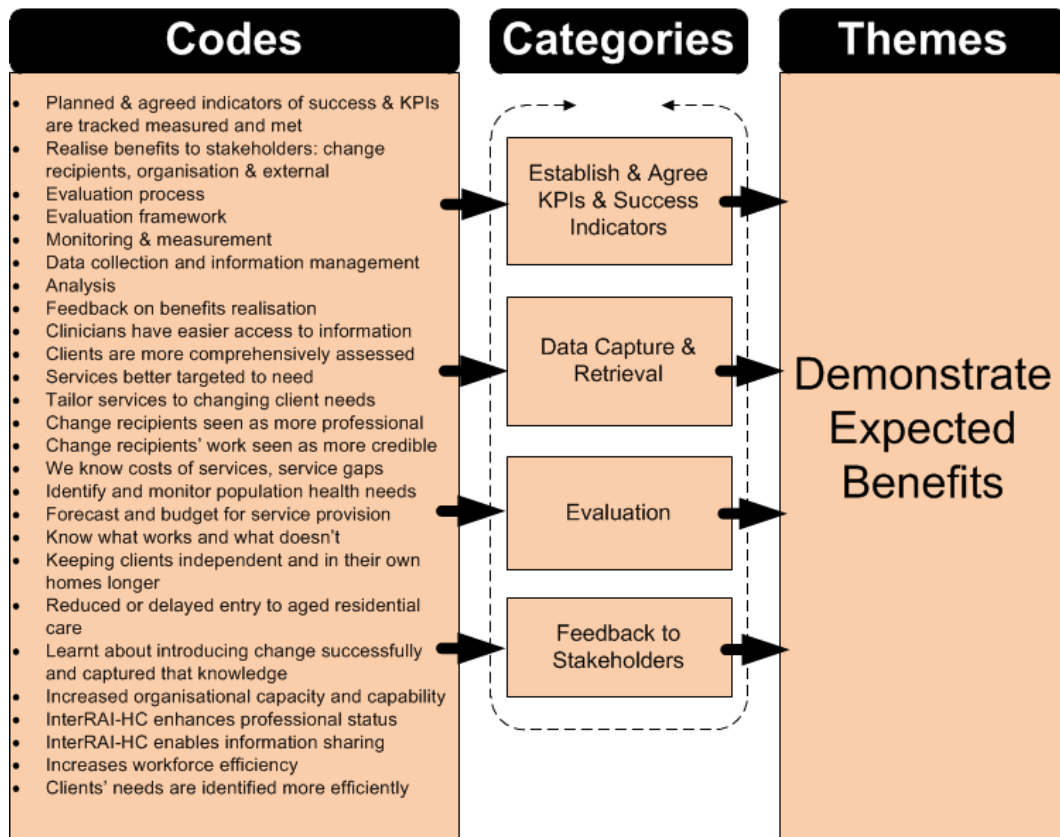


Figure 27: Step four, demonstrating benefits?

The ability to realise the expected benefits of change reinforced change recipients' acceptance and commitment to assimilate the *interRAI-HC* tool and contributed to the development or reinforcement of positive attitudes to the tool.

You need runs on the board. You need to actually achieve some gains and positive gains as you're going along. So you need to plan success at different stages. You need runs on the board so people are rewarded. It's quite important to build rewards

Local Policy Manager, DHB 'B'

Clinicians have easier access to information on the NASC's clients. Professional standards are improved, what we produce and how we produce it is improved and we are seen as more credible.

Core Trainer, DHB 'A'

However, demonstrating benefits requires measurement and evaluation of the change event.

Evaluation: the approach taken by participating DHBs

Participants generally agreed that DHBs need to develop a culture of measurement, evaluation and knowledge management to better demonstrate the achievement of benefits and show service improvement.

We need to change the culture from an estimate of what we think we've achieved to knowledge of what we really have achieved. And then use that knowledge to better improve our processes over time.

Executive Manager, DHB 'A'

We don't do implementation well in the health sector. There are so many groups and agendas to consider and we rarely baseline our data so we often can't identify or quantify the outcomes of change very well and can't measure the effect of our implementation. This seems particularly true of IT projects which seem to me to often be poorly planned and poorly thought out.

interRAI Project Manager, DHB 'B'

Measurement and evaluation provide feedback to stakeholders about the success of a change event and the extent to which expected benefits are realised. Benefits, particularly those that accrue to change recipients or their clients reinforce commitment to assimilate change events.

You need to actually achieve some positive gains as you're going along. It keeps people motivated.

Local Policy Manager, DHB 'A'

However, of the six DHBs participating in this study, only DHB "A" developed a framework to evaluate the implementation of the *interRAI-HC* tool prior to its adoption into the NASC service. Using this framework, the project manager was able to provide feedback to stakeholders about project progress and the achievement of expected benefits. This feedback reinforced change recipients' commitment, self-efficacy and general readiness to assimilate the *interRAI-HC* tool.

DHB 'A': the balanced scorecard

DHB 'A' developed a balanced scorecard (BSC) approach to evaluating the implementation of the *interRAI-HC* tool. The performance perspectives selected to populate the BSC reflected goals pertaining to clients, improvements in NASC service business processes, understanding the costs of service provision and enabling organisational learning and growth. The nature of the BSC developed by DHB 'A' is reflected in the State of Readiness Tool forming Appendix IV to this thesis.

It is noteworthy that there was no organisational requirement to evaluate the implementation. The evaluation was developed and undertaken on the initiative of the local policy manager and in partnership with the NASC service. Also noteworthy is that the evaluation process did not rely on electronic retrieval of assessment data from the *interRAI-HC* tool's remote server. Because the data collected using the *interRAI-HC* tool was stored remotely on a server shared with other DHBs and as the technology remained untested in New Zealand, a parallel paper-based data collection system was devised and kept on site in the NASC service. Building this redundancy enabled data analysis at DHB 'A' when all participating DHBs were unable to retrieve data from the electronic *interRAI-HC* database due to a failure to purchase the software enabling data retrieval. This separate collection of data allowed the project manager to provide timely, relevant feedback to stakeholders when other DHBs were unable to do so.

The client

DHB 'A' collected and analysed data to improve assessment, client services and outcomes.

We wanted to undertake timely, repeatable assessments and better identify and understand client need, standardise assessment, provide appropriate, targeted services, understand service gaps and identify areas where there was no funding streams to support identified or assessed need.

Local Policy Manager, DHB 'A'

[Using our datasheets] We could compare assessors and what interRAI produced in terms of the assessment and service coordination with what was produced using the SPA tool. Using interRAI showed where we could potentially improve services if resources were available. We collected data on which CAPS were triggered and on service allocation.

Core Trainer, DHB 'A'

Business processes

In addition to aligning NASC service processes and documentation with the *interRAI-HC* tool, DHB 'A' aimed to share assessment data across the NASC service electronically to enable efficient updating of client assessment data and increase user and client satisfaction.

By moving to an electronic platform we can make the information gained from the client through interRAI HC assessment available to other assessors and reduce duplication of assessment. We also wanted to adapt and change process and documentation to fit interRAI.

Operational Manager, DHB 'A'

Cost

DHB 'A' sought to compare the costs of both assessment services and support service allocation using the *interRAI-HC* tool to those associated with the previous SPA tool.

We wanted to an understanding of the cost of implementing interRAI into the NASC and the cost of service allocation and provision under interRAI compared to the old assessment tool for older people. We also wanted to get an idea of the service gaps identified through interRAI assessment compared to the old tool and what the costs of meeting some of these gaps might be. We also wanted to get an idea of the costs of non-publicly funded service needs identified through interRAI assessment compared to the old assessment tool.

Local Policy Manager, DHB 'A'

Yes, we developed information sheets to capture data. We recorded service allocations, service gaps and the time taken to do assessments for both the interRAI and SPA methods and compared them. We got good data on service allocation, service gaps and costs of performing assessments. InterRAI assessment took longer but reassessment was shorter than using the SPA tool. We don't know about service mix as it's early

days but we do know that operating interRAI isn't going to cost us more than the SPA tool did.

Core Trainer, DHB 'A'

Organisational learning and growth

DHB 'A' wanted to capture lessons learned from implementing the *interRAI-HC* tool into the NASC service to build organisational capacity and capability to implement the tool into other community based services both inside and outside the DHB.

We set out to learn about using the tool in the NASC and what the implications might be for staffing, costs and service allocation and get an idea of the challenges around full implementation across the district.

Local Policy Manager, DHB 'A'

The other participating DHBs

Reportedly, none of the remaining five DHBs developed an evaluation framework or a set of success indicators for the implementation of the *interRAI-HC* tool. The research revealed much confusion regarding the aims of implementation in most of these DHBs.

This (aims and objectives for clients) was not articulated well to the organisation and to clinical teams. The people making decisions about the implementation had an idea of what they wanted to achieve but front line staff did not. We wanted a comprehensive geriatric assessment, able to identify what an individual needed in terms of service provision and be able to evaluate an older person's health and needs on a on-going basis.

Executive Manager, DHB 'C'

I'm not sure we had any aims or objectives with respect to cost or cost saving. It was more about a comprehensive assessment and getting individual and population data for service planning and provision.

Executive Manager, DHB 'C'

We didn't know why we were doing it really or what would be better because of it.

Needs Assessor, DHB 'C'

We didn't articulate specific aims and objectives but we wanted to demonstrate that the client's health status and health outcome could be improved.

Local Policy Manager, DHB 'F'

We didn't set out with specific objectives. I felt learning would happen along the way, from experience a bit like action research.

interRAI Project Manager, DHB 'B'

These findings support the view that DHBs are not learning organisations and that the health system lacks a culture of measurement and evaluation. This study shows that a lack of these characteristics impacts negatively on the creation of system-wide, organisational, workgroup and individual readiness to implement change events.

6.7.5 Readiness to assimilate the *interRAI*-HC change event: Key points and the development of SoRT

Findings indicate that efforts to create and build readiness to assimilate a planned change event should focus at the work group and individual organisational level. Findings show that building self-efficacy (confidence, competence and self-belief) in change recipients, reinforcing commitment to the planned change, continuing organisational support and realising benefits are key to successful assimilation of the *interRAI*-HC tool. Self-efficacy is developed through on-going peer support, mentorship and competency development and continued organisational support. Continuing organisational support demonstrates principal support and reinforces belief in the organisation's ability to effect change. It includes the maintenance of effective project management, resources to fully assimilate change, the maintenance of a stable work environment and smooth workflow (particularly between impacted work groups) and supportive organisational leadership. In particular, findings indicate the continued operation of the change governance and change implementation groups are important structures that ensure the delivery of required resources and the resolution of emerging problems during the assimilation of a change event. Commitment to assimilate a change event and positive attitudes, particularly emotional responses to change, are reinforced by the realisation of benefits and by organisational recognition of the efforts of change recipients.



Table 24 shows the contingencies and themes that influenced change readiness to assimilate the *interRAI-HC* tool and the key questions derived from the research that relate to change readiness to assimilate the tool. These contingencies, themes and key questions were used to develop Section Four in the SoRT, related to assessing organisational change readiness to assimilate a planned change event.

Table 24: Developing SoRT – Organisational change readiness to assimilate a change event; contingencies, themes and associated questions

Contingency Variables	Change Readiness to Assimilate the Change Event
Resistance to change Loss of key staff Leadership style Organisational culture and structure Key resources	Organisational Support <ul style="list-style-type: none"> • Are the Project Board Project Manager still engaged? • Are sufficient resources available to address emerging issues in transitioning to institutionalisation? • Has the organisation recognised successful institutionalisation?
Task structure Fit of change event with target services Existing change Change recipient change history Change recipient qualifications, skills, attributes, beliefs Client / other health professionals' attitude to the change event (Altaffer)	Building Capacity, Capability and Belief (Workforce Readiness) <ul style="list-style-type: none"> • Has sufficient time been allowed for those affected by change to transition from introduction to institutionalisation? • Are post adoption peer review, mentorship and competency assurance processes continuing? • Is the change event routinized and institutionalised into the daily work of those affected by change and relevant stakeholders?
Strategic alignment of change with policy intent Feedback Presence of other adopters	Communication and Engagement <ul style="list-style-type: none"> • Are change manage expectations actively managed - are the expected benefits for the organisation, stakeholders and their clients clearly understood with respect to the stage and scope of the change event? • Are those affected by change and stakeholders receiving regular feedback on progress/success/benefits realisation? • Are we continuing to engage with and learn from other adopters of this change event
Achieving Benefits	Demonstrate Benefits <ul style="list-style-type: none"> • Has the change event resulted in the realisation of expected benefits?

6.8 Summary

The findings of this phase of the research show that the creation and development of change readiness to implement a planned change event successfully can be constructed as a process consisting of four distinct steps: creating health system-wide readiness for planned change; creating organisational pre-introductory change readiness to introduce a planned change; creating readiness to fully adopt a planned change; and creating readiness to assimilate a planned change. This study shows that progression from one step to the next is not certain and that various factors can influence change readiness in various ways, often synergistically, at each step. For example failure of key technology or the loss of key staff can impact readiness to fully adopt a planned change. Constructing change readiness as a stepped process allows a staged approach to its assessment and development. This idea is central to the development of the State of Readiness Tool (SoRT) resulting from this study and which forms Appendix IV to this thesis.

This study found that during the process of creating change readiness the focus of efforts shifts from the health system, to the organisation (DHB) and then to the work groups (e.g. NASC service) and individuals (e.g. needs assessors) impacted by the planned change event. Different concepts of change readiness were found to be associated with each of the four steps of its creation and development. The initial steps in the change readiness process were found to be associated with creating acceptance and commitment while the development of change recipients' self-efficacy or their cognitive and affective change readiness assumed greater importance in later steps.

Essentially, findings indicate that the creation and maintenance of change readiness in organisations such as DHBs requires relationally oriented, knowledgeable and committed leadership at the system and DHB executive management levels and the development of acceptance, commitment, self-efficacy and enthusiasm for change at the work group and individual levels. The SoRT is intended to address the assessment and development of these factors and enable the creation of organisational, work group and individual change readiness in a way that leads to the success of planned change events in organisations such as DHBs. Tables 18, 20, 22

and 24 were used to develop the SoRT, which is essentially composed of questions and guidance that this study found important to assessing, creating and developing change readiness to implement planned change events. Answering these questions will enable a change implementation group to reach consensus about the change readiness of key stakeholders at any point in time during a change event.

The research uncovered significant interdependencies and relationships between the themes emerging from the inductive analysis of participants' data. For example, leadership style and organisational culture were found to influence the quality of communication and engagement. Findings indicate organisational culture impacts the quality of planning and the level of organisational support for change events. Leadership style was found to influence culture while organisational leadership and organisational culture were found to influence the quality of governance and accountability. This suggests that the quality of change readiness is the product of a multi-faceted, fluid and complex matrix of relationships, conditions and context. The SoRT aims to capture and integrate this complexity and to take a holistic approach to the assessment and development of change readiness for planned change events. Such an approach is consistent with the notion that the health system and the DHBs within it are complex adaptive systems within which behaviour and attitudes emerge. It is the emergence of change ready behaviours and attitudes that use of the SoRT seeks to achieve. The use of the SoRT to enable the assessment and development of change ready behaviours and attitudes in stakeholders, particularly change recipients, is discussed in Chapter eight, section 8.17.

Following the development of the SoRT, the next phase of the research was concerned with assessing its utility and validity. The findings related to these subjects are presented in Chapter seven.

Chapter 7: Usability of SoRT

What we hope ever to do with ease, we must first learn to do with diligence

Samuel Johnson (1787)

7.1 Introduction

Following the development of a final draft of the State of Readiness Tool (SoRT) a focus group was established to assess the utility of SoRT and provide feedback on its construct validity and its improvement. The group consisted of five members: two District Health Board (DHB) Local Policy Managers; a Needs Assessment and Service Coordination (NASC) service manager; and two super users of the *interRAI* Home Care comprehensive geriatric assessment (*interRAI-HC*) tool. Members of group had not participated in interviews related to the development of the SoRT and all were experienced agents in the implementation of change events at their respective DHBs. The focus group members were provided with the final draft of the SoRT prior to meeting and the discussion was conducted using a semi-structured interview approach. On convening, the group received a brief overview of the four sections of the SoRT and an explanation of its purpose. Thereafter, questions and prompts were used to stimulate discussion. These questions and prompts form Appendix III to this thesis and were not supplied to members of the focus group prior to meeting. Figure 28 outlines the research design used to explore the utility, content validity and improvement of the SoRT.

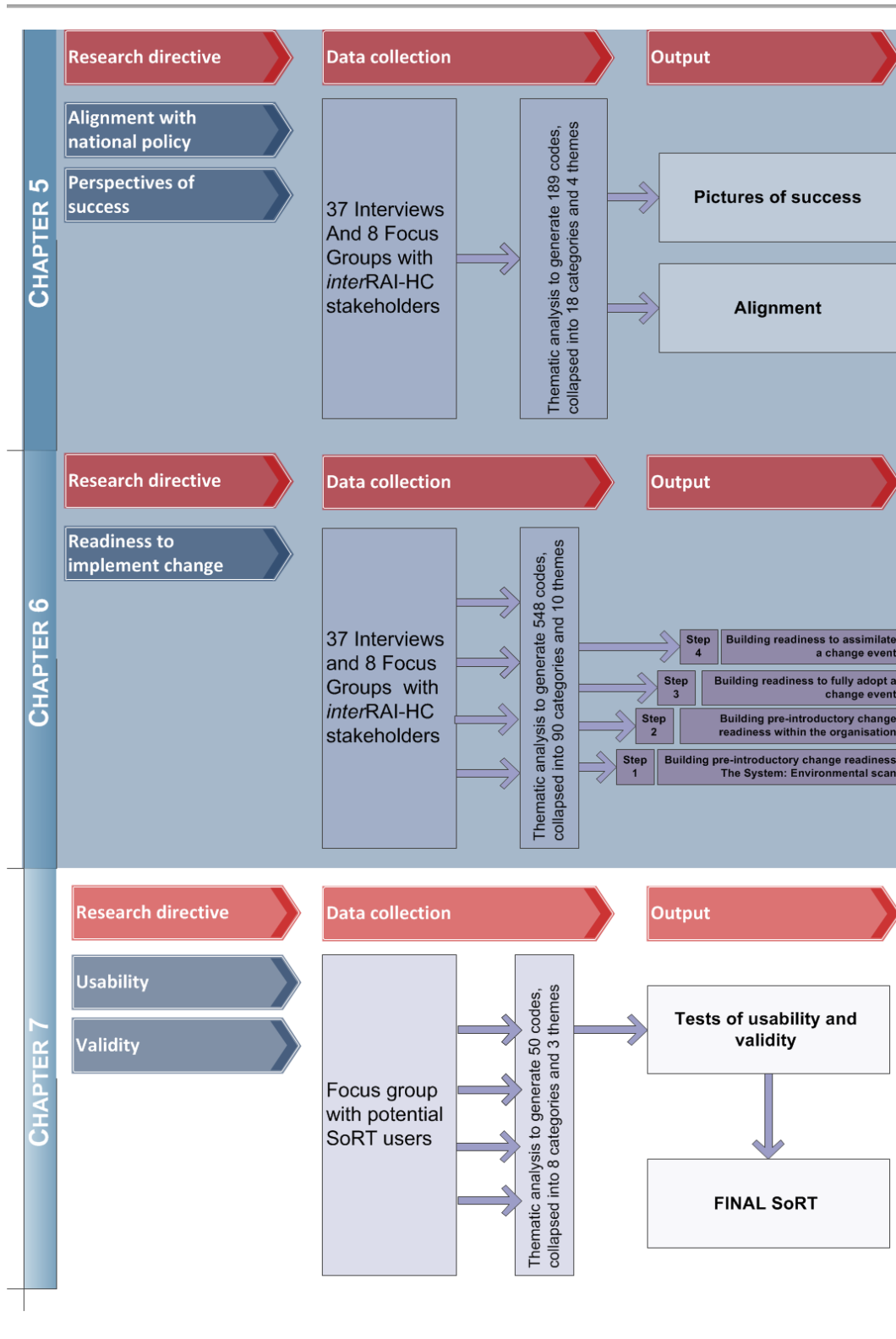


Figure 28: Development of SoRT (determining usability)

7.2 The utility of the SoRT

Figure 29 shows codes and categories relating to themes regarding the SoRT’s utility, construct validity and suggested changes.

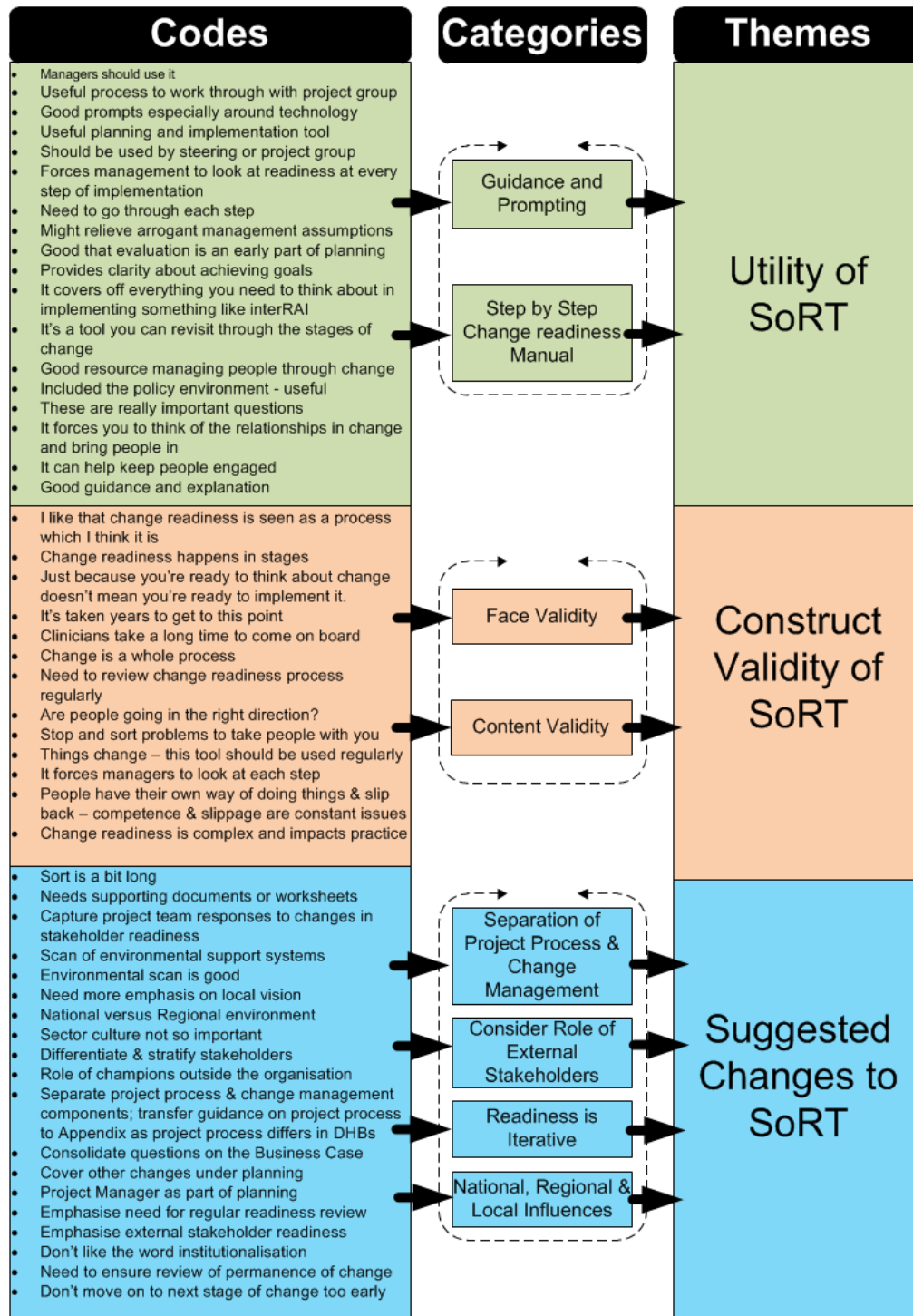


Figure 29: SoRT – Stakeholder (Rater) Check

The approach to the creation of change readiness indicated in the SoRT resonated with the focus group. The emphasis on the creation and development of change readiness through a continuous cycle of assessment, reflection, remedial action to build readiness and subsequent re-assessment was considered particularly useful.

It's a very useful tool that covers off the things you need to think about when you want to do a big change like interRAI. I like that it's a tool you can revisit through the stages of change.

interRAI Super User

I think it's very useful. If this was used by a steering group or a project management group or even by management generally. It forces them to look at each step of when you're implementing something. It might relieve some of the arrogance we often get from top levels of management with them often making assumptions about what's happening. They need to go through each step.

interRAI Super User

I think this information [in the SoRT] is quite useful to remind people there is a structure that needs to be followed and resources need to be set aside to enable people to be ready for change, such as IT and laptops and all those sorts of things.

