

**Does research help inform a healthcare organisation's
purpose? A perspective of one New Zealand District
Health Board.**

Lorraine Neave

A thesis submitted to Auckland University of Technology
In fulfilment of the requirements of the degree
Doctor of Health Science (DHSc)

2019

School of Clinical Science
Faculty of Health and Environmental Sciences
Auckland University of Technology

Abstract

Background: The body of work set out to answer the question “does research overall help to inform a healthcare organisation’s purpose?” To align health care research activity to a District Health Board (DHB) organisational purpose would seem to be a logical aim. In 2011, a New Zealand (NZ) government Health Select Committee recommended that DHBs undertake research as a frontline activity. In its response, the NZ Government indicated that while clinical research may play some role it was not considered to be a frontline activity of the. In 2017, the first ever NZ Health Research Strategy 2017-2027 has indicated movement in the government’s stance. The strategy has recognised opportunities across the health sector, and particularly in the DHBs, to improve the environment and culture for research and innovation, by investing in research infrastructure and effective governance to support it.

The setting for this study was Waitematā DHB, a NZ publicly funded healthcare delivery organisation that hosts research. In 2015, it established a research governance group charged with providing direction for research and clinical audit, development of a purposeful five-year research strategy and to provide oversight of its implementation.

Aim: To analyse and critique the type of research undertaken at Waitematā DHB in the years 2008 – 2015 and to gauge the perceived value of the research to inform this DHB’s stated purpose to relieve suffering, promote wellness and prevent, cure and ameliorate ill health.

Purpose: Generating greater awareness of the research activity in the DHB may help to elevate this activity from a relatively adjunct status to one that can be more fully appreciated, knowingly resourced and strategically valued.

Method: This is a mixed method study in four parts. The first two parts were retrospectively focused analyses utilising the DHB’s research and knowledge management database resource and locality documents to appreciate the type of research activity and who conducts it. Two surveys were undertaken in Part 3, the first focused on the researchers to establish the outcomes from their locality approved research. The second survey canvassed the opinions

of organisational decision makers with regard to the DHB's capacity to conduct, acquire and use of research knowledge. The final part utilised qualitative interviews with a small number of key clinician researchers, to gain their perspectives the research question.

Results: The results indicate that research happens in this DHB, even where the business is not centrally funded to conduct research. A lack of obvious and consistent communication of the organisation's provision for research in its planning has encouraged the development of research silos and led to broad variation in research types. In addition, clinical leaders and managers were unsure the DHB's business processes supported the translation of the knowledge from research to the local context. Their perception was that the DHB's business leaders were disengaged with research because business processes do not easily align to research timelines. Other suggested barriers emanate from the constraints of daily frontline clinician busyness, and an overall staff conservatism and resistance to change. The general consensus was that evidence from robust and scientifically sound local research should inform this DHB's purpose. To achieve this, the DHB executive leadership needs to more overtly support research and researchers in the DHB, in line with its research strategy and national directives.

Table of Contents

	Page
Abstract	2
Table of Contents	4
List of Figures	10
List of Tables	11
Attestation of Authorship	12
Acknowledgements	13
Chapter 1: Introduction	
1.1 Challenge of undertaking research in a District Health Board	15
1.2 The New Zealand Health Sector	18
1.3 The Research Question “Does research overall help to inform the DHBs purpose?”	20
1.4 Summary	21
Chapter 2: Literature Review	
Introduction.....	22
2.1 Literature search method	22
2.2 Defining health research	24
2.3 Benefits of health research	25
2.4 Potential for research waste	26
2.5 Investment in health research.....	28
2.6 Measurement of research impact	29
2.7 Barriers and enablers to research engagement	32
2.8 Organisational capacity to use research evidence	35
2.9 The New Zealand context	37
2.9.1 District Health Boards (DHBs)	37
2.9.2 Health Research Council (HRC)	38
2.9.3 A national health research strategy	39
2.9.4 Research collaboration	41

2.10 Summary	42
Chapter 3: Method	
Introduction.....	44
3.1 Part 1 Retrospective database examination	45
3.2 Part 2 Descriptive analysis of locality applications	46
3.2.1 Inclusion/exclusion criteria	46
3.2.2 Analysis.....	48
3.2.3 Ethical Considerations for Part 1 and Part 2.....	48
Part 3 Surveys.....	49
3.3 Part 3, Survey 1	49
3.3.1 Development.....	49
3.3.2 Participants	49
3.3.3 Procedure.....	50
3.3.4 Analysis.....	50
3.4 Part 3, Survey 2	51
3.4.1 Development.....	51
3.4.2 Participants	52
3.4.3 Procedure.....	52
3.4.4 Analysis.....	52
3.4.5 Ethical Consideration for Surveys 1 and 2.....	53
3.5 Part 4. Interviews	53
3.5.1 Development.....	53
3.5.2 Participants	54
3.5.3 Procedure.....	54
3.5.4 Analysis.....	55
3.5.5 Ethical Considerations	56
Chapter 4: Results	
4.1 Part 1: Retrospective audit of the research management database	

4.1.1 Introduction.....	57
4.1.2 Findings.....	57
4.1.3 Summary.....	59
4.2 Part 2: DHB Research locality application document analysis	
4.2.1 Introduction.....	61
4.2.2 Findings.....	61
4.2.2.1 Research type.....	61
4.2.2.2 Ethical review process.....	61
4.2.2.3 Coordinating investigator.....	62
4.2.2.4 Locality role.....	63
4.2.2.5 Information provided at the time of research locality application.....	64
4.2.2.6 Funding of research.....	65
4.2.2.7 Completion of research.....	65
4.2.2.8 Potential to inform government health targets.....	66
4.2.3 Summary.....	66
4.3 Part 3: Survey 1: Does research help to inform the DHBs purpose? Researchers perspective	
4.3.1 Introduction.....	68
4.3.2 Findings.....	68
4.3.2.1 Motivation to conduct research.....	68
4.3.2.2 Research involving Māori.....	69
4.3.2.3 Funding of research.....	69
4.3.2.4 Project status.....	70
4.3.2.5 Project outcomes.....	72
4.3.3 Summary.....	73
4.4 Part 3: Survey 2: Does research help to inform the DHBs purpose? Management and clinical leadership perspective	
4.4.1 Introduction.....	75
4.4.2 Findings.....	75

4.4.3 Summary	78
4.5 Part 4: Does research help to inform the DHBs purpose? Interviews with senior DHB clinician researchers	
4.5.1 Introduction.....	80
4.5.2 The Participants.....	80
4.5.3 Themes from Participant Interviews.....	81
4.5.3.1 Theme1. Research should inform the DHB purpose	81