Local policy manager

The guidance and prompts provided in the SoRT were considered helpful in indicating gaps in change readiness and actions that can maximise the change readiness of stakeholders throughout a planned change event. Group members indicated they would encourage the use of a tool such as the SoRT if it was available..

I see you'd got the little explanatory bits under each section and I thought that was good guidance. I think it's a really good process to work through with a group

Local Policy Manager

Questions pertaining to national governance structures, accountability frameworks and linking change events to national vision and strategy were considered most useful to environmental scanning (Section One), while those related to health sector culture were considered subjective and of lesser importance.

I think the first three questions are the most important. Who's accountable for it? If you can identify accountability for change then it's more likely to be implemented. I think that's a good idea particularly if it's in the Government sector, to ask ok what's already in place, what are the expectations, what are the gaps? And, so I think that's really good.

Local Policy Manager

Vision and strategy are important but I'm not so sure about sector culture. I think things like assessing trust and openness to change in the sector are subjective and I'd prefer to have some objective measures around that. I don't know what they'd be but that's my preference.

interRAI Super User

This finding was surprising since in the first phase of the research participants agreed that the lack of trust and openness to change pervading the health system were significant barriers to creating change readiness.

Questions regarding the problem definition, business case for change, local governance and accountability, a project based approach, the identification and engagement of champions and protocols for the purchase, support and acceptance testing of technology were considered the most useful and most important aspects of creating organisational pre-introductory readiness to introduce a change event (Section Two).

The problem definition is very important.

Local Policy Manager

I think there's an important question about has this project been approved. You know, where's the accountability for the outcome of the project? The earlier questions around governance also do apply to projects.

Local Policy Manager

One is having a business case, two is actually getting that business case accepted by the organisation as being important. Having a panel involved is certainly practical in the sense of developing the business case.

NASC Manager

You need a steering group. If you're going to look at a leader, a project leader, it's got to be somebody who's got an exceptionally good understanding of the business, exceptionally good communication skills and is able to follow through and provide, encourage people to action what they're expected to do or whatever. I wonder under business champions being identified and recruited whether there's value in recognising that some of these will actually be outside of the DHB area. You know it's about bringing in and recognising the wider community and the regional communities and things and using some of those people to come in and influence local people

NASC Manager

I think the questions around technology are really important and should stay as they are.

interRAI Super User

Aspects of the SoRT relating to the establishment and assessment of project management process and practice, stakeholder engagement and workforce readiness were considered the most important in building change readiness to fully adopt (Section Three) and assimilate (Section Four) a change event.

At this point in the change process actually these are crucial questions

Local Policy Manager

I wouldn't put any of this [sections 3 and 4]. I'd leave it where it is. This is more about when you need to have a regular review or assessment process and ensure things are still working after the initial excitement has worn off.

NASC Manager

Yes, and about competency and reversion to previous practice, those questions around workforce readiness. Ownership's important and reversion, well that's also always a risk. The clinical engagement is really important. Good engagement with clinicians is something that's often not in place.

interRAI Super User

However, there was also much discussion on the importance of effective change control, the provision of resources, management of risks and issues, assessment of change recipient competency, staff retention and commitment and active championship.



Once you've got into the implementation stage you want to do this on a regular basis – a review every three months to say have you still got a functioning steering group, have you got a project manager that really knows what to do and are they working in that direction, is there any issues around resources um do you have any IT issues, and what else is actually happening all that risk register stuff.

NASC Manager

Having clinicians involved is very important though and that needs to be on-going. Keeping staff is an on-going issue and it's what you do in the planning phase to retain staff during change that's important. We were lucky in that we kept staff and I think that had a lot to do with the backfill that we got. In other DHBs it was the pressure of work that caused a lot of staff to leave.

interRAI Super User

Some considered the continued engagement of the project board and project manager of lesser importance during the assimilation of change.

I think all the process management questions are important, though perhaps the first one about the Project Board and manager less so.

interRAI Super User

This finding is noteworthy because the group considered the continued availability of resources important in maintaining change readiness to assimilate change and noted that access to resources was a particular issue in undertaking change events. This indicates some contradictions in the thinking of the group as the need for continuing access to resources highlights the importance of a the project board and project manager in enabling this access during the assimilation of a change event.

Well the resources one, from the point of view of making it on-going, that certainly is a challenge we have. That unexpected demand on new resources or additional resources that we don't have [access to].

Local Policy Manager

Those members of the group involved in service delivery were most concerned with managing stakeholder expectations and establishing feedback processes to build commitment and belief in the ability of the organisation and change recipients to assimilate a change event.

I think managing expectations is hugely important, and that needs to be on-going. Everyone needs to know exactly what providers, services, the DHB and others are going to get out of the change. It needs to be clear so that expectations are not raised and that what people say can be delivered actually can be delivered and that every effort is made to try to meet realistic expectations.

interRAI Super User

The group agreed the importance of recognising successful change in demonstrating organisational commitment to change and creating positive attitudes towards change.

Recognition is also very important. It shows that what the DHB is implementing it is keeping tabs on and knows what's happening. And people need to know they've been recognised for doing a good job.

interRAI super User

Questions related to prompting evaluation and the development of an evaluation framework were considered very useful, particularly those with references to the inclusion of key stakeholders in developing indicators of success. The group recognised the health system has a poor record of evaluating change events.

It's important to sort out the evaluation early in the piece, in planning because as time goes by, if you haven't done that you may start adding things to evaluate as an afterthought and it just grows and becomes unmanageable. So it's best to sort that out in the beginning so you're clear about what you're doing, why you're doing it and how you will know you've achieved your goals – or not.

interRAI Super User

Evaluation is an important element and bringing clinicians into the evaluation is a good thing. Otherwise if you don't have an evaluation framework you don't know what you're trying to achieve and you don't have objective measures. We don't tend to do this bit well in health services. We do our planning and then get too involved in the process of change. But it's so important to have evaluation because then if you do that you can say it's (interRAI) here to stay and this is why it's here to stay.

interRAI Super User

7.3 Suggested improvements to SoRT

Focus group members were very interested and engaged in this discussion and made fairly specific and detailed suggestions. First, they considered the SoRT too long and that shortening it would enhance its utility.

I think it's very good and I think it would be good if something like this was used to manage change but I agree it's too long.

interRAI Super User

In particular, the group suggested shortening Section Two of the SoRT, which deals with organisational pre-introductory change readiness, by making use of an appendix for process related questions, particularly those related to project management.

I think it's a bit long though and it would be good to separate the process bits and the change management bits.

interRAI Super User

My comment was that every organisation would have a different project management process and so this (part of the SoRT) duplicates a number of points that we would have here at our DHB so I don't think it probably needs to be this detailed and maybe it's a duplication of what most organisations will have. But, if you're trying to effect some change I think this information is quite useful to remind people there is a structure that needs to be followed to effect change effectively as it were. So it's useful information I'm just not sure if I would use it as part of the tool. I like the idea of an appendix and all the project process stuff can go in there.

Local Policy Manager

The group suggested removing the text regarding the guidance on the business case and communication processes and placing this material in an appendix. The body of the SoRT would then require only short references or prompts on these activities, with the appendix available to less experienced staff to provide additional guidance if required.

There are several questions about the business case and I think that's very important but it would be good to incorporate them into one question. I think in general section two is quite long and it would be good to shorten it. Again, though the section on engagement is useful it's rather subjective for me and I'd like measures but I know that would be hard. My view might be different from someone else's. I think E2, the

question about leveraging the experience and learning of other adopter should be in the business case. Communication is a process that could be in the appendix.

interRAI Super User

The inclusion of worksheets behind each section of the SoRT was considered useful to enable users to insert relevant papers and document responses to the questions, make notes and keep a record of ideas and steps taken to address gaps in organisational, work group or individual change readiness. Such a log would facilitate discussion and organisational learning.

I was thinking that if you were using this tool it would be helpful to have supporting documents for example if you were talking about what are you trying to fix it's something that you could then enter the information into a worksheet if you like, an underlying worksheet that links to each of these areas so that everything's documented or populated as you go through the process. If I was to use this tool I would want something to document my responses to the questions rather than just ticking the boxes so that that information was available to stakeholders or for further consultation so that it was all captured in one place and an enabler to the conversation.

Local Policy Manager

Some thought that the inclusion of an internal environmental scan to assess overall organisational change readiness might be useful.

I think sometimes we have to remember that DHBs are complex organisations and you've got what Planning and Funding will see as important and then you've got the clinical, operational and service teams and it can be quite global to just talk about DHBs. Clinicians or health professionals take a long time to come on board and might have difficulty having trust with their planners.

NASC Manager

Others suggested the inclusion of advice on the segmentation of stakeholders to enable SoRT users to concentrate readiness efforts on key stakeholders.

It can get cumbersome you know, trying to think about including all those stakeholders in one, part of the process is to identify what level of engagement will be at what time so you know the timeline of engagement and the level you would expect at each stage of stakeholder interest.

NASC Manager

Guidance on the qualities of project managers and the recruitment of champions from outside the organisation was also suggested.

I wonder whether in fact there's value in actually recognising that some of the business champions will actually be outside of the DHB area. So you know it's about bringing in and recognising the wider community and the regional communities and using some of those people to come in and influence local people

Local Policy Manager

One participant suggested that instructions in SoRT should include a recommendation to assess change readiness to assimilate change at three monthly intervals following full adoption of a change event.

Perhaps there needs to be some explanation at the top [start of Section 4] about when you would actually be asking these questions because as you say there should be a recommendation that says once you've got into the implementation stage you might want to do this [review of change readiness and change process] on a regular basis.

NASC Manager

Another suggested both the inclusion of guidance in the event that the Project Board and Project Manager failed to perform their functions effectively and advice on the value of using external stakeholders to achieve change and build self-efficacy.

Good first questions [about the project board and manager] but what do we do if we find we've got the answers we don't want? There's also how can the stakeholders effect what we're wanting to achieve? Are we maximising opportunities for the stakeholders who have the power to make the change go well to actually do so. It's recognising that some of the stakeholders are actually quite powerful.

Local policy manager

The group suggested that Section Four of the SoRT (readiness to assimilate) be applied no earlier than six months following full adoption of a planned change event because the assimilation of change takes time.

Just a comment, I see you've got a reference there for months to become confident and competent in a new process. I almost feel like making that months to years because it does take a long time.

NASC Manager

The group also noted that not all benefits of change occur at the same time.

I think there would be value in adding in a guidance comment that says a recommended timeframe for doing this [assessing successful assimilation] might be six months after implementation. There may be value in questions such as "When do you think the change would be fully implemented?" and "When do you think you would do this evaluation and how often would you evaluate?" and "How do you know when you've got there [completed implementation to business as usual]?" Because in practical terms this could be years later. But you know it {using SoRT} is something you can repeat so you could say look these sections could be done say six monthly and it would show the tracking [progress] that you're making so you'll know when you get to where you want to be.

NASC Manager

Many of these suggestions were incorporated into the final SoRT forming Appendix IV to this thesis.

7.4 The construct validity of the SoRT

The construct validity of the SoRT is the degree to which inferences can reasonably be made from it to the theoretical construct it claims to measure (Weiner et al., 2008). Construct validity incorporates translational validity (the degree to which an instrument accurately carries the meaning of the construct). This in turn includes firstly face validity (the summary perception that an instrument's items carry the meaning of the construct) and secondly, content validity (a check on the instruments items against the content domain of the construct). Face Validity can be assessed through informal review by experts (Weiner et al., 2008). Content validity can also be assessed by expert review based on clear definition of the construct (Weiner et al., 2008). The focus group was provided with Palmberg's (2009) definition of the term 'process' as a horizontal sequence of activities that transforms an input to an output or result to meet the needs of customers or stakeholders to aid their assessment.

The construct of change readiness as a process resonated with members of the focus group. The group agreed the SoRT conveyed the concept that the creation and development of change readiness is a staged process (sequence) and that a state of readiness to progress change can vary with time and conditions.

I like the way SoRT is set out. It supports the idea of change readiness as a process which I think it is. Just because you're ready to accept the idea of change doesn't mean you're ready to make it happen and I think the organisation needs a way to capture that.

interRAI-HC Super User

I like that it's a tool you can revisit and monitor readiness through the stages of change

interRAI super user

Members also agreed that encouraging those using the SoRT to think of change readiness as a process that develops over time focuses their attention on monitoring the readiness of stakeholders over the entire course of a change event.

It forces people to look at each step of when you're implementing something. I like the fact it looks at being ready as a process. Just because someone is ready to think about change doesn't mean they're ready to implement it.

interRAI Super User

Any change involves a mind shift and that happens over time in a team so you need people coming on board and staying on board before, during and after the event has happened.

interRAI Super User

These findings show the SoRT meets Weiner et al.'s (2008) test of construct validity. The expert focus group endorsed the process construct of change readiness and found that the SoRT items carry the meaning of the construct and that its items match the content domain of its construct. The construct aligns with the definitions of the term 'process' provided in Chapter two of this thesis. Change readiness requires inputs (stakeholders, resources etc) and involves a set of activities (planning, training etc) designed to produce an output, which is change ready attitudes and

behaviours. This output or result meets the needs of customers or stakeholders (Palmborg, 2009) in that it facilitates the implementation of planned change events.

7.5 The criterion related validity of the SoRT

As explained in Chapter two, the SoRT is not intended to be used as a predictive tool, but as an enabler to achieve change readiness over time. Therefore, the concept of predictive validity does not apply. The convergent validity of the SoRT is the degree to which it performs similarly to other tools purporting to measure the same construct. In common with Stevens (2013), the researcher could find no literature on other tools employing the process construct of change readiness to the assessment of change readiness. Therefore a test of convergent validity could not be performed. Testing the concurrent validity and discriminant validity of the SoRT lie outside the scope of this research, as does assessment of the reliability of SoRT. Instead, assessment of these qualities is considered an area for further research. This is because these investigations require the application of the SoRT to a number of change events, requiring a significant longitudinal study. Such a study lies outside the time constraints imposed on doctoral study.

7.6 SoRT: diagnostic testing

A diagnostic test was performed to obtain an indication of the ability of SoRT to distinguish those participating DHBs that were successful in assimilating the *interRAI-HC* tool from those which were not. The implementation of the *interRAI-HC* tool at each participating DHB was scored against each of the four sections of the SoRT: external pre-introductory change readiness (environmental scan); organisational pre-introductory change readiness; change readiness to fully adopt planned change; and readiness to assimilate a planned change event. The researcher awarded a DHB one point for each positive response to the questions contained in each of the four sections of the SoRT. The first section was scored out of eight points, the second out of thirty-two points, the third out of twelve points and the final section out of eight points. The total maximum score was 60 points. The objective of the diagnostic test was to assess the ability of the SoRT to confirm

which DHBs successfully assimilated the *interRAI-HC* tool as an indicator of its fitness for purpose. The results of this exercise are presented in Table 25.

Table 25: DHB readiness scores

	Environment Scan	Pre-introduction readiness	Introduction	Assimilation	Total Score / 60
DHB A	1	19	9	6	35 (58%)
DHB B	1	15	8	6	30 (50%)
DHB C	1	7	3	0	11 (18%)
DHB D	1	20	10	6	37 (62%)
DHB E	1	3	3	0	7 (12%)
DHB F	1	2	4	0	7 (12%)

In addition to scoring the DHBs against the questions in each section in the SoRT, each DHB was assessed on the degree to which they achieved the implementation success indicators shown in Table 26. For this exercise the nineteen indicators in Table 15 were grouped into six summary indicators as shown in Table 26. Each DHB was scored by the researcher on a five point Likert scale (Camparo & Camparo, 2013; Likert, Roslow, & Murphy, 1934) against each success indicator where 1 = not achieved, 2 = some success, 3 = moderately successful, 4 = very successful and 5 = fully achieved. The maximum score achievable by a DHB was 30 points.

Table 26: DHB success scores

	DHB 'A'	DHB 'B'	DHB 'C'	DHB 'D'	DHB 'E'	DHB 'F'
Standardised, consistent assessment in Target service	5	5	1	5	1	1
Utilisation of assessment data to inform policy & service development	2	2	1	2	1	1
Use of assessment data to inform financial management	2	2	1	3	1	1
Reduction in duplication of assessment	1	1	1	1	1	1
Involvement of client and family with assessment	3	3	3	3	3	3
Staff appropriately trained to undertake role	4	4	1	4	1	2
Total Score / 30	17	17	7	18	8	9
% of Total Score	57	57	23	60	27	30

The success score was doubled for each DHB in order to achieve a maximum score of 60 points for each of the two variables (change readiness and success scores). A least squares regression line was plotted with the DHBs' success score on the x axis and the change readiness score on the y axis. The regression line showed a coefficient of determination of 0.9397, indicating a good fit to the data. These results indicate the SoRT has a high diagnostic ability, distinguishing between those participating DHBs that successfully assimilated the *interRAI-HC* tool and those that did not. Nonetheless, it must be noted that this is a small sample and the SoRT needs to be tested against a greater number of applications.

However, findings indicate that regular use of the SoRT within and at the end of each of the four steps or stages in the creation of change readiness will reveal areas of weakness and indicate where remedial efforts should be directed. In this way, change readiness can be assessed, created, re-assessed, built (incorporating remedial action if required) and further re-assessed in a cyclical manner throughout a planned change event to develop a future where change events are assimilated successfully and expected benefits are realised.

7.7 Summary

Review by an independent expert focus group indicates the SoRT possesses construct validity and indicates it has high utility in assessing, monitoring and enabling the creation, maintenance and development of change readiness at all organisational levels throughout the implementation of a planned change event. Findings suggest the application of the SoRT will enable the creation and development of change readiness and thus facilitate the successful achievement of planned change events and the realisation of expected benefits.

The SoRT is not intended to be a predictive tool, therefore tests of predictive validity do not apply to this tool. As no other tools could be found which assess change readiness based on a process construct of the phenomenon convergent validity cannot be assessed. While the assessments of the concurrent and discriminate validity and the reliability of the SoRT lie outside the scope of this study, such assessments are identified as topics for future research.

Chapter eight discusses the findings of the research presented in Chapters five, six, and seven and elaborates the use of the SoRT in creating and developing change readiness to implement specific, planned change events.

Chapter 8: Discussion

The readiness is all.

Hamlet, William Shakespeare (1603)

8.1 Introduction

Transitioning from contemplating the introduction of a complex change event to adopting and assimilating the change in a way that achieves the desired benefits is difficult, requires significant resources and carries a high risk of failure (By, 2005; Lippert & Davis, 2006; Meaney & Pung, 2008; Michel et al., 2013). In health systems the high risk of failure is partly due to a cultural resistance to change, a lack of motivation by health professionals and poor consideration of the major roles of process and people in organisations delivering health care (Friedman & Goes, 2001). Creating and maintaining individual, work group and organisational readiness to progress change events is also critical to successful change (Armenakis & Harris, 2009; Holt et al., 2010; Newhouse, 2010; Rafferty et al., 2013; Stevens, 2013; Tetlay, 2011), including change undertaken by organisations providing health care (Newhouse, 2010; Pare et al., 2011; Weiner et al., 2008). Therefore, to maximise the success of planned change it is important to assess whether or not a state of change readiness exists. Such an assessment must address all organisational levels and key external stakeholders and lead to the creation of conditions that maximise change readiness. Identifying contingency factors associated with creating change readiness and developing responses to those factors will enhance this process.

This chapter discusses the findings presented in Chapters five, six and seven against the background of the literature review in Chapter two and consists of three sections. The first addresses the research questions while the second explores areas of interest emerging from the study. The final section presents reflections on the study, discusses the study's limitations, conclusions and implications for policy and for organisations delivering health care such as District Health Boards (DHB). The final section also suggests avenues for further research.

Part 1: The study research questions

8.2 Introduction

Three research questions were used to direct the investigation through the design, implementation, analysis and conclusion phases. Although the questions aligned to the various phases of research, there was considerable overlap and the study, by its very nature, was complex. Addressing the research questions in this first part of the Discussion chapter allows a pragmatic exploration of the findings prior to examining the underlying understandings of the study. In developing a State of Readiness Tool to aid the successful implementation of change events, this study seeks to address three research questions:

1. What does success look like in relation to implementation of new systems or technology (*interRAI*) from the perspective of: (i) national policy makers; (ii) local executive management; (iii) local policy managers; (iv) operational managers; and (v) users?
2. What are the characteristics that determine successful implementation of new processes or technology in complex health systems using *interRAI* as a case study?
3. How can a State of Readiness Tool support implementation of new processes or technologies in the context of introduction of *interRAI* across six District Health Boards?

8.3 What does success look like to participants in relation to implementation of the new systems or technology (the *interRAI*-HC tool)?

Participants in this study generally agreed that successful implementation of new technology or process into their DHBs meant the smooth integration of change into daily work routines, the achievement of key success indicators and realisation of the expected benefits. However, the findings in Chapter 5 show that views regarding the integration of the *interRAI*-HC tool into services, the key success indicators and the expected benefits were not aligned vertically or horizontally through the various

levels of the health system. The meaning of success for each group of participants is outlined below.

National policymakers

Success for the Minister of Health (Minister) and Ministry of Health (MoH) was driven by considerations of social justice and good policymaking. Success meant standardised, nationally consistent, comprehensive assessment of older people by Needs Assessment and Service Coordination (NASC) services and the capture of assessment data for policy development. However, the MoH allowed DHBs ('C', 'E' and 'F') to decouple from national policy intent by failing to intervene with when they implemented the *interRAI*-HC tool in services other than the NASC service.

DHB executive managers,

Most executive managers demonstrated a decoupling from the MoH in expressing their views regarding successful implementation of the *interRAI*-HC tool. They generally viewed success in terms of local, rather than national business and service goals. While many included standardised, comprehensive assessment of the older person in their picture of success, local goals also included assessing population health need, improving service planning and development, budgeting, achieving equity of service provision and reducing the multiple assessments older people experience. Many of these goals were too broad for the type of implementation undertaken, being more aligned to the academic (rather than practical) list of benefits associated with the *interRAI* suite of assessment tools found in the literature (Landi et al., 1999; Landi et al., 2000) and more relevant to successful organisation-wide rather than single service implementation of the tool. This underscores the lack of common understanding of the capabilities and benefits that could be achieved through the limited way in which the *interRAI*-HC tool was implemented at each DHB.

It is noteworthy that wide implementation of the *interRAI*-HC tool within a DHB was never the intention of either the Minister or the MoH nor was it feasible within the available resources of participating DHBs. Those DHB managers viewing successful implementation of the tool in terms of reducing the duplication of

assessment and equitable service provision lacked an understanding of both the capabilities of the *interRAI*-HC assessment tool as implemented and the distinctions between the processes of assessment, service allocation and service provision. The purpose of the *interRAI*-HC tool is to enable a comprehensive assessment of the older person and while the identification of need leads to the allocation of services, the allocation and provision of services depends on a number of factors outside the assessment process itself. These factors include the ability of service providers to deliver the services allocated, whether or not the services identified as needed are publicly funded and whether or not the DHB has the funds to pay for the eligible services assessed as required. Communicating a vision of successful implementation of the *interRAI*-HC tool in terms of fully-electronic assessment platforms and information sharing, reduced duplication of assessment and equitable service provision without addressing these factors was unrealistic. Communicating such change messages contributed to raised stakeholder expectations and a consequent decrease in acceptance and commitment to the tool among change recipients and other stakeholders, particularly at DHBs 'C', 'E' and 'F', when it became clear to stakeholders that these benefits could not be realised.

Local policy managers

Local policy managers also tended to view successful implementation of the *interRAI*-HC tool in terms of local business and service goals. Again, many referred to a standardised and more comprehensive assessment process and other benefits such as assessing population health need, improving service planning and development, service budgeting, achieving equity of service provision and reducing the multiple assessments older people experience. In other words, their views tended to reflect those of their executive managers rather than those of the MoH. This reveals a significant decoupling of local policy from national policy intent and a lack of understanding of the *interRAI*-HC tool and the benefits that could reasonably be expected from its limited implementation.

Operational managers

All operational managers outside the NASC services expressed similar views about successful implementation of the *interRAI*-HC tool and these reflected those of their

organisational leaders. They demonstrated the same lack of understanding of the *interRAI-HC* tool and the benefits that could be achieved through its implementation.

NASC service managers, however, had more modest views of success than those of many executive managers, local policy managers and other operational managers. For them, success was about increasing job satisfaction, improving their working environment and their interactions with clients, providing better client assessment and better targeting of services to individual assessed need. Their views were more closely aligned to those of national policymakers than other groups within participating DHBs. This may be because these managers are focussed on the provision of specific needs assessment and service coordination services. Their remit does not extend to population health needs analysis or service and funding considerations at the population level. However, their modest views of success are unlikely to have been the result of communications from executive managers or local policy managers as these groups had entirely different pictures (of success).

Users of the *interRAI-HC* tool

Needs assessors and health professionals receiving the outputs of *interRAI-HC* assessments had similar views of success to those of NASC service managers. For these change recipients success was improving their working environment and their job satisfaction. This meant providing better client assessment and better targeting of services. In short, most users of the *interRAI-HC* tool simply wanted an evidence-based assessment tool that made their job easier and provided better client services.

The congruence of views between executive managers and local policy managers regarding successful implementation of the *interRAI-HC* tool and the considerable gap between those views and the views of NASC managers and users of the tool highlights the lack of communication between organisational leaders and those delivering health services in most of the DHBs participating in this study. It also gives some credibility to the view expressed by some service managers that organisational leaders do not properly understand the services provided by their DHBs.

A decoupled and fragmented system

From the perspectives of the Minister and the MoH, the implementation of the *interRAI*-HC tool at three DHBs ('C', 'E' and 'F') was both decoupled from national policy and entirely unsuccessful. Decoupling is the process of divergence, within or between organisations, of formal procedures or policies and actual organisational activities (J. W. Meyer & Rowan, 1977). Within organisations, decoupling can emerge from the adoption of new formal procedures or rules that are not implemented or can occur as a result of changes to work routines that stray from workplace rules (Harrison, Lopez, & Martin, 2015). These DHBs chose not to introduce the *interRAI*-HC tool into their community based NASC services, but into hospital based specialist clinical services. In the case of DHBs 'E' and 'F' the main goal was to assist the development of a multidisciplinary approach to client care rather than to support standardised and consistent assessment of older people in the NASC service and collect data for policy development. This suggests a deliberate decision by organisational leaders to decouple from national policy and instead progress the interests of the organisation.

While the MoH indicated its role is essentially to signal what DHBs should do in their implementation of the *interRAI*-HC tool, the New Zealand Public Health and disability Act (2000)(the Act) contains higher expectations. The Act and the Health and Independence Report (Ministry of Health & Minister of Health, 2007), requires organisations providing publicly funded health care to pursue quality improvement and safety in health care and commit to equity. The Act requires the MoH to provide leadership to the health system and monitor and evaluate the performance of DHBs in progressing national policy. It also places a statutory requirement on DHBs to focus and report annually on progress towards improving the quality of publicly funded health services.

In failing to provide leadership and taking no action to tighten the coupling between national policy intent and the implementation of the *interRAI*-HC tool at participating DHBs, the MoH seems to have relied on DHBs taking a rational systems approach (W. R. Scott, 1992) to the implementation of the *interRAI*-HC tool. However, DHBs are complex adaptive systems in which multiple relationships exist,

where people with varying agendas can exercise free will and where unintended consequences can emerge. The rational systems approach argues that the formal expression of national programme goals (e.g. the policy intent with respect to the implementation of the *interRAI*-HC tool) will lead to programme implementation and the achievement of goals in line with the stated expectations (W. R. Scott, 1992). However, the rational systems view also acknowledges the importance of performance indicators and their measurement, with the application of rewards and sanctions, in ensuring that implementation proceeds as expected. The MoH possessed the policy tools and the strategies to ensure the *interRAI*-HC tool was implemented in line with its expectations, but apparently chose not to use them. It could have used the Crown Funding Agreement (the contract through which it provides funding to DHBs) to set performance indicators and establish accountabilities to facilitate the creation of acceptance and commitment to introduce the *interRAI*-HC tool into NASC services and to monitor its implementation. For their part, senior managers in DHBs indicated that the MoH was not clear enough in its direction with respect to implementing the *interRAI*-HC tool. This suggests ambiguity in the expression of goals at the national level which contributed to local organisational decoupling from national policy, particularly in the cases of DHBs 'C', 'E' and 'F'. This reinforces the importance of establishing accountabilities, performance indicators and an appropriate evaluation framework. There is much evidence that the measurement of performance motivates both performance and compliance (El Turabi et al., 2011; R. S. Kaplan & Norton, 1992, 2000) and by extension, readiness to move through the stages of change.

Decoupling also occurred within organisations involved in this study. While executive managers thought the *interRAI*-HC tool was used by employees in the target services, the use of the tool was not being enforced by operational managers in DHBs 'C', 'E' or 'F'. In DHB 'C' many needs assessors did not want to use the tool because they perceived it devalued their assessment practice and by extension their knowledge and skills. A lack of organisational support for change provided an excuse to revert to previous practice, which was overlooked by service managers. In the case of DHB 'F' a newly employed manager of the target service opposed the use of the *interRAI*-HC tool reportedly prevented staff from using it. In each case,

operational managers in these DHBs actively decided not to comply with the stated expectations of senior managers. As a result, work practices diverged from prevailing organisational rules of engagement with clients. The decoupling demonstrated by these DHBs supports the work of Harrison et al. (2015) showing that decoupling can be maladaptive, can emerge from power struggles within organisations over work practices, can be a strategic response by actors concerned with protecting their position in an organisation or can emerge from conflict between organisational actors.

In contrast, DHBs A, B and D demonstrated alignment with national policy intent in implementing the *interRAI-HC* tool into NASC services only. It is noteworthy that DHB 'D' avoided potential internal organisational decoupling by neutralising a senior manager's resistance to change through escalation of the problem to their project board and by invoking the accountability of DHB staff for implementation of activity approved by the DHB's governing board.

The question of the alignment of the pictures of successful implementation between the various organisational levels of the health system is an important one with respect to creating acceptance and commitment, important aspects of change readiness. This study shows, in common with Monahan and Quinn (2006) that deviance within organisations is not only the result of decisions of individuals but can also be a product of organisational context and processes. This research indicates that the health system and its component organisations cannot be considered change ready if differing views of success exist or if no processes are in place to monitor and enforce expected work practices and performance. The absence of clear, well-understood national or environmental policy intent, organisational goals or performance management and accountability systems indicates a lack of system wide or organisational commitment to change. This in turn reduces employee acceptance and commitment to change because change messages are incomplete, absent or are not reinforced. Thus ambiguity or the lack of performance management systems to manage expectations can lead to the emergence of undesirable behaviour (including decoupling) and provide opportunities for those

seeking to undermine or resist planned change to act in ways that do not support national policy intent or local organisational goals.

8.4 What are the characteristics that determine change readiness for successful implementation of new systems or technology in complex health systems using the interRAI-HC tool as a case study?

This study identified the following contingencies as influencing change readiness to implement the *interRAI-HC* assessment tool: central (national) leadership, system and organisational culture, the provision of external funding, organisational type, organisational leadership, the properties of the change event, the knowledge, skills, attitudes and beliefs of change recipients, the attitudes of clients and other stakeholders to the change and the experience or history of change recipients with respect to change events.

External (environmental) contingency factors

Al-shareem, Yusof, and Kamal (2015) consider government policy, market readiness and environmental uncertainty the most important external factors influencing the change readiness of public organisations in Yemen, while Lahera et al. (2014) indicate that it is funding in the United States of America. Government policy alone did not appear a great influence on DHBs 'E' and 'F' in the implementation of the *interRAI-HC* tool or on the 15 DHBs that elected not to implement the tool in New Zealand.

This study found that the most important environmental contingency variables influencing DHB pre-introductory change readiness to implement the *interRAI-HC* tool were funding, central leadership including the establishment of national performance indicators and accountabilities and the health system's culture.

Funding

DHBs expected the MoH to recognise the costs of introducing the *interRAI-HC* tool and provide funding (principal support) for its implementation. By failing to signal and provide principal support the MoH sent an incomplete change message to DHBs as organisational change recipients (Armenakis & Harris, 2002), indicated it

was not committed to the planned change and thus reduced belief among DHBs that the change was needed. Consequently, only six DHBs attempted to implement the change, half of which allocated insufficient resources to implementation. This impacted negatively on the acceptance and commitment of their own change recipients and the success of the change event.

Central leadership, performance indicators and accountability

The lack of central leadership led to poor strategic alignment between the MoH and the DHBs participating in this study, particularly in the cases of DHBs ‘C’, ‘E’ and ‘F’. Strategic alignment refers to the level of fit between an organisation’s strategic priorities and its environment (Walter et al., 2013). For central policymakers, the *interRAI-HC* tool’s strategic value lay in its implementation into NASC services to enable nationally consistent assessment of the disability support needs of older people and the electronic capture of data to inform policy development. However, DHBs ‘E’ and ‘F’ did not implement the tool into their NASC services and none of the participating DHBs were able to retrieve electronic *interRAI-HC* assessment data, which rendered all participating DHB unable to achieve the national strategic intent or performance variables.

Literature suggests that a high level of internal organisational strategic consensus is linked to better collaboration between organisations and organisational levels in the implementation of strategy and hence better performance (Kellermanns, Walter, Floyd, Lechner, & Shaw, 2011; Rapert, Velliquette, & Garretson, 2002; Walter et al., 2013). This study found that those DHBs most strategically aligned with the MoH performed the best with respect to assimilating the *interRAI-HC* tool. These DHBs (‘A’, ‘B’ and ‘D’) also had the strongest level of internal strategic consensus. Therefore, this study indicates that high strategic alignment and high internal strategic consensus enable the creation of pre-introductory change readiness and increase the likelihood that change will be successful.

In addition to communicating its vision and policy intent, DHBs expected strong national leadership for the implementation of the *interRAI-HC* tool, either directly from the MoH or through a National Steering Group. National leadership could

have reinforced appropriate change messages, facilitated strategic alignment and consensus and monitored DHB performance and accountability for success. Accountability forms the basis of performance management systems, which in turn drive desired behaviour (Otley, 1994). Goal alignment is identified as a contingency factor influencing the development of performance management systems (Melan, 1998). The development of national performance indicators for older people's health services and accountabilities for the implementation of the *interRAI-HC* tool would have enabled system-wide goal alignment and DHB acceptance and commitment to implement the tool in accordance with national policy intent.

Health system culture

This study indicates the health system in New Zealand is culturally averse to change and is fragmented. There is pervasive distrust and lack of a culture of learning, knowledge management and openness to change. Findings suggest the cultural characteristics of change ready health systems and organisations are directly opposite to those of this system; openness to change, a desire to learn and establish systems for knowledge management, connectedness and high levels of trust. Health systems displaying these cultural characteristics are likely to be in a high state of general change readiness to respond to environmental pressures and successfully implement planned change events.

Internal (DHB) contingency factors

Organisational culture

Organisational culture is considered one of the most important contextual factors that impact organisational performance (Pinho, Rodrigues, & Dibb, 2014) and influence change readiness (Choi & Ruona, 2011; Haffar, Al-Karaghoul, & Ghoneim, 2014; Weiner, 2009). Schein (1992) describes organisational culture as the assumptions, values and norms shared by members of an organisation and argues these values and norms influence the behaviour of individuals. Cameron and Quinn (1999) developed an instrument to assess organisational culture based on a framework of competing values, identifying four types of organisational culture: the group culture; the market culture; the advocacy culture; and the hierarchy culture. These four types are not mutually exclusive, though one may emerge as dominant

(Cameron & Quinn, 1999; Haffar et al., 2014). Organisations dominated by hierarchy tend to be bureaucratic and characterised by formal, complex policies, procedures and rules (Cameron & Quinn, 1999) while those with a market culture emphasise results and profit above personnel development and morale (Zammuto, Gifford, & Goodman, 2000). Hierarchical cultures do not encourage innovation and creativity, resist change and exhibit low levels of interpersonal trust and morale and high levels of conflict (Zammuto et al., 2000), while employees in a market culture do not see change as beneficial to them (Zammuto et al., 2000). In organisations where these cultures dominate, employees are more likely to resist change (Zammuto et al., 2000). Zammuto et al. (2000) and Haffar et al. (2014) have identified hierarchic and market cultures as causes of low levels of individual change readiness. However, according to Cameron and Quinn (1999), organisations dominated by group culture value the benefits of human resource development (e.g. cohesion, morale, value teamwork and consensus) while those dominated by advocacy are described as energetic, innovative and flexible. Organisations with a dominant advocacy or group culture are more likely to have employees with higher individual readiness for organisational change (Haffar et al., 2014).

Findings indicate DHBs (like the health system) are averse to change, have a hierarchy culture, are fragmented (consisting of fiefdoms or silos), disinterested in learning and knowledge management and hampered by pervasive distrust at and between all organisational levels. However, study participants, particularly operational managers and change recipients described change ready DHBs in terms such as flexible, open to change, collaborative, valuing learning and establishing systems to develop employees, knowledge management, connectedness and high levels of trust. Furthermore, operational managers and change recipients expressed a desire for participation and inclusion in decision making, flexibility in operations and for opportunities for development, collaboration and innovation.. These findings suggest DHBs should move towards an advocacy or group culture, which would make DHBs more appealing to employees and (the literature indicates) improve their general state of change readiness.

Organisational type

Wen et al. (2010) contend that change readiness to implement interactive health communication systems (e.g. the *interRAI-HC* tool) is influenced by the organisational environment and organisational motivation. Burns and Stalker (1961), in their seminal work, developed a contingency approach to the relationship between environmental uncertainty and organisational type. They envisaged a continuum of management styles and structures ranging from organic to mechanistic organisations with neither extreme being superior to the other. Mechanistic organisations are characterised by highly defined tasks and roles, a hierarchic structure of control and authority, downward communication and formalised reporting systems. In contrast, organic organisations are characterised by informal, open channels of communication, flexibility and adaptability with respect to tasks and responsibilities and a networked structure of control, authority and communication (Burns & Stalker, 1961). Organic organisations are often considered superior to mechanistic ones in implementing planned change due to their focus on adaptability and people (Beer & Nohria, 2000). However the same authors contend that in situations where change requires functional expertise and formal control systems, mechanistic organisations are just as capable of achieving change.

The successful implementation of the *interRAI-HC* tool into DHBs requires both the functional expertise and behavioural change. Needs assessors must possess or develop clinical skills, think differently about the client and the assessment, trust the assessments of other health professionals and develop a multidisciplinary approach to the client. Dunphy, Griffiths, and Benn (2003) view mechanistic organisations as less effective in effecting behavioural or social change, particularly in labour intensive industries characterised by specialisation and professional autonomy such as health care. When study participants were asked about the organisational characteristics enabling the achievement of this kind of behaviour change, they generally used words such as flexible, non-hierarchical, listening, agile and open; characteristics associated with organic organisations. However, when describing their own DHBs participants did so in terms associated with mechanistic organisations such as hierarchy and downward (and little) communication. These characteristics were seen as barriers to understanding, acceptance and belief in the need for change,

commitment to change and achieving behaviour change. This suggests that DHBs must evolve to become more like organic organisations to enable the emergence of positive change ready attitudes and behaviours.

Organisational leadership

The Contingency Theory of leadership links the leadership styles of individuals to particular situations and makes generalisations about which styles are most successful in any given setting (Vecchio, 1983). According to Contingency Theory, leadership styles are essentially either task or relationship oriented. Task oriented leaders focus on reaching goals whereas relationship motivated leaders seek long term relationships with individuals, groups or organisations (Fulop & Mark, 2013). It is noteworthy that operational managers, clinical staff and needs assessors in all DHBs except DHB 'D' spoke of a lack of direction, support, engagement and feedback from executive managers. This indicates the key strategies for communicating change messages and building dialogue such as persuasive and direct communication, the active participation of key stakeholders and managing internal and external information were either absent or ineffectual in most participating DHBs. Operational managers and staff participating in this study sought relational leadership from senior managers that fits better with their desire for a more organic internal environment. Stakeholders, particularly change recipients, were eager to be invited into the change process rather than feeling 'done to' and threatened by uncertainty. Pye (2005) suggests change recipients want organisational leaders to help them make sense of change and their role in it. Shariq (1998), too, considers sense-making an important function of leaders. Abrell-Vogel and Rowold (2014) suggest that leaders who are most effective in gaining acceptance and commitment to change engage with change recipients at the affective or emotional level, present a positive vision and view of change, get change recipients to reflect on their negative responses to change and appeal to values and aims such as success, teamwork and quality. It is noteworthy that these values resonate with those change recipients desired of their respective DHBs. This study found that feelings of professionalism (quality) and doing a better job for the client (success) were powerful motivators for change recipients performing clinical roles. However, these enablers of emotional acceptance and commitment went unmentioned by participating executive managers.

Local policy managers in DHBs are middle managers responsible for leading service development and implementing new models of care that support national and local health policy intent. This suggests they should lead change and facilitate change readiness by helping other stakeholders to understand and engage with change positively. C.-A. Chen, Berman, and Wang (2014) studied middle (operational) managers' roles in implementing change in the public sector and found that job security, connections with stakeholders and autonomous motivation were the best predictors of middle managers' championship of change. While it was the local policy managers in each of the participating DHBs who initiated the implementation of the *interRAI-HC* tool, relationships between local policy managers and the services targeted for change were highly variable. NASC managers and needs assessors in DHBs 'A' and 'D' reported engaged, supportive relationships with local policy managers and considered them influential and participative leaders in implementing the *interRAI-HC* tool. However, change recipients in DHBs 'C', 'E' and 'F' reported that local policy managers were essentially invisible and that relationships with these middle managers were poor. Along with executive managers, local policy managers have an incentive to be good communicators and sense-makers because these activities increase the probability of developing acceptance, commitment and positive attitudes and emotions towards their planned change events.

(W B Rouse, 2008) contends that attempts to force change recipients in complex adaptive systems to meet performance standards or new service designs by applying hierarchic authority will almost certainly fail as intelligent agents in such systems will act in ways which serve their own interests. This study supports Rouse's (2008) findings as instances of non-compliance or resistance to the introduction of the *interRAI-HC* tool in DHBs 'C', 'E' and 'F' were not censured by managers. Instead, management approaches to change recipients in complex adaptive systems such as DHBs should use leadership to influence (relational leadership) rather than project power and employ incentives and inhibitions rather than command and control (W B Rouse, 2008). Good leadership creates a pathway to change (Lahera et al., 2014) and creating belief in the need for change is fundamental to that pathway (Armenakis & Harris, 2002; Rafferty et al., 2013; I. Smith, 2005). This study found that influencing,

relationally oriented leadership by operational managers was key in creating acceptance and commitment among change recipients (DHBs 'A' and 'D'). In contrast, change recipients in DHB 'C' complained that the authoritarian nature of leadership at that DHB impacted acceptance and commitment to change negatively.

Organisational support

The belief that the organisation will provide the resources and information required to achieve planned change (the belief of principal support) is critical to the achievement of change recipient pre-introductory acceptance and commitment to a planned change event (Armenakis & Harris, 2002; Rafferty et al., 2013). This study found those DHBs ('A', 'B' and 'D') indicating that sufficient funding and resources would be provided in their change messages and that delivered on these promises retained change recipient acceptance and commitment throughout the implementation of the *interRAI*-HC tool. These DHBs built stakeholder belief in the organisation's ability to achieve planned change. However, in those DHBs ('C', 'E' and 'F') that failed to address or meet change recipients' expectations of principal support, the organisation's apparent lack of commitment to change impacted stakeholder acceptance and commitment to change negatively.

Characteristics of those impacted by change

Personal characteristics of change recipients such as their needs, values, aspects of personality and general self-efficacy have been identified as antecedents of individual change readiness (Holt et al., 2007; House, 1971; Kirkman et al., 2000; V. D. Miller et al., 1994; Neves, 2009; Upadhyay et al., 2013) as have change specific self-efficacy and risk tolerance (Judge et al., 1999). This study, in common with these and other authors (Holt et al., 2007; Lottridge et al., 2011; Rafferty et al., 2013) also identified the values, attitudes, beliefs and perceptions of change recipients as major modifiers of self-efficacy, acceptance and commitment to change.

DHB 'C' failed to fully adopt the *interRAI*-HC tool largely because the professional and personal orientation of change recipients (and hence their knowledge, skills and beliefs) were not aligned with the nature of the *interRAI*-HC tool. It is possible this situation impacted their belief of self-efficacy and, consequently, their pre-

introductory change readiness negatively. These needs assessors saw the tool as imposing a medical model of assessment on clients while they considered a social model of assessment more appropriate to the older person. Their view was the *interRAI-HC* tool did not support good (their) practice and provided no benefit to clients – they lacked the belief of valence. Thus change recipients in DHB ‘C’ possessed poor cognitive and emotional (affective) pre-introductory change readiness to implement the *interRAI-HC* tool. Readiness did not improve during the attempted adoption of the *interRAI-HC* tool, due in part to the failure of the DHB to respond appropriately by providing effective emotional support (mentors), training and on-going support. In DHB ‘F’ the appointment of a service manager and needs assessors with negative attitudes towards the *interRAI-HC* tool undermined its full adoption.

Values, beliefs, attitudes and perceptions are intangible contingencies that may be invisible but this study identified them as powerful in creating or reducing change readiness. DHB ‘B’ responded to these contingency variables by disestablishing the NASC service and contracting the service to a third party deemed to employ staff possessing the required cognitive and affective attributes. This ensured change recipients possessed an initially high level of general pre-introductory change readiness to learn and apply the *interRAI-HC* tool. Cognitive and emotional readiness was developed during adoption and assimilation through appropriate training and support. In contrast, DHB ‘E’ commenced adoption with a clinically trained workforce but the loss of key *interRAI-HC* training staff and poor organisational support quickly eroded cognitive and particularly emotional readiness to fully adopt the *interRAI-HC* tool.

DHBs ‘A’ and ‘D’ responded to the need to develop change recipients’ cognitive and emotional readiness by actively seeking to positively influence their attitudes, as a number were not clinically trained. This was achieved through close monitoring of change recipients’ cognitive and emotional states, comprehensive training needs assessment and continuing education, training, peer review, feedback, competency development and continuing organisational support. New recruitment policies to appoint only clinically trained staff as needs assessors reinforced organisational

commitment to change. These DHBs also provided close mentorship to change recipients. Mentors can offer two kinds of support, career development support (for career advancement) and psychosocial support (Kram, 1985). Psychosocial support involves developing an individual's identity (for example as a needs assessor) and acting as a role model (Kram, 1985). Mentorship that provides this type of support can reduce the incidence of intention to leave employment (Hall & Smith, 2009). Findings suggest that effective mentorship contributed to the low staff turnover in DHBs 'A' and 'D' during the adoption and assimilation of the *interRAI*-HC tool.

Key to the efforts of change managers to influence existing, non-clinically trained change recipients was the early achievement of benefits to change recipients and clients. These included increased client satisfaction, better targeting of services to client needs and an enhanced sense of professionalism resulting from positive feedback from those receiving *interRAI*-HC assessment reports. These benefits increased positive emotional responses towards the tool which motivated change recipients to develop cognitive attributes and become more proficient in the tool.

Task structure

Fiedler (1964) and Lawrence and Lorsch (1967) identified task structure as a contingency impacting organisational effectiveness. This study identified task structure as a contingency variable impacting change readiness to implement the *interRAI*-HC tool at the work group and individual level. The use of the *interRAI*-HC assessment tool involves two tasks; needs assessment and subsequent utilisation of the assessment data to perform service coordination or allocation. DHBs 'E' and 'F' separated these two tasks both by physical location and by operator. The needs assessments were performed in the specialist rehabilitation services for older people while service coordination was performed by the NASC service, many miles away in the case of DHB 'E'. In addition, service coordinators in the NASC service were not trained in the use or interpretation of the *interRAI*-HC tool. This led to confusion, duplication of work and an eventual decision by the NASC service to cease service coordination from *interRAI*-HC assessment outputs. This action by the NASC service contributed to the tool's termination in DHBs 'E' and 'F'. The four remaining DHBs participating in this study recognised the interdependence of the

two tasks. The management response in these DHBs was to ensure that needs assessment and service coordination were performed by the same person. Needs assessors and NASC managers commented that this arrangement had not necessarily been in place previously when the Support Allocation (SPA) tool was used to assess older people. The *interRAI-HC* tool's clinical nature and the close observation required in assessing clients means that the person performing the needs assessment best understands the client's clinical context and support needs and is therefore in the best position to allocate appropriate services.

Change history

In common with Burns and Stalker (1961) this study found the experiences of stakeholders and particularly change recipients of previous or concurrent change impacted readiness to implement further planned change events. Many participants referred both to experiencing poor management of change events in the past and the constant change occurring in the health system and within their DHBs. They reported that experiences with constant change led to change weariness resulting in emotional resistance to further change. Participants in DHB 'C' complained that Older Peoples' Health Services were being redesigned at the same time that the *interRAI-HC* tool was being implemented and these simultaneous changes had a negative impact on change recipients' acceptance and commitment to the *interRAI-HC* tool. It is noteworthy that in both DHBs 'A' and 'D' managers worked actively to ensure that no other service changes were affecting their NASC services while the *interRAI-HC* tool was being implemented

Overall service design and configuration

Ponsignon et al. (2011) have suggested that the efficiency and effectiveness of service changes and thus their value proposition to the services targeted for change and their stakeholders is contingent on the design and configuration of the service delivery system. This means the overall design and configuration of a planned change event can be a significant modifier of acceptance and commitment to the change. In this context, change recipients in DHB 'A' were concerned to discover that while the *interRAI-HC* tool enabled a superior assessment to the SPA assessment tool, they were often unable to allocate services that fully met the additional support needs

identified. This was because such services were either not publicly funded or were unavailable locally. Thus overall service configuration did not entirely support needs assessments conducted using the *interRAI*-HC tool. This created an ethical dilemma for some change recipients, potentially reducing their commitment to assimilate the tool into daily practice. The organisational responses to this dilemma were to develop processes to enable needs assessors to advise clients on how and where to access services not publicly funded or available locally and to record the nature and frequency of such services to inform future service development. These responses were satisfactory to those needs assessors experiencing disquiet over unmet but identified support needs and commitment to change was maintained.

The *interRAI*-HC change event is a contingency factor

In common with Fiedler (1964), Bartunek et al. (2006) and D. R. Self et al. (2007), this study found the content of the change event itself a significant contingency factor influencing the attitudes of stakeholders towards planned change. The content of change influences employees' perceptions of the nature and extent of change and whether the change is beneficial (S. D. Caldwell et al., 2004; Rafferty & Griffin, 2006). Rafferty and Griffin (2006) found an individual's response to change becomes more negative as the change content increases. The critical characteristics of the *interRAI*-HC tool rendering it a contingency variable were found to be its technical (electronic) platform and clinical orientation as these have implications for the knowledge and skill set required of the workforce (Khazanchi, 2005) and hence for the cognitive (A. D. Walker et al., 2012) and emotional (Rafferty et al., 2013) readiness of employees to effect change. Implementation of the *interRAI*-HC tool was a significant change for most change recipients, involving the development of computer literacy and clinically oriented assessment that required the acquisition of a significant body of new knowledge and skills. Participants in DHBs 'A' and 'D' generally agreed that their DHBs' supportive responses to the content (training, mentorship etc.) of the *interRAI*-HC tool contributed to creating and maintaining cognitive and emotional change readiness throughout the change event.

NASC service managers and needs assessors in DHBs 'A', 'B' and 'D' commented that the *interRAI*-HC tool's international evidence base was an important aspect in

their acceptance for change as it enhanced their feeling of professionalism. Some noted their service was seen as more professional by others partly because of this evidence base. However, the fit between the evidence base of the *interRAI*-HC tool and the setting of care in which it was used was also a factor influencing acceptance and commitment to the tool. As the *interRAI*-HC tool is designed for use in community based settings of care, its use in community based NASC services by DHBs ‘A’, ‘B’ and ‘D’ was seen as a good fit with its evidence base. However, its use in hospital based settings of care such as specialist rehabilitation (DHBs ‘E’ and ‘F’) or specialist older peoples’ services (DHB ‘C’) impacted negatively on change recipient acceptance and commitment to its adoption in those DHBs.

The perceptions of both clients and those receiving *interRAI*-HC assessment reports impacted the acceptance and commitment of needs assessors to fully adopt and assimilate the tool. Participants in DHBs ‘A’, ‘B’ and ‘D’ were positively influenced towards the *interRAI*-HC tool by supportive feedback from clients. In the case of DHB ‘A’ General Practitioners’ positive feedback on the superior quality of *interRAI*-HC assessment reports (compared to the SPA tool) reinforced needs assessors’ satisfaction with *interRAI*-HC tool and their commitment to its assimilation. In contrast, the negative attitudes of clients in DHB ‘C’ towards the *interRAI*-HC tool reinforced negative attitudes to the tool in change recipients. This shows the attitudes and responses of key external stakeholders to planned change events can be powerful external contingency variables modifying change recipients’ state of readiness to assimilate a change event. It is noteworthy that change recipients in DHBs ‘A’ and ‘D’ (but not DHB ‘C’), worked with external stakeholders to resolve any problems they experienced, resulting in their increased satisfaction with the *interRAI*-HC tool. This response to external stakeholders’ needs enhanced acceptance and commitment to the change event in both internal and external change recipients.

8.5 How can a State of Readiness Tool support implementation of new processes or technologies in the context of introduction of *interRAI* across six District Health Boards?

A State of Readiness Tool (SoRT) that enables the early and on-going assessment and creation of change readiness allows an organisation to respond with timely, appropriate efforts to rebuild or develop change readiness and increase the probability of successful change. The design of such a tool requires both basic and specialist knowledge (Frank, 1999). In this case, knowledge about the nature and characteristics of change readiness and the contingencies and factors that create, diminish, maintain and enhance it. Frank (1999) describes the sources of basic knowledge as literature and education and training establishments. He contends that specialist knowledge, such as that regarding an organisation's stakeholders, is gained in the workplace. Basic knowledge enables understanding of a problem but specialist knowledge is needed to enable a sector, organisation, team or individual to produce solutions to problems (e.g. the creation of change readiness) (M. Cross & Sivaloganathan, 2005). Armenakis and Harris (2002) cite four basic approaches to assessing change readiness that organisations might employ singly or in combinations. The first is an audit of the effectiveness of change messages, the second involves observation of employee behaviour towards change, the third is to obtain direct information on employee attitudes, feelings and beliefs about change through individual and group interview and the fourth and most formal approach is through organisational survey.

DHBs are busy working environments. Analysis of participants' interviews suggests that to be of value, tools to assess, create and monitor change readiness need to be concise, easy to use on multiple occasions, appropriate to use in the health care environment and must provide regular, reliable and timely feedback to users throughout the progress of planned change events. These are not characteristics of quantitative or semi-quantitative survey approaches to the assessment of organisational, work group and individual change readiness (Abdolvand et al., 2008; Holt et al., 2007; Khalfan et al., 2001; Rafferty et al., 2013; Weiner et al., 2008). Many authors acknowledge that the construction of reliable and valid quantitative

tools to assess change readiness is problematic, particularly with respect to validity and reliability (Holt et al., 2007; Stevens, 2013; Weiner et al., 2008). Furthermore, such tools measure change readiness at a point in time only, are costly and time consuming to administer and analyse. Consequently they often become retrospective rather than real time assessments of change readiness (Stevens, 2013; Weiner et al., 2008). It is also highly likely response rates to such tools within busy DHBs will be low, particularly if a survey approach is used routinely (Weiner et al., 2008).

Taking these factors into account, this study took a qualitative approach to developing a quantitative SoRT that brings together basic and specialist knowledge about the creation of change readiness into one relatively short, easy to use document that takes a stepped or stage based approach to assessing and creating change readiness over time throughout the change event. This was achieved by integrating the knowledge and insights gained through the literature review with the general inductive analysis of semi-structured interviews conducted with study participants. These semi-structured interviews focussed on the change content (what is being changed), the change process (how the change is implemented), the change context (the circumstances under which change is being implemented) and the individuals and organisations involved (the characteristics of those being asked to change). Focussing on these aspects provided insights into the extent to which change recipients and stakeholders were cognitively and emotionally disposed to accept, commit to, adopt and assimilate a planned change, in this case the implementation of the *interRAI*-HC tool.

An expert focus group reviewed the SoRT, assessed its construct validity and utility and provided suggestions for its improvement. The group endorsed the tool's utility, practicality, content and construct validity, with the tool's underlying process construct of change readiness resonating strongly with members. They saw value in approaching change readiness as fluid and changeable with time, conditions and context throughout the stages of implementing a planned change event. Group members felt the construct of change readiness as a process would reduce complacency among change managers. They saw regular use of the SoRT as

encouraging change managers to consider factors impacting organisational, work group and individual change readiness at each stage of a planned change event.

The group agreed the appropriate and active use of the multiple reference points (project managers, operational managers, champions, change recipients, team meetings and interviews) identified in the SoRT would enable change managers to gauge stakeholder change readiness continuously, identify problems impacting the creation and development of change readiness and take timely corrective action to maintain change readiness. In addition to the assessment of change readiness, group members agreed use of the SoRT would enable the emergence of change ready behaviours in change recipients and other stakeholders throughout the implementation of a planned change event and facilitate the realisation of expected benefits. The guidance on the creation, development and monitoring of change readiness provided in the SoRT was considered particularly useful in indicating where to focus remedial efforts and how increased change readiness might be achieved.

Part two of this Chapter will address areas that emerged from this study as particularly important in developing and using the SoRT to assess, create, develop and monitor change readiness over time throughout the implementation of planned change events.

Part 2: Failing to prepare is preparing to fail

8.6 Introduction

The previous section considered contingencies impacting change readiness to implement the *interRAI*-HC tool (and by extension other similar change events) and shows that identifying and appropriately responding to these contingency factors builds individual, work group, organisational change readiness for a change event.

This study indicates that creating change readiness at all organisational levels and among all key stakeholders is the essential element in preparing for each stage in the implementation of a planned change event. The SoRT aims to enable the assessment and development of this element. This section focuses discussion on those contingencies and processes that emerged from the research as the key aspects to assess and monitor in the creation and development of change readiness. The section discusses the construct underpinning the SoRT and its operational use. It also presents ideas and tools that can be used in conjunction with the SoRT to increase its utility and effectiveness.

8.7 Leadership

Northouse (2004) describes leadership as a process whereby an individual influences a group of individuals to achieve a common goal. (Vecchio, 1983). Executive managers in DHBs expected clear, directive and essentially authoritarian leadership from the Ministry of Health in implementing the *interRAI*-HC tool. Strong central leadership was seen as providing a clear mandate for change which would be accompanied by principal support. In contrast, middle managers and staff in participating DHBs rejected authoritarian approaches, preferring instead a participative, open and flexible relationship with knowledgeable executive managers, one essentially of partnership, two-way communication and feedback. They considered partnership and understanding important in gaining change recipient acceptance and commitment to change and expected senior managers to show understanding of their issues and concerns. However, these participants generally described DHB executive managers as authoritarian, task rather than relationally oriented, poor communicators and seemingly disinterested in what was actually

happening at the service delivery level. This view was reinforced by executive managers' failure to include the needs of change recipients in their pictures of successful *interRAI*-HC assimilation.

While senior managers in DHB 'D' did take a direct interest in the *interRAI*-HC implementation, their interaction was exclusively with those middle managers directly responsible for implementation. There were no meetings with target services or change recipients. Geriatricians in this DHB viewed management's interest in the *interRAI*-HC tool as entirely one of a cost cutting opportunity rather than providing better and more targeted services to clients. This illustrates the conflict of organisational identities that can emerge in complex adaptive non-profit organisations such as DHBs (Harris, 2011), in this case between an organisation demonstrating a managerialist identity by responding to financial pressure through the application of control systems and one pursuing a social service agenda (Chenhall, Hall, & Smith, 2015; Harris, 2011). Direct communication or interaction between executive managers and geriatricians could have facilitated greater understanding and trust between these groups. Furthermore, such an approach would have also provided managers an opportunity to inform clinicians better about financial constraints, perhaps facilitating a more cost-conscious outlook (Chenhall et al., 2015).

In general, change recipients in NASC services felt isolated from the rest of the DHB and were critical of the relationship between their service and executive managers. Abrell-Vogel and Rowold (2014) point to the need for both team leaders and organisational leaders to support those impacted by change. Indeed, they go further, suggesting that organisational leaders need be aware of their own commitment to change and demonstrate a bond to the change event in order to build acceptance, commitment and affective support for change among employees. The SoRT reflects the importance of assessing and monitoring the quality of relational organisational leadership and contains guidance on its development.

8.8 Communication

(Armenakis & Harris, 2002); Armenakis and Harris (2009) and Simoes and Esposito (2014) conclude that communication is fundamental to creating change recipient acceptance and commitment to implement complex planned change events. The key elements of effective change messages are described in Chapter Two section 2.16.2 (Armenakis & Harris, 2002, 2009). These authors propose three strategies to create opportunities to communicate change messages and dialogue; persuasion, active participation of key stakeholders and managing internal and external information. These strategies build understanding, reduce uncertainty and lead to learning and sense-making about change (Armenakis & Harris, 2002, 2009).

The MoH did not communicate the key elements of change messages, in particular discrepancy, principal support and valence, to DHBs when endorsing the implementation of the *interRAI*-HC tool. Had it done so the meaning of successful implementation may have been better aligned across the health system and it is likely DHBs 'E' and 'F' would have implemented the tool into the NASC service rather than specialist hospital based services. Executive managers in most of the participating DHBs also failed to ensure that the same key elements of change messages were present or received by change recipients and other stakeholders. The SoRT prompts an audit of the completeness of the change message and suggests strategies for ensuring complete change messages are conveyed to all stakeholders.

In common with Rafferty et al. (2013), study findings suggest that effective communication is closely linked to a relational leadership style that facilitates the participation of employees in change events. Operational managers and those impacted by change expected continuing, direct communication with executive managers. Providing opportunities for two-way feedback demonstrates organisational commitment to those implementing change, enables employees to raise emerging issues and contribute to the solution of problems, allows executive managers to respond to issues and facilitates discussion about the progress of change and the realisation of benefits. Opportunities for executive managers to demonstrate principal support are also opportunities to maintain or develop change recipient commitment and enthusiasm for change (Rafferty et al., 2013). The assessment and

monitoring of the quality and frequency of communication is a key theme running through all sections of the SoRT.

8.9 Culture; engagement, trust and learning

Employee engagement can be defined as “ seeking to increase members’ input into discussions that affect organisation performance and employee wellbeing” (Cummings & Worley, 2005, p. 306). Creating a culture of employee engagement implies developing successful dialogue between executive managers and employees. Simoes and Esposito (2014) found that environments characterised by a culture of support and trust are required for successful dialogue and that increasing dialogue between managers and employees reduces resistance to change. Zayim and Kondakci (2015) found that intentional, emotional and cognitive readiness for change in employees is increased by perceptions of trust in leadership and colleagues and that decreased trust in colleagues undermines cognitive, emotional and intentional readiness for change. These findings have substantial implications for the general and specific change readiness of a health system characterised by distrust, silos and ‘fiefdoms’ and for meaningful dialogue across and within its component organisations. Given this context, empathetic engagement and communication around the adoption of the *interRAI-HC* tool in some participating DHBs would have been difficult (Simoes & Esposito, 2014).

It is noteworthy that distrust was found to extend to relationships between clinicians. Geriatricians in DHBs ‘C’ and ‘D’ mentioned that health professionals’ mutual distrust of others’ assessments of patients was a significant barrier to reducing the duplication of assessments experienced by older people and therefore the expected benefits of change. This suggests distrust may be a significant contributing factor in the high rate of failure of change events to deliver all expected benefits in organisations delivering health care.

In addition to a culture of engagement and trust, research participants identified a culture of learning and openness to change as a key enabler of change readiness, supporting the superiority of advocacy and group culture over hierarchy in creating change readiness within DHBs. A learning organisation is one where “people

continually expand their capacity to create the results they desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free and where people are continually learning how to learn together” (Senge, 1990, p. 3). Both DHBs ‘A’ and ‘D’ established a knowledge management infrastructure to capture learning from the implementation of the *interRAI*-HC tool.

Change recipients in both DHBs reported that the presence of a knowledge capture and learning infrastructure reinforced commitment and self-efficacy by providing a source of feedback about the progress of change, the resolution of emerging problems and the realisation of benefits. Khalifa et al. (2008) report similar findings with respect to the impact of knowledge management systems on change readiness. In contrast, the lack of feedback on implementation progress impacted negatively change recipient commitment and attitudes to change in DHB ‘C’.

Findings suggest that developing the capacity to understand and use knowledge acquisition processes will improve the general change readiness of the New Zealand health system and its component systems (DHBs). Knowledge acquisition involves searching for new knowledge, recognising the knowledge that exists (F. H. Rusly, Sun, & Corner, 2015) and the active creation, development and employment of both existing and acquired knowledge (Hoe & McShane, 2010). Knowledge can influence a change recipient’s beliefs and values, thereby creating readiness to support and implement change events (F. H. Rusly et al., 2015). This was the case of DHB ‘A’ where some needs assessors initially opposed to the implementation of the *interRAI*-HC tool became supportive when presented with new information. DHBs are organisations providing professional services characterised by knowledge intensive activity and many employees are governed by professional boards, standards and regulations. Furthermore, the knowledge and skills of the professionals within DHBs determines the quality of services provided (von Nordenflycht, 2010). This means that DHBs as organisations and the individuals within them have a high absorptive capacity for knowledge, i.e. the ability to recognise, assimilate and apply new knowledge (Cohen & Levinthal, 1990). However, harnessing this absorptive capacity requires organisational support (Lyles & Salk, 0000; F. H. Rusly et al., 2015) and interaction between the sources and recipients of knowledge (F. H. Rusly et al.,

2015). F. H. Rusly et al. (2015) found that characteristics of employees such as their belief about the need for new knowledge, about their own expertise and adaptability and about management support influence their acquisition of new knowledge. The assessment and development of organisational cultural characteristics supportive of change readiness is emphasised in the SoRT.

8.10 Align business strategy, service concept and service delivery

Several authors highlight the importance of aligning business strategy, the service concept and the design of service delivery systems (Goldstein, Johnston, Duffy, & Rao, 2002; Ponsignon et al., 2011; A. V. Roth & Menor, 2003). The strategic intent in implementing the *interRAI-HC* assessment tool is to support the New Zealand Health of Older Peoples (NZHOP) Strategy (Ministry of Health, 2002) by enabling a standardised, comprehensive assessment (service concept) of the disability support needs of older people (target market). Use of the *interRAI-HC* assessment tool supports the NZHOP strategy by enabling the proactive identification of functional or cognitive decline and the allocation of services that might prevent or delay further decline. To support clients in this way, a re-configuration of home based support services towards what is termed a restorative model of care (service delivery system) is required that aims to maximise client wellbeing. Thus the *interRAI-HC* tool supports the delivery of the restorative model of care, which in turn supports the Health of Older Peoples' Strategy and all three are aligned.

DHBs 'A', 'B' and 'D' implemented the restorative model of care prior to adopting the *interRAI-HC* tool. Thus change recipients had a direct line of sight from assessment to service delivery to strategy and could see how the new assessment process altered service allocation and delivery in support of strategy. However, DHBs 'C' 'E' and 'F' had not yet introduced a restorative model of care. Furthermore, they did not implement the *interRAI-HC* tool into community-based services. Thus, change recipients only experienced an exchange of one assessment tool for another, with no apparent benefit to clients, change recipients or the organisation. Consequently, key stakeholders, particularly needs assessors and geriatricians, did not view the service concept and the design of the service delivery

systems as aligned and this reduced their acceptance and commitment to fully adopt the *interRAI-HC* tool. The SoRT prompts users to consider how well the implementation of a planned change event fits with strategy, service design, service concept and the evidence-base of the proposed change.

8.11 A project based approach to implementation

This study supports the findings of other authors (Fuerth, 2009; D. Parker, Charlton, Ribeiro, & Pathak, 2013; D. Walker, H. T. & Christenson, 2005) that a project management approach is a significant enabler of change readiness and the success of planned change events. Those DHBs ('A', and 'D') employing a project based approach to the implementation of the *interRAI-HC* tool were most successful in assimilating the *interRAI-HC* tool into target services and realising benefits. Those that did not use such an approach (DHBs 'C', 'E' and 'F') were unsuccessful. The project based approach facilitated the inclusion and participation of stakeholders, particularly change recipients, at all stages of change. The project based approach provides structure and process to resolve issues in a timely way and enables feedback and organisational learning and capability building, successful assimilation of change events, realisation of benefits and evaluation of the degree of success achieved (Fuerth, 2009; D. Parker et al., 2013; D. Walker, H. T. & Christenson, 2005). Participants in DHB 'D' acknowledged the importance of a project management approach and the associated structures and processes in maintaining stakeholder acceptance and commitment to the *interRAI-HC* tool and in building capability to implement further change events successfully. There is considerable emphasis on the assessment of the quality and the development of a project based approach to the creation of change readiness in the SoRT.

8.12 The important role of champions

Integrating complex processes into existing complex adaptive health systems is difficult (Hendy & Barlow, 2012; Robert, Greenhalgh, MacFarlane, & Peacock, 2009) and to a great extent this follows from the different values, beliefs, and identities of the various professional groups involved (Currie, Finn, & Martin, 2008). Awareness of these complexities and of the content-dependent nature of change has led to interest in the social influence theories of organisational change and

acknowledgement of the role and importance of the champion or opinion leader in positively influencing change readiness in the health sector (Dopson, FitzGerald, Ferlie, Gabbay, & Locock, 2002; Greenhalgh et al., 2004; Hendy & Barlow, 2012). Dawson (2003) describes the role of the change agent as building a community to realise an idea using position, negotiation, bargaining and other influencing activities. Birkinshaw, Hamel, and Mol (2008) ascribe four processes to the role of key change agents; motivating others, experimenting with practices within their own work groups, implementing change events and making sense of change or innovation.

DHBs 'B', 'E' and 'F' did not identify or recruit clinical or business champions to support the implementation of the *interRAI-HC* tool. DHB 'C' was the only participating DHB to possess a clinical champion for the *interRAI* suite of assessment tools. This individual was reportedly effective in driving the first two processes (motivating others and experimenting with practices within his own work group) but the final two processes of championship required him to move outside his local (work group) context and become involved with change recipients in implementation and sense-making. He was apparently unable to do so or unconscious of the need to make this transition. This impacted the effectiveness of his championship negatively. While neither DHBs 'A' nor 'D' identified or recruited clinical champions, these DHBs did possess business champions. In the case of both DHBs, these were local policy managers and the NASC managers. These managers motivated others, experimented with service models and remained close to those adopting and assimilating the *interRAI-HC* tool. They worked actively with change recipients, facilitating sense-making and helping to resolve issues as they arose. This led to the development of a community of committed, change owning users possessing self-efficacy. The success of these two DHBs indicates that the most important role of champions is to develop a critical mass of change ready employees and that business managers can be just as effective (and perhaps more so) as clinical champions in performing this role. The use of the SoRT prompts the recruitment and continued engagement of champions and assessment of the quality of their championship throughout the implementation of a planned change event.

8.13 Manage the emergence of undesired behaviour and resistance to change

This study shows that unintended consequences impacting negatively on change readiness to implement the *interRAI*-HC tool flowed from the actions, inaction and implementation decisions made by national policymakers and executive management. Lebcir et al. (2010) and R. Atun (2012) note that unintended consequences are likely to emerge when complex adaptive systems respond to policy and management action and A. C. T. Smith and Graetz (2006) indicate these are difficult to control. Norton (2008) refers to the Law of Unintended Consequences in emphasising that introducing any significant change into a complex system may or may not lead to the expected outcomes but will usually have unforeseen positive or negative influences on planned change. Merton (1976) describes the main causes of unintended consequences as error, ignorance, immediacy of interest, basic values and self-defeating predictions. One or a number of the first four causes impacted the implementation of the *interRAI*-HC tool at one or more of the DHBs participating in this study. The hospital-based target services into which the *interRAI*-HC tool was introduced in DHBs 'C', 'E' and 'F' were considered inappropriate choices by clinical experts (*error* in terms of Merton's causes). Needs assessors in DHBs 'C', 'E' and 'F' report they did not know why the *interRAI*-HC tool was being implemented or what benefits were expected from use of the tool (*ignorance*). In the case of DHB 'C' the nature and use of the tool did not align with the basic values and beliefs about the proper assessment of older people of those using the tool. These issues contributed to the unintended consequence of developing resistance to change and to subsequent failure to adopt and assimilate the *interRAI*-HC tool. Conversely, good alignment between the *interRAI*-HC tool and the values and beliefs of assessors in DHB 'B' and robust communication of the change process and the benefits to change recipients in DHBs 'A' and 'D' contributed to positive outcomes. Use of the SoRT is intended to reduce the probability of the emergence of negative unintended consequences by removing or mitigating the causes of unintended consequences.

This study supports earlier work showing that resistance may be exhibited by managers as well as employees (Palmer, Dunford, & Akin, 2006) and that identifying and dealing with resistance facilitates the implementation of planned change events

by reducing barriers to change. Kotter (1996) contends resistance develops due to factors in an organisation's structure that inhibits change. However, Petrini and Hultman (1995) describe resistance in terms of behaviour, arguing it has two dimensions, active and passive. Active resistant behaviour includes rumour mongering, sabotage and the selective use of facts to criticise change events, while passive resistance entails activities such as delaying tactics, withholding information or publicly supporting and subsequently failing to implement a change event (Petrini & Hultman, 1995).

When an executive manager's passive resistance to the implementation of the *interRAI-HC* tool was identified in DHB 'D' the issue was escalated to the DHB's Project Board. This governance group took action to neutralise the source of resistance. In contrast, DHB 'F' employed a key operational manager opposed to the *interRAI-HC* tool who actively sabotaged its use and executive management reportedly took no action to address this behaviour. Many participants alluded to the ease with which change efforts can be blocked in DHBs and the frequent failure by managers and senior clinicians to take appropriate action to address undesirable behaviour towards change events.

Some authors have focussed on the reasons people resist change (Palmer et al. (2006). Holt et al. (2007) noted that change readiness scales generally assess readiness along the dimensions of change content, change context, change process and factors associated with change recipients. D. Self, R. and Schraeder (2009) modified these dimensions, referring to change context as organisational factors and factors related to change recipients as personal factors and combining the dimensions of change content and change process into one of change specific factors. Personal factors include attitude to change, openness to change, fear of failure and change related beliefs while organisational factors can include organisational credibility or uncertainty about the level of organisational support. Change specific factors refer to causes of resistance such as the perceived appropriateness of the change and flaws in the planning or implementation processes (D. Self, R. & Schraeder, 2009). Participants in this study, particularly those in DHBs 'C', 'E' and 'F', made reference to personal, organisational and change-specific

factors as reasons for the development of resistance to the implementation of the *interRAI-HC* tool.

Some authors cite change readiness as the most important factor in minimising resistance to change (Bernerth, 2004; D. Self, R. & Schraeder, 2009). Strategies to create change readiness include education, communication, participation and coercion (D. Self, R. & Schraeder, 2009). However, negative actions towards change may not indicate aversion to change. Such actions may stem from ethical considerations or a real belief that the proposed change is flawed, which management should respond to with sensitivity (D. Self, R. & Schraeder, 2009).

8.14 Take a staged, process approach to creating and building change readiness.

Many authors have recognised the challenges in timing the assessment of change readiness (Rafferty et al., 2013; Stevens, 2013; Weiner et al., 2008). Assessment of change readiness after the decision to implement change but before its introduction will fail to capture changes in readiness due to changes in the context, content, or process of the change event or the attributes of change recipients subsequent to introducing the change. This consideration supports the construct of change readiness as a dynamic process. Study findings suggest there are four significant steps or stages in the creation of change readiness that precede and parallel the four stages of successful change (contemplation of change and pre-introduction preparation, introduction, and assimilation). These are (1) creating health system-wide (external environmental) readiness for a planned change; (2) creating organisational (DHB) pre-introductory change readiness (3) creating change readiness to fully adopt planned change and (4) creating change readiness to assimilate planned change. While these stages overlap, each stage of change readiness is associated with distinct context, content, process and attributes of change recipients that influence readiness to complete the associated stage of a change event successfully and with readiness to move to the next stage in implementing the change event. This study supports Stevens' (2013) contention that change readiness can evolve or regress and that the assessment of change readiness

should be continuous and relevant throughout the implementation of a planned change event.

Commercial environments often use the stage gate process model to identify and control key stages in the development of new products (Bonvillian, 2014; M. Cross & Sivaloganathan, 2005; Mynott, 2001). The number of stages used in new product development is determined by the level of risk presented by the project and the level of control required to manage the process (M. Cross & Sivaloganathan, 2005). A progress review is performed at the completion of each stage of product development and an evaluation process controls progression to the next stage. If a stage output is judged inadequate or defective the output is returned to the beginning of that (or an earlier) stage for correction (M. Cross & Sivaloganathan, 2005). These authors contend that the application of the stage gate model is most appropriate for products in mature markets with defined requirements. Both these characteristics apply to the health sector market. The findings of this study suggest that the stage gate approach is relevant to the process construct of change readiness, the use of the SoRT and to the problem of assessing and enabling change readiness to adopt and assimilate complex new technology or process such as the *interRAI-HC* tool.

The SoRT enables the assessment of change readiness within and at the end of each of the four identified steps in the creation of change readiness to implement a change event. If elements of change readiness are judged absent or defective the organisation, work group or individuals (whichever is relevant) may not be considered change ready to progress the implementation of the change event. In other words, a stage in the creation of change readiness may require rework either 'within stage' or at 'stage end'. In this way, the creation and maintenance of change readiness is controlled, risks to the successful implementation of planned change are managed and the emergence of change positive attitudes, emotions and behaviours is encouraged. For example, the absence of a business case, resources or a necessary component of technology signals defective organisational pre-introductory change readiness, preventing progression from the pre-introduction to the full adoption of a change event. Figure 30 shows the application of the stage gate process model to controlling the steps in the creation of change readiness.

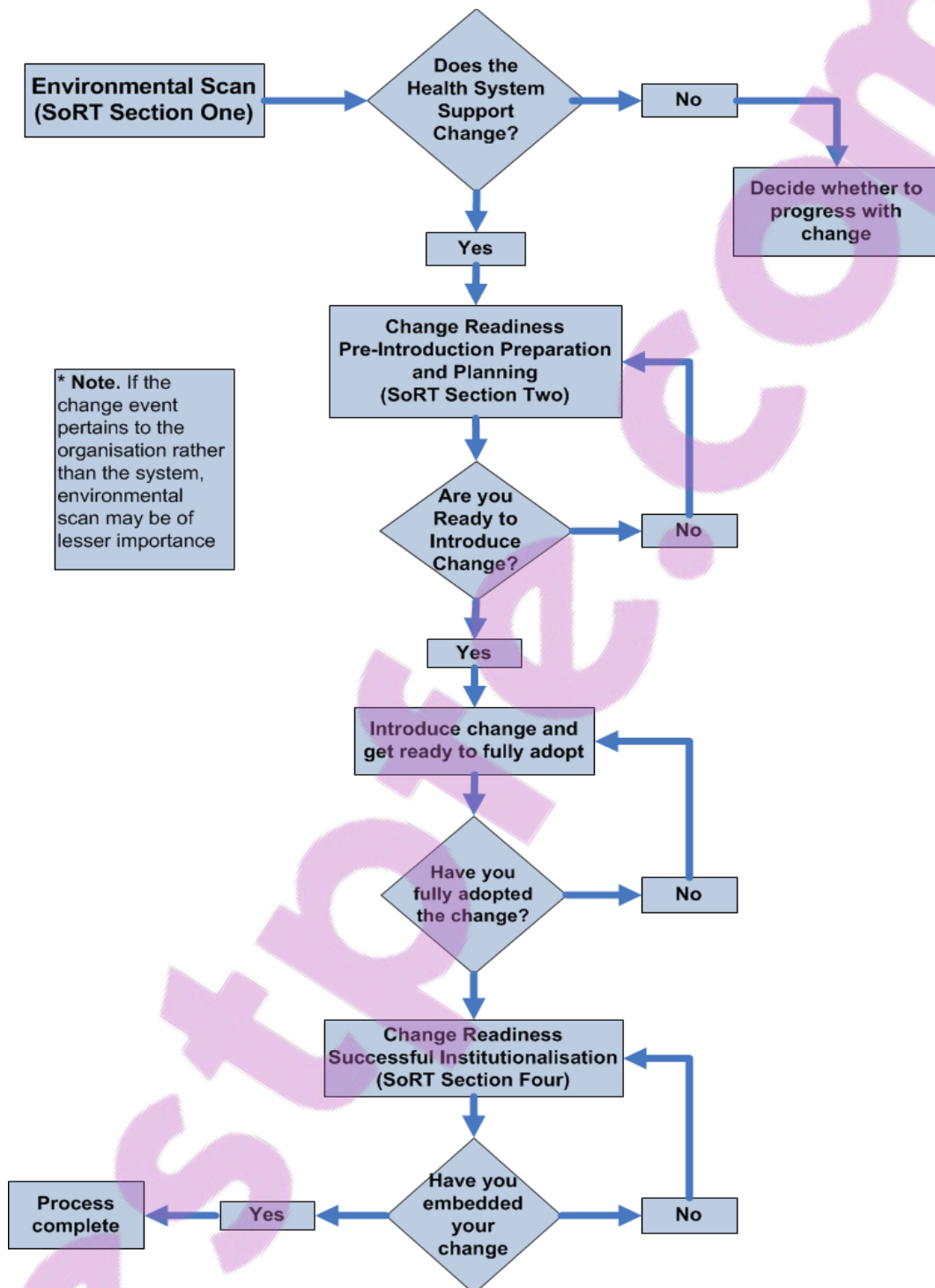


Figure 30: The stage gate model illustrates the application of the SoRT to the assessment of change readiness as a process

8.15 Elevate and address gaps in change readiness – a four actions approach.

Kim and Mauborgne (2005) agree with Pitta (2009) that the key to organisational and industry success is in the strategic approach. Citing the success of Cirque du Soleil and Starbuck's, Kim and Mauborgne (2005) refer to the strategic approach taken by these companies as a Blue Ocean Strategy (BOS) which constructs markets as red and blue oceans. Red oceans represent the known marketplace while blue oceans represent those industries not yet in existence (the unknown marketplace). Red ocean industries have defined boundaries and accepted rules and companies increase market share by outperforming competitors. In contrast, blue oceans are free of competitors and create demand and opportunities for profitable growth. In distinguishing between ocean types, Kim and Mauborgne (2005) acknowledge that while some blue oceans are created outside existing industry boundaries, most are created by the expansion of existing industry boundaries. The central position of the customer in the blue ocean construct (Kim & Mauborgne, 2005) resonates with the concept of patient centred health care.

Central to BOS is the development of an innovation creating value while reducing costs, known as a value innovation (Kim & Mauborgne, 2005; Parvinen, Aspara, Hietanen, & Kajalo, 2011; Pitta, 2009; Welch & Edmondson, 2012; Yang, 2012) and the use of a Four Actions Framework to develop a blue ocean (Kim & Mauborgne, 2005; Welch & Edmondson, 2012). The four actions are “eliminate”, “reduce”, “raise” and “create”: The innovation must create value for the market while reducing or eliminating less valuable services (Kim & Mauborgne, 2005; Welch & Edmondson, 2012). A four point tool, in the form of questions, is used to shape the four actions: (1) which factors that the industry or firm takes for granted should be eliminated, (2) which factors should be reduced well below the standard of the industry or firm, (3) which factors should be raised well above the standard of the industry or firm and (4) which factors that have never been created by the industry or firm before should be newly created (Kim & Mauborgne, 2005; Welch & Edmondson, 2012; Yang, 2012)?

Welch and Edmondson (2012) have noted examples of the application of BOS by organisations delivering healthcare to create uncontested market space and identify new health care needs. These innovations, including telemedicine and InstyMeds, the health care industry's first fully automated prescription medicines dispenser, prompted Welch and Edmondson (2012) (Pg 257) to attempt to redefine and optimise health care delivery through the application of BOS and the four actions framework which they adapted from Kim and Mauborgne's work (2005), resulting in the model depicted in Figure 31.

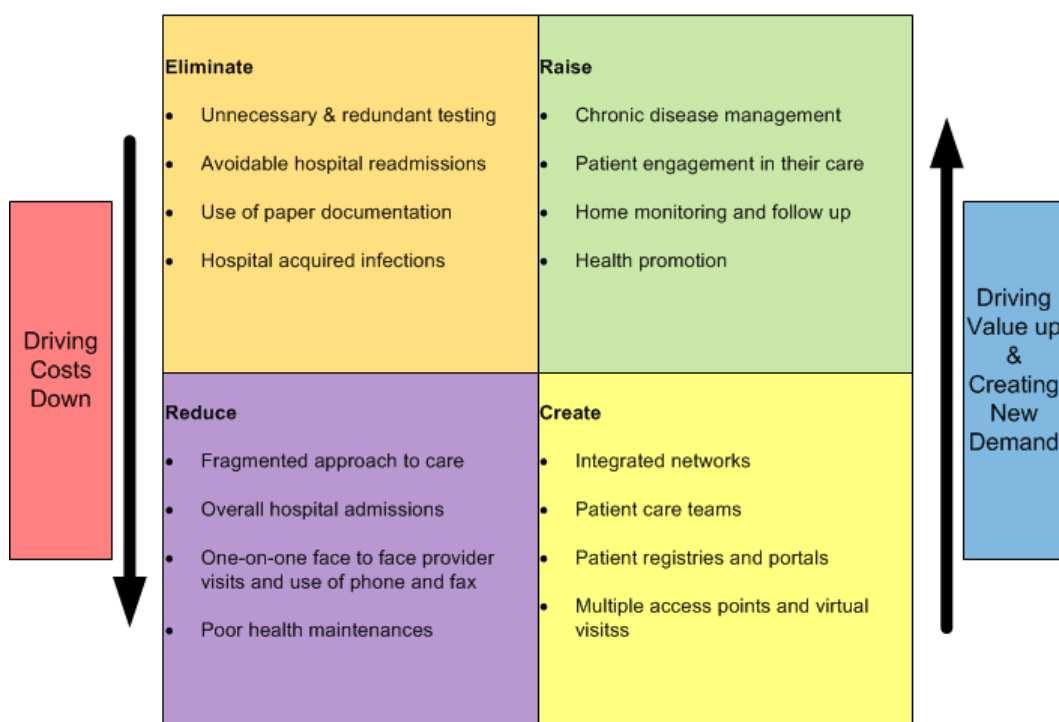


Figure 31: The BOS Four Actions Framework Builds the Foundation for Accountable Care. Adapted by S. J. Welch, and B. Edmondson (2012) from Kim, W.C. and Mauborgne, R. (2005) “Blue Ocean Strategy: How to create uncontested market space and Make the Competition Irrelevant”. Boston, MA: Harvard Business School Press (Copyright)

This study suggests the four point tool can be adapted to support the SoRT to enable a DHB to identify: (1) Which contingencies or factors impacting change readiness the DHB are well controlled; (2) Which should receive moderate attention; (3) Which should receive considerable attention to achieve the desired level of change readiness; and (4) Which are absent and should be addressed as a matter of urgency

to create, build and maximise the emergence of change ready attitudes and behaviours at each stage of implementing a planned change event.

8.16 Measure and evaluate.

Information about performance can be used to encourage desired behaviour, including support for change initiatives (J. W. Campbell, 2015; Sinclair & Zairi, 1995). Underpinning performance management is the view that clear, measurable objectives together with appropriate rewards will encourage employees to act in the organisation's interests (Lee & Jimenez, 2011). Focussing on tasks and specifying goals provides both motivation and a context for feedback that positively influences the intentions of employees to demonstrate behaviour that supports change (Taylor & Beh, 2013). However, of the DHBs participating in this study, only DHB 'A' established a performance measurement framework, based on a balanced scorecard (R. Kaplan, S. & Norton, 1996; R. S. Kaplan & Norton, 1992). This framework allowed managers to track the implementation of change against key milestones, the performance of change recipients against agreed indicators and the realisation of expected benefits. It also provided change recipients with early, positive feedback on the impact of the *interRAI-HC* tool on the quality of client assessment and the consequent improvement in matching service allocations to clients' needs. In the longer term the framework provided information on service costs and patterns of service provision. Agreeing performance indicators with change recipients before the implementation of change facilitated acceptance of and commitment to these indicators. This study found the achievement of key milestones and performance indicators and particularly the early realisation of benefits reinforced change recipients' commitment, cognitive and emotional readiness and self-efficacy to assimilate the *interRAI-HC* tool.

In addition to enabling change readiness, the development and use of a performance management and evaluation tool such as the balanced scorecard performance framework by DHB 'A' facilitated the alignment of strategic and operational goals (R. Kaplan, S. & Norton, 1996; R. S. Kaplan & Norton, 1992) and thus the alignment of business strategy, service concept and service delivery (see section 8.10).

8.17 How should SoRT be used? A multi-stakeholder, multi-perspective process of change readiness.

The final SoRT developed through this research forms Appendix IV to this thesis. In essence, this study suggests that the creation and maintenance of change readiness in organisations such as DHBs requires relational, knowledgeable and committed leadership at the executive level and acceptance, commitment and continued enthusiasm for change at the work group and individual levels. It also requires these multiple organisational levels and external stakeholders to interact and work together. The SoRT is intended to enable and facilitate these processes and promote systems thinking in creating and developing change readiness to implement specific planned change events.

Study findings support the construct of change readiness as a process, which is overlaid by a multi-stakeholder, multi-perspective approach to the process. Accordingly, the SoRT is underpinned by a multi-stakeholder, multi-perspective process construct of change readiness. Such an approach combines the process construct of change (Stevens, 2013) with an adaption of the multilevel construct of change readiness proposed by Rafferty et al. (2013), and is outlined in Figure 32. The adaption of the multi-level concept or construct is that stakeholders can be at any organisational level both within and external to a DHB and can have a variety of perspectives on successful implementation of a specific planned change event. Thus, the SoRT does not explicitly refer to organisational levels. Rather, it focusses on the assessment of change readiness as a process and the development of appropriate responses to the factors and characteristics associated with organisations, executive managers, work groups and individuals that influence acceptance, commitment, belief in self- and organisational efficacy, and cognitive and emotional change readiness at all organisational levels throughout a planned change event. These factors, characteristics and responses are discussed in previous sections. The aim is to enable the demonstration of change-ready behaviours and attitudes by all stakeholders at all stages in the implementation of planned change events.

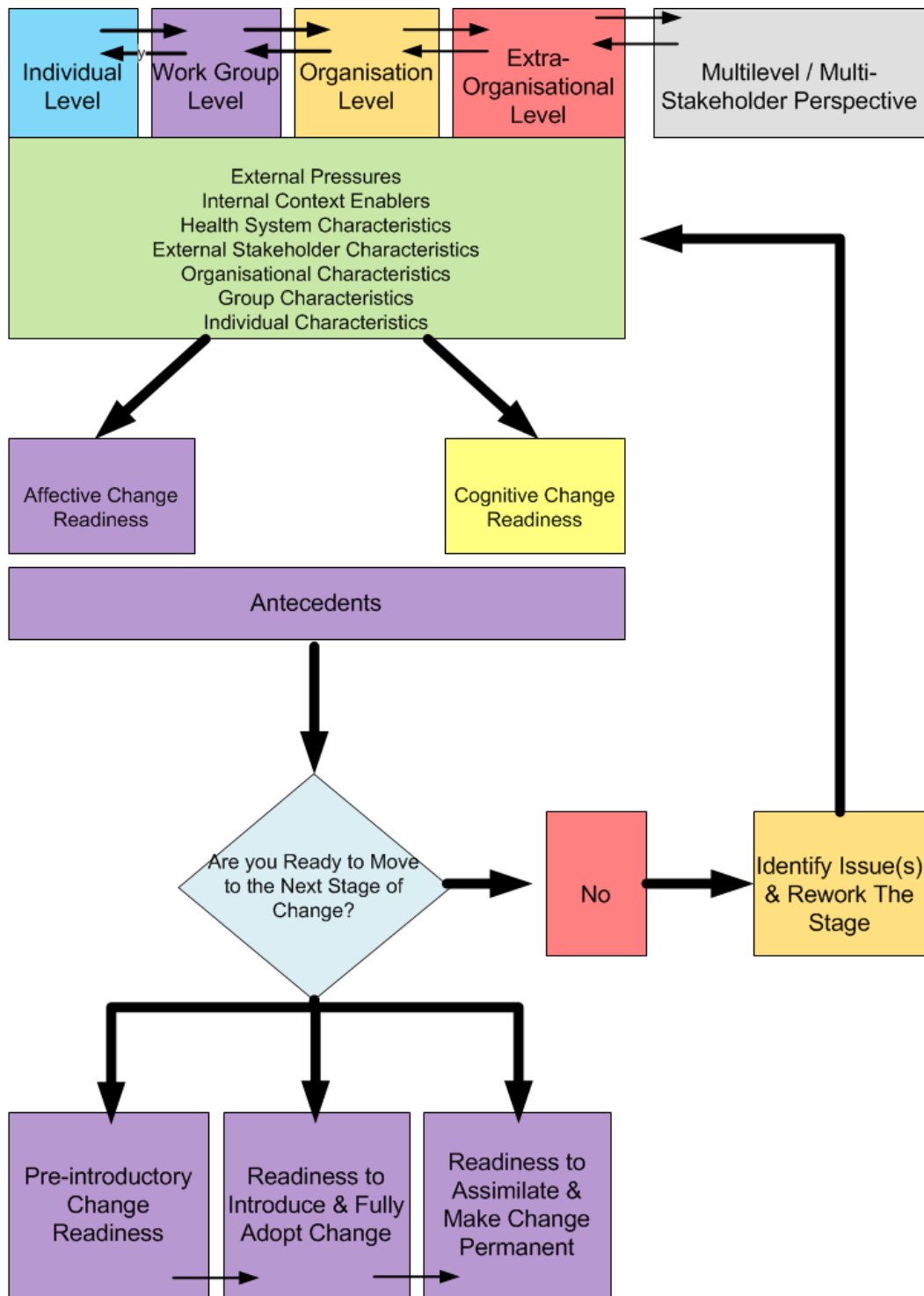


Figure 32: The multi-stakeholder / multi-perspective change readiness process

The construct of change readiness as a process that includes multiple internal organisational and external stakeholders and perspectives resonated with the expert focus group assessing the construct validity and utility of the SoRT. The research indicates the construct aligns with the nature of organisations delivering health care as complex adaptive systems. These are systems in which numerous elements with multiple relationships interact with each other and with external systems so that behaviour can emerge due to internal interactions between elements or in response to external relationships, conditions and contexts. A multi-stakeholder, multi-perspective, process construct of change readiness encourages the inclusion and engagement of all internal and external stakeholders throughout the four steps in the creation of change readiness identified by this study.

As shown in Appendix IV, the SoRT is similar to the four point tool of the Four Actions Framework associated with BOS in that it consists of questions. However, it also contains advice and guidance. The questions are based on the study findings and are designed to assess overall change readiness during and at the end of each step in the creation and development of change readiness. They are also intended to stimulate discussion within governance and change implementation groups so that consensus on the state of the change readiness of key stakeholders at any point in the change event can be reached. The advice and guidance are also based on study findings and are intended to enable actions to create and increase change readiness. The sections in the SoRT are aligned to each of the four steps in the creation of change readiness and an example of an evaluation framework is included.

The intended users of the SoRT are principally the change implementation (project implementation) group, led by a project manager but also the steering group or Project Board overseeing the change event. These groups can collectively score the questions in each section of the SoRT in accordance with instructions. Discussion and collective scoring allows the group to both determine overall stakeholder change readiness and identify gaps in change readiness at each step. This means that the project management team effectively becomes the rater of change readiness. This is in contrast to other quantitative tools used to assess change readiness that are

administered to change recipients and are therefore either group or self-referenced (Holt et al., 2007; Rafferty et al., 2013; Stevens, 2013; Weiner et al., 2008).

The change implementation group and project manager can obtain the data and information needed to answer the questions posed by the SoRT from audits, direct observation, reports from change champions, meetings and interviews with stakeholders and change recipients affected by the change. Such sources are also useful in assessing collective emotional responses to planned change, as these are powerful modifiers of change readiness (Mackie et al., 2000; Totterdell et al., 1998). The achievement (or not) of key milestones and the establishment and measurement of performance indicators and outcomes measures provides additional information about the change readiness both within a stage of change and throughout a change event. Collecting this information and demonstrating achievement can motivate stakeholders and enhance commitment to assimilate a planned change event.

Regular application of the SoRT enables a change implementation group to assess and plot the change readiness of each stakeholder group and key individual over time and assess the quality of processes supporting the creation and development of change readiness continuously. Factors impacting the acceptance, commitment, self- and organisational efficacy and the cognitive and emotional change readiness of stakeholder groups or key individuals can be identified and recorded. This enables both timely, differential action to manage stakeholders' event specific change readiness more effectively and the capture of learning that might improve general organisational change readiness for future change events.

As the change implementation group applies the SoRT, it can utilise a four point tool adapted from the BOS toolkit to determine: (1) Which contingencies or factors impacting change readiness the DHB are well controlled; (2) Which should receive moderate attention; (3) Which should receive considerable attention to achieve the desired level of change readiness; and (4) Which are absent and should be addressed as a matter of urgency to maximise the emergence of change ready attitudes and behaviours at any time during the implementation of a planned change event. This is likely to increase the efficiency and effectiveness of change management.

Part 3: Limitations, reflections, conclusions and implications

8.18 Limitations

Research Design

The research design involved case study methodology, a widely used research tool in the social sciences (G. Thomas, 2011). The limitations of case study methodology are discussed in Chapter Three. Applying Thomas' (2011) definition of a case study (Chapter three, section 3.5.1), this research can be regarded as a multiple case study with six subjects (the six participating DHBs). The research resulted in the development of a SoRT that is intended to be generalizable to the creation and assessment of change readiness to implement any significant planned change event involving technology or process into organisations delivering health care, particularly DHBs in New Zealand. While the view that generalizations cannot be made on the basis of a single case is not supported by scientific history and there are solid links between case studies and the development of theory (Flyvbjerg, 2011; Giddens, 1984), the generalizability of the SoRT is untested and this is a suggested avenue for further research.

Data Collection and analysis

Whilst attempts were made to minimise bias and variation in collecting data, there were logistical difficulties in collecting data related to the availability of participants and the distances between participating DHBs. Face to face interviews were conducted with participants in DHBs 'A', 'B', 'C', 'D' and 'F' with the exception of one executive manager in DHB 'F', whose interview was conducted by telephone. In contrast, all interviews with participants in DHB 'E' were conducted by telephone. These differences in the administration of the semi-structured interviews may have influenced participants' responses. All executive managers in DHB 'B' who were approached to participate in the research declined the invitation, as did two executive managers in DHB 'F'. A key executive manager in DHB 'E' also declined. Non-participation by these DHB members may have resulted in bias with respect to the data collected and analysed from executive managers.

A general inductive approach was taken to the analysis of data in this study. This means that the researcher determined which data were important and how data were analysed, coded and categorised. While a check for coding consistency was performed, interpretation of the data remains that of the researcher.

The researcher

The characteristics of the researcher may affect participants' responses. Attributes such as age, gender, profession and facial expressions may influence a participant's responses and behaviour. Some participants were more familiar with the researcher than others and this may have influenced responses.

Sample bias

Large, middle sized and small DHBs participated in the study and the mix of DHBs included those with significant rural and urban populations and those with a varied population profile. However, the sample or subjects of the case study consisted of the six DHBs that were the early adopters of the *interRAI-HC* assessment tool. As early adopters, these DHBs may have characteristics not considered representative of the characteristics of all DHBs. For example they may be less risk averse, more entrepreneurial and more outward looking than most. These characteristics may be sources of bias in the sample. However, these DHBs collectively account for one third of the total number of DHBs and are representative of the variations in size, populations served, geography and complexity of services and operations found in DHBs across New Zealand. Furthermore, it is noteworthy that participants considered their DHBs as generally typical of such organisations with respect to organisational characteristics.

The usability of SoRT

Thematic analysis of the data led to the researcher deciding which data were important and how data was analysed, coded and categorised. These decisions affected the construction of the SoRT and may therefore influence the usability and generalizability of the SoRT.

8.19 Conclusions

Implementing change successfully into complex adaptive organisations such as DHBs is difficult. Half of the six DHBs participating in this study failed to fully adopt the *interRAI-HC* tool and none achieved all the benefits expected of the change event. System-wide, organisational, team or work group and individual factors played a significant part in these failures through their impact on change readiness. These findings are consistent with the literature indicating that half to three quarters of all change events are entirely or partially unsuccessful.

There was a significant lack of system-wide strategic alignment between the MoH and DHBs and between DHBs with respect to implementation of the *interRAI-HC* tool, with two DHBs decoupling significantly from national policy intent. Most DHBs exhibited a lack of strategic consensus and internal confusion about the aims of the implementation.

The research identified important internal organisational, work group and environmental contingency variables influencing change readiness to implement complex processes into DHBs in New Zealand. It also identified responses to these variables that enable DHBs to create and build change readiness to assimilate complex planned change events successfully. The research shows that change readiness can be constructed as a four step multi-stakeholder, multi-perspective process, that the change readiness of stakeholders varies with time, conditions and context and that the various factors influencing change readiness can do so in different ways at each step in its creation and development. The study shows that using the multi-stakeholder, multi-perspective construct of change readiness it is possible to develop a useful state of readiness tool possessing construct validity that both assesses and enables readiness to implement complex change events. Review by an expert focus group suggests the SoRT is generalizable across change events.

8.20 Reflections

In hindsight, there were several advantages attached to selecting the implementation of the *interRAI-HC* tool as the context within which to study the creation and assessment of change readiness. First, implementing the *interRAI-HC* tool is a large

and complex process and it is costly. Failure represents a considerable waste of scarce resources. Second, implementing the *interRAI-HC* tool impacts significantly on service delivery and inter-organisational relationships, as the technology is complex and necessitates considerable adjustments to existing work processes and service interfaces. Third, significant workforce development is required. Most needs assessors were required to move from paper-based assessments of older people to an electronic platform. Fourth, the perspective of assessment and the knowledge and skills required to achieve competency in the use of the *interRAI-HC* tool are entirely different to that associated with the SPA tool. The *interRAI-HC* tool required needs assessors to adopt a clinical or medical perspective and abandon the social orientation traditional to the assessment of older people. Meeting these requirements was difficult and challenging for many. Fifth, the change event involved a number of groups, needs assessors, operational managers, clinicians, clients, external service providers and the Ministry of Health. This provided an excellent opportunity to explore change readiness in the context of a complex environment.

Taking a systems view was helpful in organising the research and reinforcing a multi-level approach to the investigation of the research questions. Considering the health system and its component DHBs as complex adaptive systems led to conducting interviews with participants at various organisational levels, some not directly involved in the implementation of change. This provided different perspectives that were unknown prior to commencing the research. Using the NVivo version 10 software package greatly facilitated the organisation and thematic analysis of the considerable volume of raw data collected.

Ideally, a holdout sample or set of DHBs about to implement the *interRAI-HC* tool, on which the SoRT could be tested for reliability, would have been useful. However only six DHBs implemented the *interRAI-HC* tool and all six participated in this study, rendering such testing impossible.

At the national level, the Minister of Health understood that the health of older people, in particular their assessment for disability support need, was a critical area of

health care policy development. Given the level of Ministerial interest in the *interRAI-HC* tool, it is surprising that no more than six DHBs attempted to implement the tool. However, this example highlights the problem of control, even for senior leaders that is inherent in a complex adaptive system such as healthcare.

Finally, working in the New Zealand health system, both in DHBs and within the MoH, has allowed me to look at DHBs from both inside and outside these organisations and consider these different perspectives. It has also allowed me to capitalise on the many relationships I have formed. These relationships enabled me to interview participants from the Minister down to those working at the coalface of assessment. This facilitated the research and for that I am very grateful.

8.21 Implications

The research has a number of implications for national policymakers and organisations such as DHBs delivering healthcare and seeking to create and maintain readiness to implement planned change.

8.21.1 Implications for national policy

The study shows the importance of the application of systems thinking to the health system. If policymakers consider both the health system and its sub-systems (such as DHBs) as complex adaptive systems it is likely they will achieve a better understanding of sub-system behaviour and avoid unintended consequences of policy and process. Policymakers would also be alerted both to the opportunities for innovation and experimentation presented by the properties of equifinality and the self-organisation inherent in organisations such as DHBs and to the difficulties in controlling emergent behaviour. Policies that encourage and leverage relationships and collaboration are likely to result in the emergence of a more integrated, innovative and change ready system characterised by trust and learning.

On a more practical level, the implementation of system-wide, nationally mandated change events that advance national policy intent, such as the implementation of the *interRAI-HC* assessment tool, should be led and driven by the MoH through an appointed change agency such as an expert National Governance Group. This

group should be representative of key stakeholders, with clear terms of reference, aims and objectives and accountabilities for the planned change. Such a group will have a mandate to provide governance, leadership and advice for the change, will work actively with stakeholders to enable understanding and align impacted organisations with policy objectives and will facilitate acceptance and commitment to change. However, local implementation of policy should be left to appropriately monitored, self-organising DHBs.

It is reasonable to expect national policymakers to acknowledge the additional costs of planned national change events and to support these events by providing specific and adequate funding. The attachment of accountabilities and performance indicators to such funding would facilitate strategic alignment across the health system.

National policy should require DHBs to collaborate in the establishment and maintenance of project management and knowledge management systems that feed lessons learned from change events into a national knowledge management platform. This would enable system-wide learning and capacity and capability building and improve general readiness to implement specific planned change successfully. Common systems can help to break down organisational silos, facilitate the spread of evidence based practice, lift health system performance and support planned change events. Policy settings that result in early engagement and championship by Professional Boards, Colleges and Societies where planned change impacts practice would facilitate acceptance and commitment to change events by health professionals.

This study shows that hierarchy, fragmentation and silos within both the health system and DHBs impact the emergence of change ready behaviours negatively. This suggests that policy settings which encourage DHBs to become more organic and funding policies that break down service silos and support collaboration between service providers are likely to result in greater trust and inclusion in decision making and lead to the emergence of both positive attitudes to change and change ready behaviours.

8.21.2 Health service implications

Perhaps the most important implication for health service providers such as DHBs is that the study shows the importance of assessing the current position with respect to system and organisational change readiness. It is noteworthy that participants within DHBs viewed their organisations as representative of all DHBs. From that perspective, this study shows that both the MoH and DHBs are generally characterised by employees as mechanistic organisations with hierarchical structures and closed cultures and that distrust pervades both the health system and its component DHBs. These system-wide characteristics do not support the emergence of change ready attitudes, beliefs or behaviours. Health professionals and many operational managers expect DHBs to become more organic and less hierarchical in nature and develop advocacy or group cultures to enable innovation, flexibility, adaptability and trust to emerge. Findings suggest organisational leaders do not generally appreciate these aspirations. Diminishing the influence of the values of hierarchy and heightening those of group and advocacy culture are likely to facilitate individuals' involvement in change and the development of positive attitudes towards change. Leadership and management styles that are relational in nature are more likely to prepare employees psychologically for change by facilitating inclusion, acceptance and commitment.

It is noteworthy that many participants providing health or assessment services (with the exception of medically qualified staff) were critical of organisational development units within their DHBs. These units reportedly limit staff development and education and training opportunities to those necessary to meet legislative or daily service requirements only. This suggests that many DHBs are not providing employees with opportunities to understand the wider context within which DHBs operate or to develop skills and attributes that enhance organisational capacity and capability. Emphasis on human resource development rather than training only, together with the introduction of tools that build organisational and individual capacity, capability and self-efficacy are likely to result in the emergence of a more change ready workforce and to maximise the probability of successful

change. These tools include knowledge management systems, a project management methodology and tools to create, to assess and to build change readiness.

Individual readiness to support organisational change reflects Lewin's (1947) concept of unfreezing, which is facilitated by a culture of learning and persuasion that encourages employees to participate in their own re-education about the need for and value of a change (Choi & Ruona, 2011). This is quite different to the power / coercive (Choi & Ruona, 2011) change strategies that participants reported as prevalent in DHBs. Employees are likely to behave as rational beings (Choi & Ruona, 2011) and so should be encouraged to see the self-interest in change. This means leaders need to recognise and communicate that interest, which means that they need to be knowledgeable about the planned change. This study shows that most senior managers within DHBs did not understand the *interRAI-HC* tool itself or what could be accomplished within the scope of implementation. This led to exaggerated expectations and a reduction in readiness to assimilate the tool in some participating DHBs when these expectations were not met.

The study also shows that external stakeholders impacted by planned changes in DHBs are often invited into the change process late, often after issues have arisen at the interface between services. The multi-stakeholder, multi-perspective approach in the SoRT would prompt the timely engagement of all stakeholders. Some study participants spoke of the role key external stakeholders could play as external change agents and champions, positively influencing change readiness at the work group, organisational and even national level.

Finally, this study found that deviance in DHBs is not uncommon, often undermines readiness to implement planned change in the health system, is often tolerated and is often ascribed to individual preferences and behaviour. For example, senior managers in both DHBs 'C' and 'F' mandated the introduction of the *interRAI-HC* tool but operational managers did not enforce its use, in one case because the manager concerned reportedly "did not believe in the tool". However, many studies have shown that deviant behaviour by individuals can be a function of organisational complexity (Monahan & Quinn, 2006) and organisational power and socialisation relationships which result in a normalisation of deviant behaviour (Crelinsten, 2003;

Monahan & Quinn, 2006). It is noteworthy that in the case of DHB 'D' organisational power relationships were used to correct the deviant behaviour of one senior manager, enhancing organisational change readiness. This indicates that deviant behaviour threatening the success of planned change events can be controlled if appropriate mechanisms of power and influence are employed.

8.22 Future research

While the SoRT is judged to possess construct (and content) validity, its criterion related validity (predictive validity convergent validity and discriminant validity) and reliability have not been explored in this study. Investigation of these properties requires a longitudinal study over multiple change events and provides an avenue for further research. The SoRT presently applies equal weighting to all questions contained in it relating to the creation and assessment of change readiness. Future research might explore which, if any, questions are more important and develop a weighting system. This work might influence the criterion related validity and reliability of the SoRT.

The practice of many health professionals is controlled by professional registration Boards, professional Councils and Colleges of professional practice. While not directly concerned with operational policy and service provision, these professional bodies are stakeholders in clinical practice and may provide practice guidelines. They could be powerful enablers of change readiness to implement planned change, particularly those with a strong evidence base. Likewise, the role of external stakeholders, such as external health service providers, in the creation of change readiness has received little attention. These considerations indicate the multilevel construct of change readiness advanced by Rafferty et al (2013) is incomplete, at least as far as the health system is concerned. The interdependence of organisations providing healthcare and the flow of clients between them implies an additional extra- or supra-organisational level that influences organisational, work group and individual readiness to implement planned change. These inter-organisational interactions flow in both directions and involve many actors and their influence on the creation of change readiness to implement planned change is considered a useful topic for further research.

Appendices

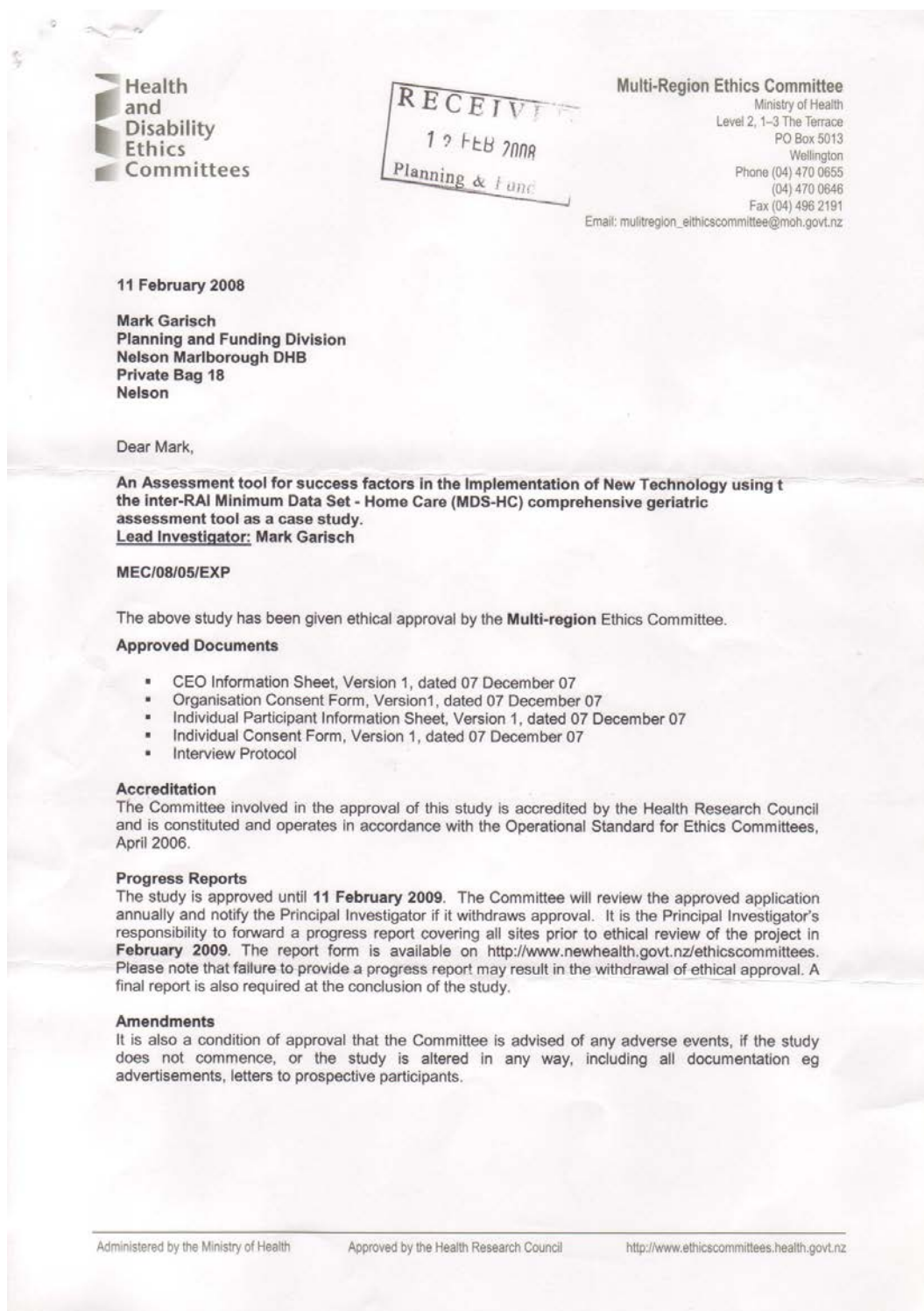
Appendix 1: Ethics clearance

Appendix 2: Interview schedule

Appendix 3: Focus group questions

Appendix 4: SoRT

Appendix I: Ethics clearance



Appendix II: Questions and Prompts Supporting Semi-Structured Interviews with Study Participants – Phase One

Name of DHB

Participant name

Title:

Introductory Questions:

1. What is your understanding of the interRAI-HC tool?
2. Why was it implemented?
3. Have you used interRAI?
4. Was there a business Case for implementation of interRAI?
5. Was there a full time Project Manager and was there an implementation group?
6. Was there a Steering Committee?
7. What is the reported satisfaction with interRAI:
 - (a) From Users
 - (b) From Receivers

Success Factors

8. What needs to be in place for the tool to be used by you as a Planning and Funding manager/your service?
9. What does successful implementation of interRAI mean to you in your role?
10. What are the influences or factors that promote successful implementation of interRAI from your point of view?
11. What are the influences / barriers / factors prevent successful implementation of interRAI or lead to sub-optimal implementation from your point of view?
12. What does failure of implementation look like or mean to you as a funding manager?
13. Did your organisation have a road map for introducing interRAI?
14. Where do you want to be with the implementation of interRAI? What does successful implementation of interRAI look like?

15. Where are you on the organisational road map for the implementation of interRAI?
16. What did you, your service or the organisation do prior to implementation to facilitate the implementation process and improve the prospects for successful implementation?

Process and Method

17. What is a process from your point of view or perspective?
18. What is a method from your point of view or perspective?
19. What does interRAI mean to you in terms of process and method?
20. What does successful use of interRAI mean to you?

Implementation

21. What does successful implementation of interRAI look like from your perspective?
22. Why is this successful implementation of interRAI?
23. How is this being successful?
24. There are 3 phases to implementing a new process/new technology. Preparing to implement, the initial implementation or project phase and then the phase where the new way of doing things becomes business as usual. What makes interRAI implementation successful:
 - (a) During preparation?
 - (b) During the project implementation phase?
 - (c) Post introduction and adoption, when it becomes business as usual?
25. What are the barriers to successful implementation of interRAI :

- (a) During preparation?
- (b) During implementation (project) phase?
- (c) Post introduction and adoption, when it becomes business as usual? Response:

26. What did you/your service do prior to implementation to facilitate and support the introduction of interRAI?

Evaluation:

The Balanced Scorecard Approach: Client/Internal Business Processes/Cost/Learning and Growth.

The Client Perspective

27. What does success mean for the client?

28. Did you/your service/ the DHB have any specific aims and objectives with respect to the client in implementing interRAI?

29. If so how were these measured?

30. What impact has the introduction of interRAI had on the health of individual clients or the health of the population of older people?

31. What impact has the introduction of interRAI had on service provision?

32. How would you know if interRAI has impacted on the health of clients or on the population of older people as a whole?

The Internal Process Perspective

33. What were your or your service's aims in implementing interRAI with respect to changing internal business processes?

34. Did you target any processes or services/areas for process change? Were any specific inputs or outputs sought or achieved?

35. Were the desired benefits of process changes mapped and measured?
36. Has assessment or clinical practice changed as a result of implementing interRAI?
37. How do you know that practice has changed?
38. What has been the impact of any process change on the health of clients or the population of older people or on service provision?

Cost Perspective

39. Did you or your service or your organisation have any aims and objectives with respect to the costs of assessment or service delivery when implementing interRAI?
40. Were there target areas for cost control?
41. Were the costs and benefits associated with the implementation of interRAI mapped and measured?
42. How would you know the aims and objectives with respect to the expected costs and benefits associated with implementing interRAI were being met?

Learning and Growth

43. What does the term “learning organisation” mean to you? Do you think yours is a learning organisation?
44. Did your service or the organisation have any aims and objectives regarding learning and growth tagged to the implementation of interRAI?
45. Were there any processes or areas of activity identified and targeted as learning opportunities when implementing interRAI?
46. Were these identified learning opportunities documented, assessed and measured?



47. How is learning co-ordinated through the organisation?

48. How does information sharing occur across

(a) Your service?

(b) The organisation?

Final Questions

49. Who was involved in developing the vision for successful implementation of interRAI?

50. Who was involved in planning and preparing to implement interRAI?

51. How do Senior Managers signal or demonstrate their interest in implementing new processes or new technology?

52. Do you have any other comments on how new processes or technology is introduced into the organisation?

53. Which of these statements is correct in your view? (a) InterRAI is the assessment or (b) InterRAI is not the assessment?

Appendix III: Prompts for Focus Group on Utility of the SoRT

SoRT Utility: Questions for interviews with interRAI user group

FOCUS GROUP ON SoRT ON 13/3/15 BY MARK GARISCH

QUESTIONS	PROMPTS
<p>1. Can you talk about some examples of when you have introduced new technologies or processes?</p>	<ul style="list-style-type: none"> • What went well? • What didn't go so well? • What would you do differently?
<p>2. You were all aware of or involved in the introduction of interRAI, can you think back to how it went and tell me about the experience?</p>	<ul style="list-style-type: none"> • Would you say it went well? • What could have been different? • What would have made it more successful?
<p>Now onto the SoRT questions</p>	
<p>3. Now taking the SoRT tool; which you've hopefully had a chance to look at. There are four parts to SoRT and its purpose is in essence to make it easier for those responsible for implementation of new technologies and systems such as interRAI</p>	<ul style="list-style-type: none"> • What are your thoughts about the way SoRT approaches the assessment and creation of change readiness? • Can we walk through each section as a group and as we go through – can you talk about how useful it would be and whether there are areas for improvement? • We will use the interRAI implementation as an example.

<p>4. After having gone through this process</p> <ul style="list-style-type: none">• How do you think this tool reflects change readiness?• How useful would this tool be?• What areas of the tool would you like to see changed?• Looking back, what do you think are the most useful questions?	
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Appendix IV SoRT

Assessing the Organisational State of Readiness to Implement Significant Change Successfully

Pre-introductory Change Readiness
The System: Scanning the Environment

Pre-introductory Change Readiness
The Organisation: Internal and External Stakeholders

Readiness to Introduce and Fully Adopt a Change

Readiness to Assimilate Change

Readiness to Evaluate Change

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Change Readiness: why is it important?

Background

Reports suggest that up to 70 percent of organisational change initiatives fail to achieve expected benefits. Issues such as poor planning or execution, lack of commitment, poor leadership or political behaviour are commonly cited reasons for failure. However, increasingly we are recognising that change readiness within the organisation is the more important factor. Change readiness is essentially the process of getting people ready for change, building acceptance and commitment to change and creating belief in the ability of the organisation and key stakeholders to achieve planned change. Creating change readiness avoids the effort required to overcome the resistance that usually follows a failure to adequately prepare people.

Why is change readiness important?

Organisational responses to workforce and funding constraints, political change, an ageing population and the introduction of increasingly complex technology and processes continue to drive change and stress the system. There are concerns regarding both the capability of health care organisations to effectively and efficiently manage the introduction of new technologies or processes and the waste of resources associated with failed attempts at change.

Given the high failure rates, preparing organisations and staff delivering healthcare for the introduction, adoption and successful assimilation of new technologies and processes assumes importance. This tool (SoRT or **State of Readiness Tool**) aims to enable your organisation to assess how ready it is to implement a significant organisational or service change and achieve the expected benefits. It also aims to highlight areas where change readiness is weak. This will enable remedial action and reassessment to maximise the probability of success in implementing planned change.

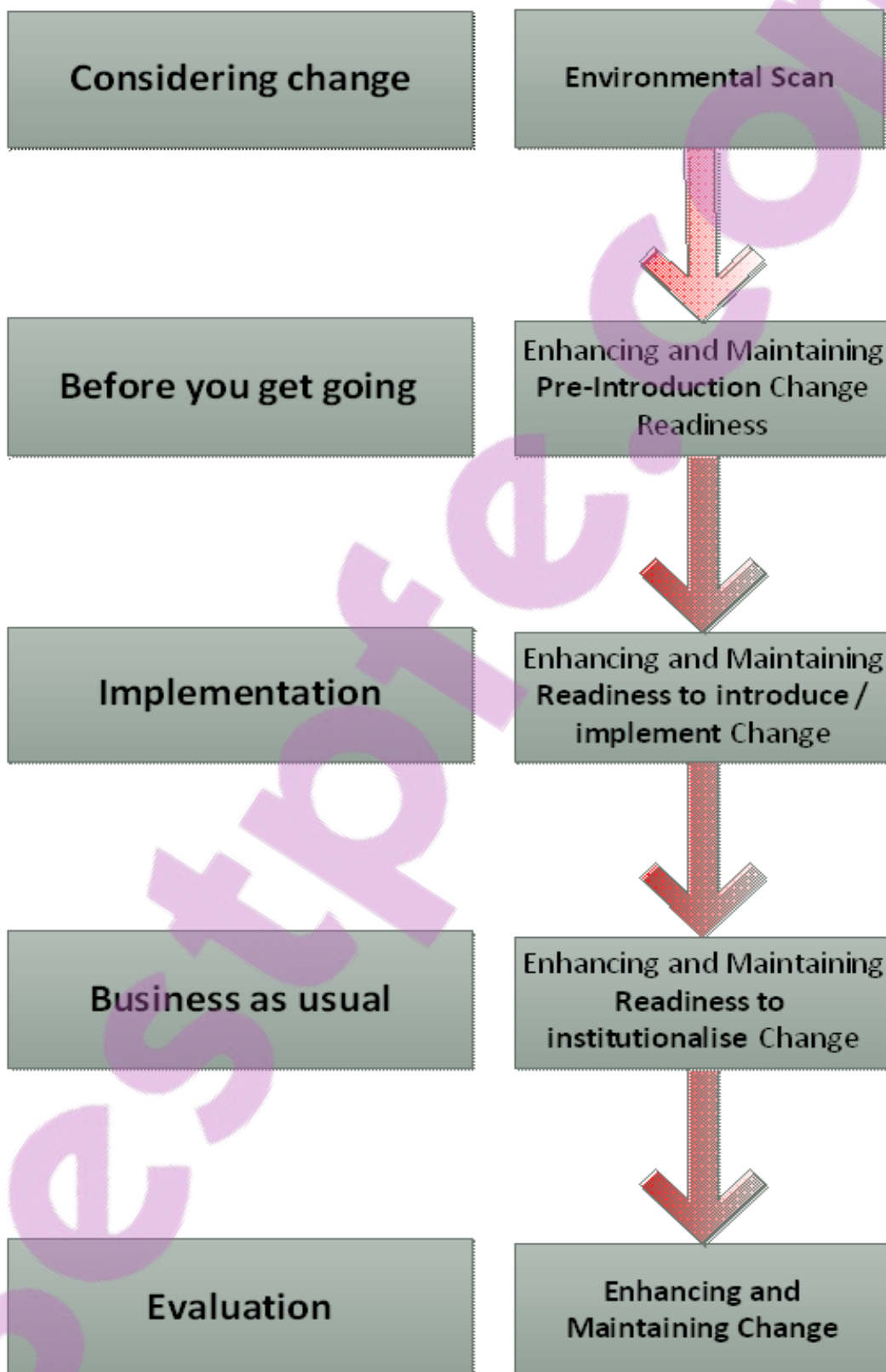
State of Readiness Tool

Instructions

Please read these instructions in full before attempting to use the tool.

1. **USE REGULARLY:** This tool should be used regularly to assess change readiness to move to each step in a change process. Change readiness varies as conditions change over time. Regular use of this tool will help change managers to assess and build change readiness in those targeted for change, achieve planned change and get the expected benefits. Document the answers to the questions in the SoRT and make notes each time the SoRT is used. This enables review and comparison of both the assessments of change readiness over time and the actions taken to create and build readiness. Reviewing the answers and notes will facilitate learning & discussion about how to build change readiness.
2. **WHO USES SoRT:** The State of Readiness Tool (SoRT) should be used by the Project Group accountable for implementing change. They will be in the best position to answer the questions posed by the tool.
3. **HOW IS SoRT CONSTRUCTED:** SoRT consists of five sections:
 - i) **Pre-Introduction: Environmental scanning**—*does the health system that you work within enable and support change?*
 - ii) **Pre-introduction: the organisation**—*are you ready to introduce change?*
 - iii) **Introduction of the change**—*how do you go about introducing and fully adopting change in a way that builds acceptance, commitment and belief in the ability to achieve planned change?*
 - iv) **Institutionalisation / Assimilation**—*how do you create and maintain readiness to make your change permanent?*
 - v) **Evaluation**—*how do you measure success?*
4. **SoRT has 60 questions across the first four sections. Each question represents a score of 1 and the score of each section must be totalled. Those questions considered most important to creating and enhancing change readiness are in bold type and are underlined.**
5. **Underneath each question is a section highlighted in green that explains the nature of the structure, tool, process or activity referred to in the question. A further section in blue highlights the importance of the activity.**
6. **A traffic light system appears at the end of each section, red indicating more work is required, amber means proceed with caution and green means all relevant areas have been covered.**
7. **Section one is scored out of 8; Section two out of 32; Section three out of 12 and Section four out of 8. Section five is not a section of the SoRT itself but presents a suggested model for evaluation.**
8. **The appendices include guidance on project management & a diagram mapping the creation of change readiness to a planned change process.**

Mapping change readiness



Section One: Pre-introductory Change Readiness (ES)

Environmental Scan: Does the health system you work within support change?

Looking at the environment of the organisation where you work, please consider the following questions and tick the box on the right if the answer is “yes”.

National Vision and Strategy

ES 1: Is there a clearly articulated national vision for the change & where it fits with national health strategies?

National vision & strategy provides direction for the activity of health care providers & clarifies the overall intent of the system.

National vision & strategy enables organisations to align local vision, strategies, aims objectives & activities to a national common purpose. This enables the achievement of the national policy intent & outcomes established for the health system.

ES 2: Has the national vision & strategy been communicated to stakeholders?

Clear communication informs stakeholders about the vision and strategy, why it is needed, what will be different & how each stakeholder group will be affected.

Communication of the national vision & strategy enables acceptance, collaboration & alignment between stakeholders & aids the identification & mitigation of risks & issues associated with implementing strategy.

National Leadership, Governance, Accountability and Support

ES 3: Is the Ministry driving change and are national performance indicators in place to drive accountability for success?

National leadership directs change and national indicators & performance requirements set by the Ministry of Health drive change by making DHBs accountable for implementing the change successfully.

National indicators signal the expected benefits & provide measures to evaluate the extent to which DHBs are successful in realising national policy intent & improving the efficiency or effectiveness of care or improving health outcomes.

ES 4: Has a National Group of key experts with clear accountabilities been established to lead this change?

A national steering group or committee consists of experts that represent key stakeholders, including clinicians. The group leads change, communicates the change message and provides support.

A national steering group or committee drives the implementation of change & provides direction, support & advice. On behalf of the Ministry, it communicates the change message (need for and appropriateness of change, confidence that change will be achieved, confirmation of material support & the benefits of change). The group aligns organisations implementing change with overall strategic & policy intent. The group reports progress to the Ministry of Health.

ES 5: Has the Ministry of Health Provided specific funding for this change?

A specific funding allocation is tied to making the change.

Funding demonstrates support for and enables change by reducing barriers to implementation. It demonstrates commitment by central agencies to the change event.

Section One: Environmental Scan (ES)

Sector Culture

ES 6: Is the sector generally collaborative, with key stakeholders identified and engaged?

Collaboration means active partnership with & learning from other stakeholders to achieve common goals. It means the development of sharing networks & communities of practice within & across organisations. Sharing resources & knowledge through collaboration allows a concentration of effort that cannot be achieved by a single service or organisation. It offers opportunities for collective problem solving & for reducing the risk of duplicating mistakes. Engagement provides stakeholders with a voice & a sense of control, increasing acceptance & commitment to change. Collaboration enables positive contributions & the diffusion of innovation & change.

ES 7: Is there a climate of high trust between the Ministry and DHBs (vertical) and between DHBs (horizontal)?

High trust means a low level of monitoring but high accountability for achieving outcomes. Clinicians & managers trust they are working to common objectives. Clinicians trust each others' judgements so work is not duplicated. Trust is demonstrated by active & open partnerships & engagement between organisations, services, managers & professionals. High trust enables strong relationships, the alignment of goals & activity, reduces duplication of effort & conserves resources. Trust facilitates stakeholder change readiness.

ES 8: Is the sector open to the change?

Openness to change means that organisations & individuals are able to contemplate & embrace change. Openness to change helps create organisational & individual change readiness. Openness to change indicates sector agility & willingness to embrace innovation & change. It facilitates networking & shared learning & enables the diffusion of change.

Environmental Scan (ES): Overall Assessment and Decision Point



Red (Score: 0-4)

Do not proceed

Amber (Score 4-6)

Proceed with caution

Green (Score 7-8)

Go Go Go

Comments:

Recommendations:

Section Two: Pre-introductory Change Readiness

The Organisation: Are you ready to introduce change?

In preparing the organisation or target service(s) to implement the change event, please consider the following questions and tick the box on the right if the answer is "yes".

Alignment with National / Local Vision and Strategy (N/LVS)

N/LVS 1: Is the planned change aligned to national and / or local vision and strategy?

National/local vision & strategy directs the activity of the organisation & clarifies overall business intent.

National/local vision & strategy enables organisations to align activity with desired national or local policy intent & outcomes. If the change does not advance national or local strategy it should not be implemented.

Local Governance and Accountability (GA)

GA 1: Has a robust business case (BC) for change been developed in collaboration with key stakeholders?

The BC identifies & states clearly the need for change & aligns the change to strategic goals. It states the problem definition (what is to be fixed). It describes the new state & outlines the implementation plan, the required resources (budget, technology, staffing, training, backfill, contingency etc), the benefits, risks, issues & mitigations at each stage of implementation & the down-stream implications of the change event. It defines organisational aims & objectives, key performance / success indicators at each stage of the project & the associated accountabilities & timelines. It provides a cost/benefit analysis & outlines an evaluation framework to measure the extent to which expected benefits are realised. The organisation doesn't proceed with change without an approved BC.

The business case establishes the requirements for change & is the key tool enabling the organisation to decide whether or not to proceed with the change.

GA 2: Has the organisation established a panel to assess its capacity & capability to meet the requirements of both the implementation and down-stream implications of change as set out in the Business Case?

A panel of experts & senior managers evaluates the robustness of the business case & the organisation's capacity & capability to implement change. If gaps in capacity/capability are identified that cannot be remedied or mitigated there may be an opportunity to implement a limited change that realises worthwhile benefits. However this requires adjustment of the business case and subsequent panel review for feasibility. If the panel approves the BC it is forwarded to the Board with a recommendation for sign off.

Panel review provides a check & measure of confidence that the business case is robust & the organisation has the capacity & capability to introduce & assimilate the change. The panel role may be assumed by the Senior Leadership Team with co-opted expertise.

GA 3: Is the Business Case signed off (approved) by the DHB's Board?

Board sign off formally commits the organisation & establishes the accountabilities for success.

Sign off by the Board authorises the organisation to proceed with the change & commit resources to the extent provided for in the BC. Board delegated authority can be used to build acceptance of change & mitigate resistance. The approved BC should be shared with stakeholders appropriately to improve understanding & build acceptance for change.

GA 4: Is a local Programme Board or Steering Group established to oversee the change event/implementation?

The Programme Board consists of organisational experts & key stakeholders & provides overall governance & support (advice & expertise) for the implementation process. It communicates change messages, facilitates the mitigation/resolution of identified & emerging risks & issues, monitors the progress of change efforts & reports to senior management. This group also oversees the allocation & commitment of approved resources & contingency funds, advocating for additional resources if required.

The Programme Board is a key structure creating change readiness & enabling successful change. Key stakeholders, including clinicians, are represented to build acceptance & ensure their interests & issues are addressed.

Section Two: Pre-introductory Change Readiness

The Organisation: Are you ready to introduce change?

Project Management Structure and Process (PMSP)

Implementing change through Project Management Structure & Process has been shown to increase the probability of success & of realising the expected benefits of change. It is likely that each organisation will have its preferred Project Management Process such as the Prince 2 method. Therefore, as guidance only, an outline of Project Management Structure & Process is provided in this section. If further guidance is required or considered helpful, Appendix One contains a more comprehensive guide to Project Management & its application to implementing change. In preparing the organisation or target service(s) to implement a planned change event, please consider the following questions & tick the box on the right if the answer is "yes".

- PMSP 1: Is a Steering Group / Project Board established & actively supporting the change?
- PMSP 2: Are both an effective & knowledgeable Project Manager & a Project Plan in Place?
- PMSP 3: Are the resources allocated through the business case being provided?
- PMSP 4: Are support services e.g. the Information Services Division providing the expected level of support?
- PMSP 5: Is there a formal, regularly updated, risks & issues log for the project?
- PMSP 6: Are emerging issues logged & addressed or resolved quickly?
- PMSP 7: Are organisation-wide structures & processes in place to capture & manage the knowledge gained from implementing this change?
- PMSP 8: Are robust specifications/requirements developed, documented & communicated to vendors regarding the required functionality & performance of technology & its integration with existing patient management systems?
- PMSP 9: Has a Technology Acceptance Testing regime been established & resourced?
- PMSP 10: Are workflows, processes, documentation & reporting/outputs for each work group aligned with the change event?
- PMSP 11: Has a training needs assessment been undertaken & is staffing adequate? Has the workforce in each affected work group the required qualifications, knowledge & skills to implement the change successfully?
- PMSP 12: Is a comprehensive, integrated training programme in place for each work group?
- PMSP 13: How will success be measured—is a project/change evaluation framework in place?
- PMSP 14: Are sufficient resources available post introduction of change to ensure success?
- PMSP 15: Are there documented change management and communication plans?
- PMSP 16: Have our plans been communicated effectively to all stakeholders?
- PMSP 17: Is the change event owned by the relevant work group(s)/service(s)?
- PMSP 18: Are other changes occurring or have they recently occurred in target service(s)?

Section Two: Pre-introductory Change Readiness

Planning (P)

P 1: Is the problem definition right?

Ensuring all stakeholders understand the essential problem to be fixed & what is to be achieved is essential to aligning activity, planning a coherent, integrated approach to the change & developing relevant solutions to emerging issues.

Starting with "What are we trying to fix?" enables selection of appropriate tools, processes & methods to achieve desired goals. Goal clarity reduces the risk that perceptions of the problem drive implementation.

P 2: Is there an organisational roadmap aligned to national/local vision & strategy & to the Business Case for change?

The roadmap is developed in partnership with stakeholders & forms the basis for detailed planning. It is a key communication document describing the vision & need for change & the relevant system & organisational strategies & service goals supported by the change & the new state. The roadmap identifies key stakeholders, provides an **overview** of how services will be impacted, when & how implementation will happen, expected benefits to the organisation & to stakeholders & the key milestones & timelines for introducing/adopting & assimilating the change.

The purpose of the roadmap is to ensure implementation is aligned with organisational and national goals & to reduce uncertainty for all key stakeholders, particularly those directly affected. Involving stakeholders in planning at an early stage enables their contribution & facilitates acceptance & commitment to change.

P 3: Has the roadmap been communicated effectively to the whole organisation & particularly to internal & external stakeholders affected by change?

Wide communication of the roadmap forms part of the overall communication plan around the change event. Communication can occur through meetings & documents that inform, including a sheet of "frequently asked questions" that shows how to obtain further information.

Communicating the roadmap effectively ensures that the organisation & all stakeholders understand the need for change & what it will mean for them. Collective understanding & sense-making creates & reinforces acceptance for change & reduces uncertainty that might otherwise contribute to resistance.

P 4: Are both Organisational & Work Group Plans (being) developed?

Organisational & work group plans support the roadmap. Those affected by the change together with key stakeholders are included in plan development. The organisational plan describes clearly the stages of implementation, what will be different, how those affected by change will be impacted & what change means & when & how each stage of introduction & institutionalisation will occur. It identifies the risks & issues at each stage of implementation & describes their mitigation. It states the overall aims & objectives for each stage of implementation, the expected benefits & how success will be evaluated. The key milestones & timelines for introducing & assimilating the change are identified together with accountabilities for their achievement. Detailed work group plans support the organisational plan, providing specific details to each work group about the implementation of change into that group, the risks and issues specific to each group & how these will be managed. Work group plans state the aims, objectives & accountabilities agreed for the work group, the expected benefits sought for both the organisation & the work group & how success will be evaluated. Planning to demonstrate some benefits early reinforces acceptance & ownership of the change event by stakeholders.

Organisational & work group plans reduce uncertainty for stakeholders & their inclusion in developing these plans builds acceptance & commitment & provides them with a voice & a sense of control. It also provides opportunities for stakeholders to contribute to success & to the identification & mitigation of risks & issues. It should be noted that backfill for staff undergoing training & achieving change related competency is identified as an importance change readiness factor for affected workforces.

P 5: Have all stakeholders been identified and assessed for their likely response to change?

Processes to identify internal & external stakeholders affected by change enable thorough communication and understanding around the change. Meetings and force-field analysis techniques enable assessment of the likely responses of stakeholder groups to change & help to manage any concerns or resistance.

Predicting stakeholder responses to change enables better planning & identification of barriers to change. It can indicate where influencing efforts should be focussed. Communication & messaging can be better targeted to the needs of specific groups, reducing uncertainty & creating acceptance of change.

Section Two: Pre-introductory Change Readiness

Leadership (L)

L 1: Are executive managers clear they expect change to happen and helping stakeholders understand the change messages & make sense of change?

Change recipients may not accept or work for change if they sense organisational commitment is lacking. Stakeholders value partnership with senior managers and want their help to make sense of change. Clarity from senior managers that change is expected empowers those implementing change. Creating a sense of partnership with stakeholders & making sense of change creates understanding which can lead to acceptance & commitment.

Communication and Engagement (CE)

CE 1: Are all those impacted by the change identified & engaged in the planning process?

This is a change management health check to ensure all relevant stakeholders are identified & engaged appropriately. The Project Board & Project Manager regularly review & update the list of identified stakeholders, the impact of change on them & their level of engagement. Engaging key stakeholders early in planning the change process demonstrates commitment to participation & helps identify their needs & identify & resolve their issues. It also provides time to develop understanding, change acceptance, opportunities to focus on the positive & to reduce uncertainty. Once stakeholders are identified & briefed on the change a stakeholder engagement plan can be developed to ensure that subsequent engagements are appropriate in terms of the degree of engagement required & when & how engagement will occur.

CE 2: Is Planning leveraging the experience & learning of other adopters?

Establishing, maintaining & using clinical & business networks helps understand what is happening in other DHBs or health care organisations. Some may have made, or may be making, similar changes. Liaising with other organisations that have made or are making a similar change creates opportunities for strengthening relationships & networks, learning about what does & doesn't work & for identifying & mitigating risks & issues that might emerge, increasing change readiness & the probability of success.

CE 3: Have clinical & business champions been identified & recruited?

Respected clinical champions with expertise & strong influencing skills help create & maintain acceptance & commitment to change & help develop a community of practice around the change. Business champions that are knowledgeable & are respected managers or leaders can help create a supportive work group environment. Consider whether some champions could come from outside the organisation e.g. other provider organisations impacted by the change. Influential clinical & business champions are a resource for engaging & motivating stakeholders & for advocating for them. They communicate the need for change, improve understanding & lend credibility to the change. This helps to build acceptance & commitment.

CE 4: Are change recipients & stakeholders being monitored for understanding/ acceptance/commitment/change readiness?

Techniques such as regular observation, informal conversation, interview & meetings can be used by the project manager & champions to gauge how those affected by change understand & view both the change itself & the conditions surrounding it. The information gathered can be used to anticipate emerging issues, improve conditions for those affected by change, confirm positive attitudes to change & better manage the change process.

Conditions change as the organisation moves from planning to introducing change & then to making the change permanent. Changes in conditions within or between each stage of change such as the level of organisational support or the way staff feel about their own capacity to make the change affect their thoughts, beliefs & feelings about the change. Staff continually evaluate & make judgements about change, how it affects them & how they & others in their group or organisation feel about the change. It's important to know how people are thinking & feeling about the change so that factors or conditions supporting understanding, acceptance & other aspects of change readiness can be amplified if possible & those that reduce change readiness can be addressed proactively. Project managers & champions continually monitor attitudes to change to manage stakeholders & maximise readiness to progress change & make it permanent. Change recipients need to accept & commit to the change event before it is introduced.

Section Two: Pre-introductory Readiness

The Organisation: Are you ready to introduce the planned change?

Pre-Introduction: The Organisation—Overall Assessment and Decision Point



Red (Score: 0-18)

Do not proceed

Amber (Score 19-24)

Proceed with caution

Green (Score 25-28)

Go Go Go

Comments:

Recommendations:

Section Three: Readiness to Introduce & Adopt Change

How do you go about introducing and fully adopting planned change?

Communication and Engagement (CE)

CE 5: Are internal and external change champions continuing to engage stakeholders effectively?

During the adoption of change influential & knowledgeable clinical & business champions continue to engage, advise & motivate stakeholders to build acceptance & commitment. Champions monitor the change process & assess attitudes to change as adoption progresses. The Project Manager ensures champions in other organisations partnering in change are also engaging their own stakeholders, particularly in addressing problems at organisational interfaces. This helps maximise cross-organisational change readiness to fully adopt the planned change.

Engaged champions reinforce change messages, motivate & advocate for those affected, anticipate & help mitigate emerging issues. They inform the Project Manager about how people are evaluating & responding to change. This helps gauge and identify causes of any change in attitudes as the change is adopted & facilitates timely management of difficult issues & any emerging resistance to change.

CE 6: Are knowledgeable senior managers engaging with stakeholders and providing leadership to those affected by the change?

Stakeholders want visibility, active engagement, direction & support from senior managers during the adoption of planned change. Knowledgeable senior managers who understand the impact of change on stakeholders can strongly & appropriately influence understanding, acceptance, commitment & expectations of change. Senior managers do this by reinforcing change messages, providing clarity about what is to be achieved, listening to issues, demonstrating organisational commitment & providing support for change.

Active engagement by senior management signals the organisation's commitment and support to those affected by change. Meeting stakeholders regularly demonstrates commitment to a culture of engagement, partnership & an inclusive approach that focusses on relationships.

Workforce Readiness (WR)

WR 1: Do those impacted by change show acceptance and commitment?

It is important to check stakeholder acceptance and commitment early during the adoption of a change. Demonstrations of commitment by those impacted indicates they want to make it a success. Commitment is demonstrated by such activities as proactive involvement, helping to mitigate risks & assuming responsibility for certain tasks. This contrasts with acceptance which may mean no more than an intention to support change.

Assessing the degree of acceptance & commitment to change among stakeholders, particularly those impacted, soon after the introduction of change provides an indication of the attention the organisation & Project Manager may need to pay to each stakeholder group in maintaining change readiness & momentum. A lack of acceptance by key stakeholders means implementation should be delayed to achieve "buy in". Observation/meetings/interviews are useful in gauging acceptance & commitment.

WR 2: Are training efforts resulting in change related competency?

Performing training needs assessments helps to ensure training programmes and plans are relevant to those undergoing training. The knowledge and skills developed during training should allow trainees to perform their roles to an acceptable standard. Mentorship, case review, peer review of performance & competency audit enable achievement of the required behaviour & performance. The achievement of competency builds stakeholder confidence in their ability to achieve the desired change.

The demonstration of competency following the introduction of change builds confidence and enthusiasm among those impacted by change, which builds their readiness to fully adopt the planned change.

WR 3: Are those affected by the change reverting to previous practice?

Reversion to previous practice signals training programme failure, a lack of organisational support (resources or support service inputs) or a basic inability to achieve the required performance standard despite relevant training. Reversion shows the change effort is failing & requires immediate corrective action. Observation, informal conversation & meetings can help to identify reversion. Once trained and competent, staff must not be allowed to revert to previous practices.

Reversion by influential staff can rapidly spread to others, derailing the change attempt. Failure to provide adequate training tools, training or peer support, pressure of work, inadequate resources, failure of the change to lead to expected benefits & poor fit between the planned change event & the beliefs & attitudes of key stakeholders are common causes of reversion to previous practice.

Section Three: Readiness to Introduce & Adopt Change

How do you go about introducing and fully adopting planned change?

As you introduce the change into the organisation or target service(s), please consider the following questions and tick the box on the right if the answer is "yes".

Project Management: Change Control (PMCC)

Evidence suggests as change is introduced the questions posed in this section should be reviewed regularly (monthly or weekly) to ensure governance, project management & engagement processes are functioning well & building stakeholder change readiness.

PMCC 1: Is the Project Board actively supporting the change?

The Project Board/ Steering Group monitors the activity of the Project Manager & Project Implementation Group & continues to provide advice & expertise. It ensures change progress aligns with the implementation & work group plans. It receives regular reports from the Project Manager and reports project progress to Executive Management & the DHB Board. The Project Board resolves escalated issues & authorises expenditure of contingency & the implementation of corrective actions as required.

An engaged & effective Project Board supports & enables the Project Manager, the Implementation Group & champions to manage the change to successful completion. By actively monitoring the progress of change and committing resources to the extent allowed in the Business Case the Project Board reinforces organisational commitment & stakeholder belief in the capacity & capability of the organisation to achieve change. The project is at risk if the Project Board fails to perform its functions effectively.

PMCC 2: Is the Project Manager knowledgeable and effective?

The activities of the Project Manager & Project Implementation Group are monitored by the Project Board. The Project Manager integrates the organisational road map, organisational change plan & work group plans (including training plans) into a Project Plan. The Project Manager continually engages & monitors stakeholder acceptance and commitment, provides the Project Board with regular & comprehensive reports, ensures the timely provision of resources & support for change & ensures the resolution of emerging issues or their escalation to the Project Board.

A Project Manager who consults stakeholders, provides comprehensive reports to Project Board, ensures resources are provided & issues are resolved or escalated & who demonstrates understanding of the impact of change on stakeholders will retain their confidence. These actions build stakeholder belief in the ability of the organisation to implement change successfully, increasing acceptance & commitment.

PMCC 3: Are the resources allocated being provided?

The Project Board and Project Manager ensure the continued availability of allocated resources to complete the full adoption of planned change. Any disruption to the flow of resources must be addressed immediately.

Continuing to provide the expected resources builds stakeholders' belief in the organisation's and their own capacity & capability to achieve change. Failure to provide these resources is likely to lead to decreased acceptance & commitment to change & even resistance to change.

PMCC 4: Are support services providing the expected level of support?

Support is a critical success factor. Any failure by organisational support services (such as IT) to perform as expected that cannot be resolved immediately by the Project Manager must be escalated to the Project Board for resolution.

A lack of promised support erodes commitment to change. If daily workflow is impacted by poor support service delivery, active resistance to change can be expected. Engage stakeholders, monitor & maintain commitment by providing immediate feedback on actions taken to improve support services.

PMCC 5: Are emerging issues resolved or escalated & addressed quickly?

Emerging issues are logged, prioritised and dealt with efficiently by the Project Manager or escalated to the Project Board. Those affected are informed of what is being done to achieve resolution. Regular feedback to stakeholders is important.

Failure to resolve issues quickly or to provide timely feedback to key stakeholders on activity to resolve issues erodes commitment & confidence in the organisation's capacity to effect change. Monitor, engage & update stakeholders to maintain commitment & belief in the organisation's ability to achieve change.

Section Three: Readiness to Introduce & Adopt Change

How do you go about introducing and fully adopting planned change?

Workforce Readiness (WR)

WR 4: Do the experiences of those affected by the change align with expected benefits during the adoption of the change?

Those impacted by change may have expectations of benefits that can be realised during the adoption of change. These may include reinforcement of the evidence base for the change, an increased sense of professionalism, improvements in workflow & improved services to clients. Knowledgeable managers don't promise benefits that cannot be delivered within the scope of planned change because failure to realise expected benefits reduces acceptance and commitment to change. If expected benefits are not achieved the causes are must be identified, communicated & addressed. Observation, interview, meetings, measurement & evaluation are tools used to check that expected benefits are being achieved. Stakeholders will know what benefits are expected from the change & when these should be realised. Timely demonstration of benefits reinforces acceptance and commitment to the change while failure to experience expected benefits erodes stakeholder acceptance & commitment.

WR 5: Is retention of key staff (expert users and trainers) an issue?

Key staff are those who have influence and support the change, those with the expertise to drive the change & those involved in training & developing the competence of the workforce.

The loss of key staff during the introduction of a change event has a negative impact on achieving full adoption & thus on making the change permanent. Uncertainty associated with change, the loss of expert trainers & repeated technology failures can cause the loss of key staff. Deteriorating attitudes & emotional responses of key staff during the introduction of change are indicators of potential staff loss. Proactive steps to identify & retain key staff & reinforce their commitment to the change is likely to reduce the risk of staff loss & high staff turnover.

Introduction: Overall Assessment and Decision Point



Red (Score: 0-7)

Do not proceed

Amber (Score 7-9)

Proceed with caution

Green (Score 10-12)

Go Go Go

Comments:

Recommendations:

Section Four: Successful Assimilation

How do you make your change permanent?

As change is routinized & assimilated into “business as usual” for the organisation or target service, please consider the following questions. Tick the box on the right if the answer is “yes”. It is recommended that the questions in this section are re-addressed monthly for at least 6 months after assimilation is deemed achieved to provided ongoing support, oversee evaluation of the change event and determine if change has “stuck”.

Project Management: Change Control (PMCC)

PMCC 6: Are the Project Board & Project Manager still actively engaged?

Governance & support process (Project Board, Project Manager) should remain in place for at least six months after the change is deemed assimilated. This enables continued oversight & ongoing & timely organisational support in the event of emerging issues or problems.

Many change events fail to transition from introduction to institutionalisation because organisations equate successful introduction or full adoption with assimilation. Governance, project managers & key support are withdrawn too early and unresolved emerging issues may then derail assimilation or impact the realisation of benefits. The Project Board and Project Manager should remain in place until the change is permanent & the evaluation of the change event is completed. The Project Board approves the evaluation report & forwards it to senior management.

PMCC 7: Are sufficient resources available to address emerging issues in transitioning to the assimilation of change?

It is highly likely that issues will continue to emerge as the change event is routinized and assimilated into daily work. The resources committed to the change event, including contingency funding, should remain available to address these issues.

There is a temptation to redirect unutilised resources to other projects once a change event is fully adopted. This temptation should be resisted. Failure to ensure the availability of adequate resources to address issues emerging during the transition from full adoption to assimilation is a common cause of failure to assimilate change or realise expected benefits.

PMCC 8: Managing expectations; are the expected benefits for the organisation, stakeholders and their clients clearly understood with respect to the scope of the change event?

The ongoing management & reinforcement of realistic expectations, particularly the expectations of those affected by change, is critical to maintaining commitment to incorporating the change into daily work routines. Stakeholders should clearly understand the benefits that can be expected at each stage of change. Regular meetings between the Project Manager, stakeholders & clinical & business champions enable the clarification of expectations.

Unrealistic expectations regarding the expected benefits can impact negatively on the assimilation of change when perceived benefits are not realised. Perceptions that the change is not working reduces acceptance and commitment & may lead to resistance to change.

PMCC 9: Has assimilation of the change event led to the expected benefits?

The evaluation framework developed in the pre-introduction phase of creating change readiness identifies the milestones, timelines & success indicators associated with the realisation of expected benefits. Measuring the extent to which benefits are achieved & comparing results to the expectations set out in the Business Case enables assessment of the overall success of the change event. Communicating the extent of success to stakeholders reinforces the value of the change.

Evaluation provides useful feedback to the organisation & key stakeholders about the achievement of benefits, the value of the change & validates the change against the Business Case. Demonstrating success helps to make the change permanent. Section Five contains a suggested evaluation framework.

PMCC 10: Has the organisation recognised successful assimilation?

Organisational recognition of the efforts of those successfully implementing & assimilating change and achieving benefits reinforces successful change as a significant organisational achievement.

Positive feedback and organisational recognition impacts positively on the attitudes of stakeholders toward the organisation & toward future change. Celebrate success.

Section Four: Successful Assimilation

How do you make your change permanent?

Workforce Readiness (WR)

WR 6: Are those affected by change allowed sufficient time to transition from full adoption to assimilation of planned change?

Those affected by change need sufficient time to achieve the transition from the full adoption of a change to making it "business as usual". It may take weeks or months to achieve confidence & competency in the use of new technology or process. Interfacing services may also take months to fully adjust to the outputs or reports resulting from changes in process & to develop & embed new ways of working.

Allowing those affected by change time to achieve competency & confidence in their ability to harness change effectively demonstrates organisational support, reinforces the importance of change & helps key stakeholders to make the change permanent.

WR 7: Is the change event routinized and assimilated into the daily work of key stakeholders?

Observation, stakeholder feedback and the achievement of the key performance & success indicators signal that a change has been routinizing and assimilated successfully.

Successful assimilation indicates ownership of the change event by key stakeholders and that the change is cemented in place.

Communication & Engagement (CE)

CE 7: Feedback & benefits: are all stakeholders receiving regular feedback on progress/success/benefits realisation?

Regular meetings and feedback between senior managers, champions, trainers, the project manager and stakeholders helps to reinforce & cement the change into daily work routines and increase job satisfaction.

If stakeholders don't receive feedback they may not know that benefits are achieved or that the organisation is addressing their issues, reducing commitment to make the change permanent.

Assimilation: Overall Assessment and Decision Point



Red (Score: 0-4) Do not proceed

Amber (Score 5-6) Proceed with caution

Green (Score 7-8) Go Go Go

Comments:

Recommendations:



SECTION FIVE: EVALUATION

How do you measure success?

The evaluation framework suggested here is based on the Balanced Scorecard approach to performance management described by Kaplan and Norton. With respect to health services, expected benefits can be grouped into four quadrants of a scorecard as shown below: benefits to the client, benefits improving business efficiency & processes, cost benefits and benefits contributing to organisational learning and growth. The following pages elaborate on each quadrant, providing an example based on the introduction and institutionalisation of a software based comprehensive geriatric assessment tool, the interRAI-HC assessment tool.

Evaluating the Success of the Change Event

<p>Client Benefits</p> <p>Goals / Impacts / Outcomes Sought:</p> <p>Supporting Elements:</p>	<p>Business / Process Benefits</p> <p>Goals / Impacts / Outcomes Sought:</p> <p>Supporting Elements:</p>
<p>Cost Benefits</p> <p>Goals / Impacts / Outcomes Sought:</p> <p>Supporting Elements:</p>	<p>Organisational Learning and Growth</p> <p>Goals / Impacts / Outcomes Sought:</p> <p>Supporting Elements:</p>
<p>Overall Assessment of Benefits Realisation</p> <p>Comments:</p> <p>Recommendations:</p>	

SECTION FIVE: EVALUATION

Evaluation of Change Success Using A Balanced Scorecard

Benefits sought for the Client

Goal/Impact/Outcome	Elements	Assessment of Success
Comprehensive, standardised Assessment	<ol style="list-style-type: none"> 1. Staff with appropriate qualifications, skills & knowledge 2. Regular peer review/audit confirms comprehensive, consistent and standardised intra- and inter-assessor performance 	
Reduce duplication of assessment to increase client satisfaction (What is the target in terms of a reduction in the number of assessments?)	<ol style="list-style-type: none"> 1. Clinicians trust assessments made by colleagues 2. Assessment information is available at any point of care 	
Clients live safely in their own homes for as long as possible	<ol style="list-style-type: none"> 1. Regular proactive assessment is taking place 2. Change in need is identified 3. Appropriate and better targeted supports are allocated and provided proactively 	

SECTION FIVE: EVALUATION

Evaluation of Change Success Using A Balanced Scorecard

Business & Process benefits sought

Goal/Impact/Outcome	Elements	Assessment of Success
Align business processes and documentation to the implementation of the <i>interRAI</i> -HC tool	<ol style="list-style-type: none"> 1. Review process & identify misalignments in process and reporting 2. Review service documentation for "fit" with the <i>interRAI</i>-HC tool 3. Revise process & documentation & integrate the tool into service provision 	
Increase user job satisfaction	<ol style="list-style-type: none"> 1. The tool is easy to use and technology functions as expected 2. The tool has high credibility with users and enhances the service profile 3. There are demonstrable benefits to users and clients in using the tool 	
Collect and analyse data to understand population health need & improve service planning and budgeting	<ol style="list-style-type: none"> 1. Data requirements are understood and documented 2. The tool can provide the required data 3. Data collection and retrieval is reliable 4. Technology allows suitable reporting & reports are easily retrievable 	

SECTION FIVE: EVALUATION

Evaluation of Change Success Using A Balanced Scorecard

Cost benefits sought

Goal/Impact/Outcome	Elements	Assessment of Success
Understand the costs of implementing the <u>interRAI-HC</u> assessment tool compared to the SPA tool	<ol style="list-style-type: none"> 1. Specification of cost data requirements 2. Ability to retrieve cost data 	
Reduce entry to aged related residential care (What is the target in terms of dollars saved?)	<ol style="list-style-type: none"> 1. Obtain baseline data on numbers of clients entering and costs of age related residential care 2. Ability to retrieve and analyse cost data 	
Contain the costs of disability support services to older people (What is the savings target or expenditure ceiling to be achieved?)	<ol style="list-style-type: none"> 1. Ability to retrieve and analyse assessment data and cost data 2. Ability to attribute any cost saving to <u>interRAI-HC</u> rather than changes to models of care or other changes 	

Opportunities for Organisational Learning and Growth

Goal/Impact/Outcome	Elements	Assessment of Success
Capturing the lessons learned from implementing the <u>interRAI-HC</u> tool to increase organisational and sector capability	<ol style="list-style-type: none"> 1. An organisational knowledge management system 2. Organisational / system wide processes & structures for sharing 	
Using learning from <u>interRAI-HC</u> implementation to improve service integration and interdisciplinary approaches to client care	<ol style="list-style-type: none"> 1. What characteristics of the tool enable integration of care/MDT approaches? 2. Can we apply these characteristics to other care settings? 	

Appendix One: Project Management Structure & Process

Project Management Structure & Process (PMSP)

PMSP 1: Is the Steering Group / Project Board actively supporting the change?

The Project Board/ Steering Group approves the project plan & facilitates achievement of the change by allocating resources in line with the Business Case. It provides advice & expertise & ensures that the implementation of the change aligns with implementation & work group plans. It oversees the mitigation & timely resolution of risks & emerging issues, receives regular reports from the Project Manager & reports project progress to Senior Management & the DHB Board. It authorises the expenditure of contingency & implementation of corrective actions as required.

An engaged & effective Project Board enables the Project Manager or champions to escalate risks & issues & ensures that those that are escalated are addressed. An effective Project Board will monitor the change event & marshal the organisation's resources to the extent allowed by the Business Case.

PMSP 2: Is an effective and knowledgeable Project Manager and Project Plan in Place?

The Project Manager liaises with stakeholders, integrates the organisational & work group plans into a project plan aligned to the roadmap, works to the project plan & reports to the Project Board. He or she builds stakeholder acceptance and commitment to change by ensuring the timely provision of resources & support & that emerging issues are quickly resolved. The Project Manager will establish a Project Implementation Group of experts representing key stakeholders impacted by the change.

Stakeholder acceptance, commitment & readiness to maintain the introduction of the change is enhanced by a Project Manager who is inclusive, takes advice & ensures resources are provided & issues are resolved on time. Understanding the nature of the services provided by stakeholders & the impact of change on those services is important in achieving & maintaining the confidence of stakeholders.

PMSP 3: Are the resources allocated through the business case being provided?

The allocated resources are described in the Business Case & must be available for consumption to complete the change process. The Project Board ensures the availability of committed resources.

Stakeholders will be aware of the business case & the resources committed to the change project. Providing these resources builds confidence in the organisation's ability to achieve the change & demonstrates organisational commitment & support for change. Conversely, failure to provide these resources to the full extent approved (if required) is likely to cause a loss of confidence in leadership & the change process. Lack of critical resources such as budget or adequate training tools & expertise is a serious risk to successful change.

PMSP 4: Are support services e.g. the Information Services Division providing the expected level of support?

Human & other resources from clinical support services (e.g. Information Services) may be committed through the business case but aren't always provided to the extent expected. If expected support from clinical support services is not provided, this must be escalated to the Project Board.

Lack of promised support erodes stakeholder support for change, particularly if serious disruption to workflow or distress to clients results. Technology failures must be addressed quickly as they impact on daily workflow, creating stress & frustration that may lead to hostility & active resistance to change.

PMSP 5: Is there a formal, regularly updated, risks and issues log for the project?

The log documents & ranks risks & issues according to their likelihood & impact & describes mitigation strategies or actions. Those risks and issues with greatest likelihood & impact receive priority for mitigation. It may be necessary to delay the implementation of change until risks or issues with high impact or high likelihood are sufficiently mitigated or resolved. The risks & Issues log is regularly updated & revisited throughout the phases of change to monitor & proactively manage identified & emerging risks & issues.

Establishment of a formal Risks & Issues Log documents & demonstrates proactive management of risks & issues. It enables learning & the mitigation or resolution of as many risks & issues as possible before introducing the change, helping to create change readiness by reducing barriers to implementation.

Appendix One: Project Management Structure & Process

Project Management Structure & Process (PMSP)

PMSP 6: Are emerging issues being addressed and resolved quickly?

Emerging issues must be logged, prioritised for resolution & dealt with as soon as possible. If stakeholders or the Project Manager can't resolve a serious issue it must be escalated. If issues can't be resolved quickly by the organisation, those affected must be informed of the reasons for delay & of what is being done to achieve resolution.

Emerging issues inevitably result from introducing change into complex systems such as DHBs. Even simple change is complex due to the interrelationships between target services & other internal & external service providers & stakeholders. Failure to resolve issues quickly or to provide timely feedback on what is being done about issues erodes acceptance & commitment to change among those affected.

PMSP 7: Are organisation-wide structures and processes in place to capture and manage the knowledge gained from implementing this change?

Organisational knowledge management structures such as a Project Management Office & processes to retain institutional knowledge, including document management, enable the capture of lessons learned from this change event.

Knowledge management structures & processes build a culture of learning & valuing institutional knowledge. Capturing knowledge gained about the organisation's management of change, particularly the emergence, mitigation & resolution of risks & issues informs future change efforts & builds organisational capability.

PMSP 8: Are robust specifications/requirements developed, documented & communicated to vendors regarding the required functionality and performance of technology and its integration with existing patient management systems?

Relevant stakeholders must be involved in developing functional & performance specifications for hardware, software & other required technologies. Performance specifications set out relevant technology standards & include software upgrade & service contract requirements & purchase & acceptance criteria. Required functionality such as data collection, retrieval, analysis & reporting should be clearly stated. All specifications are discussed with vendors & comprehensive specification & acceptance sheets are included in Request for Proposal / Tender documentation & purchase & support agreements.

Robust specifications create technology readiness by setting functionality & performance standards. The inclusion of relevant stakeholders in constructing specifications helps ensure the required functionality & performance standards are documented & delivered.

PMSP 9: Has a Technology Acceptance Testing regime been established and resourced?

Acceptance testing regimes are based on the documented functionality & performance standards. Satisfactory completion of Acceptance Testing before technology is introduced into service is a function of the vendor but is verified by the appropriate stakeholder. Acceptance testing may require support from organisational support services such as Information Technology Services. The availability of this support is negotiated & secured prior to the delivery of the technology. A significant portion of payment is withheld from the vendor pending sign off of successful acceptance testing by the Project Manager.

Acceptance & performance testing of technology is essential to change readiness. It ensures technology performs as expected & increases staff confidence in the technology. Any failures in meeting expected performance are remedied before the change is implemented. Successful Acceptance Testing facilitates a smooth introduction of change & helps create acceptance & commitment & stakeholder belief in the ability to achieve the change. **Note: the failure of technology to perform as expected is a significant risk & common cause of failure to implement change or to get the expected benefits.**

PMSP 10: Are workflows, processes, documentation & reporting/outputs for each work group aligned with the change event?

Stakeholders review & revise documentation, work processes, reporting & workflow to align these with the characteristics of the change. This facilitates the smooth integration of change into workflow.

Introducing change affects workflow, processes & service interfaces. Review by stakeholders & services (including external service providers) affected by the change enables the adaption of workflow, process, documentation & reports to the requirements of the change before it is introduced. This integrates the change into daily work & supports a smooth transition. A smooth transition increases acceptance, commitment & stakeholder belief in their ability to achieve change.

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Appendix One: Project Management Structure & Process

Project Management Structure & Process (PMSP)

PMSP 15: Are change management and communication plans documented?

The change management plan supports implementation plans & is a key communication tool. It identifies those affected by the change & other stakeholders, describes the need for change, how & when change will happen, what will be different, how those affected will be impacted & the level of organisational support. The change management plan also describes the benefits to the organisation & to each stakeholder group. The communication plan is embedded in the overall change management plan & identifies stakeholders & tailors messaging to stakeholder needs. It usually includes a sheet of frequently asked questions.

The change management plan & communication plan aim to improve understanding around the change, reduce uncertainty, increase transparency around the change & enable stakeholders to obtain further information. This support enhances understanding & acceptance of change.

PMSP 16: Have our plans been communicated effectively to all stakeholders?

All key stakeholders receive & are briefed on the organisational roadmap, the implementation plan, relevant work group plans, the change management plan & relevant training plans. How future communication & feedback around the change will take place should also be clearly documented & understood. Senior managers actively engage stakeholders to help them make sense of the change.

Well-communicated implementation, work group plans & change management plans reduce uncertainty & help create change readiness through improving understanding of what is required & building acceptance of the need for change.

PMSP 17: Are the impacted group(s) or service(s) committed to the change?

The project manager, change implementation group, service managers & champions use observation, informal conversation, interview & meetings to assess the extent to which those affected by the change are committed to the change.

Commitment to change by those affected is a key change readiness factor. Commitment is more than acceptance & intention to support the change. It is signalled by positive, proactive behaviour that enables the introduction of the change. Such behaviour includes actively identifying & resolving issues, mitigating risks & taking responsibility for tasks. Commitment is facilitated by participative change management processes & effective communication.

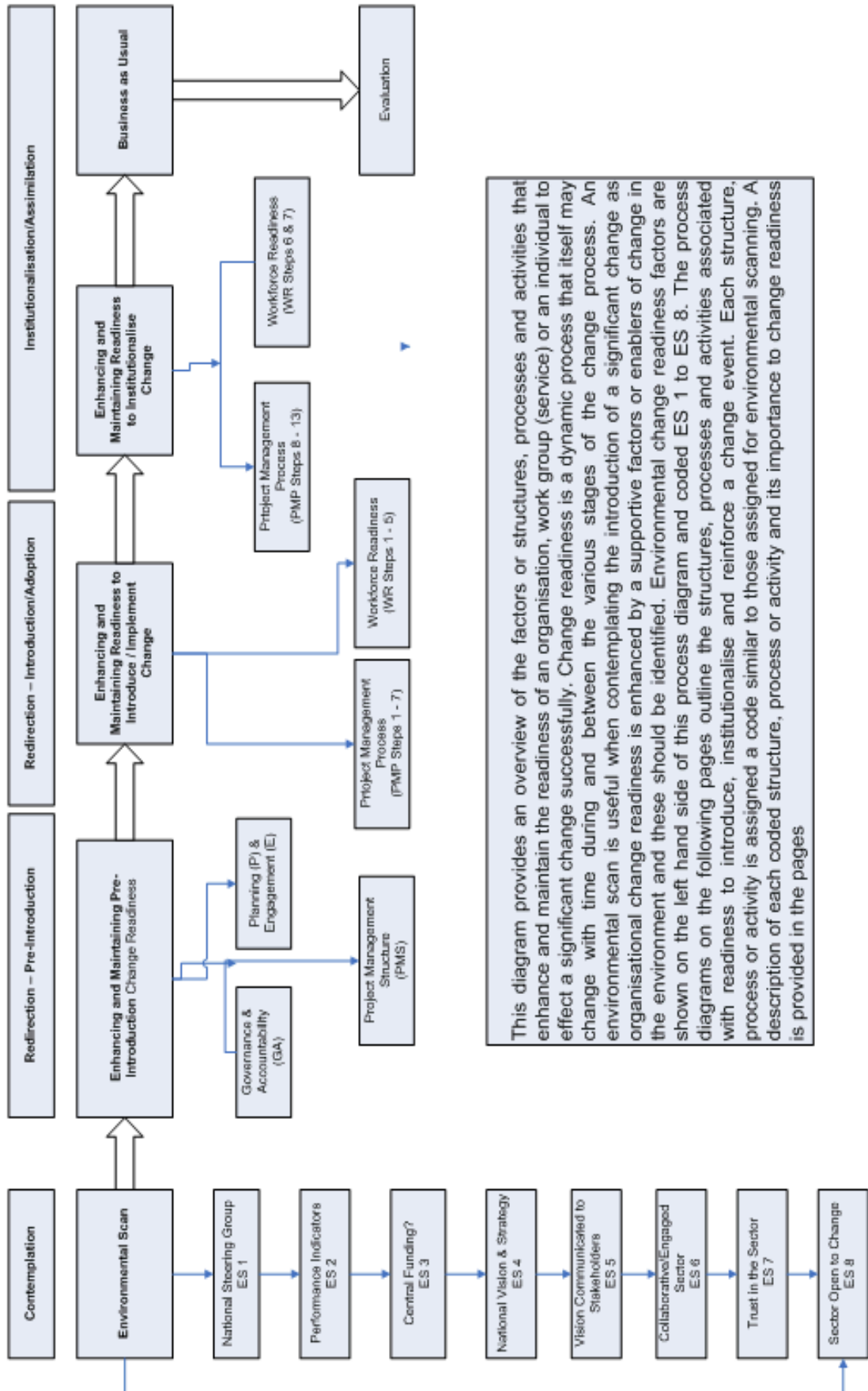
PMSP 18: Are other changes occurring or have other changes recently occurred in the service(s) targeted for change?

Impact assessments are performed on each service targeted for change to determine the effect of recent or present change. Change weary staff & services are likely to resist further change. The change management plan considers & mitigates the effect of recent or existing change, particularly with respect to stress & workload.

Introducing change into environments already experiencing change or recently experiencing change is difficult, particularly if change did not go well. Change is more readily accepted in stable environments or if the change is introduced incrementally. Change weary staff are likely to resist further change & the organisation should consider delaying the introduction of further change into such environments.

Appendix Two

Mapping the Change Readiness to the Change Process



This diagram provides an overview of the factors or structures, processes and activities that enhance and maintain the readiness of an organisation, work group (service) or an individual to effect a significant change successfully. Change readiness is a dynamic process that itself may change with time during and between the various stages of the change process. An environmental scan is useful when contemplating the introduction of a significant change as organisational change readiness is enhanced by a supportive factors or enablers of change in the environment and these should be identified. Environmental change readiness factors are shown on the left hand side of this process diagram and coded ES 1 to ES 8. The process diagrams on the following pages outline the structures, processes and activities associated with readiness to introduce, institutionalise and reinforce a change event. Each structure, process or activity is assigned a code similar to those assigned for environmental scanning. A description of each coded structure, process or activity and its importance to change readiness is provided in the pages

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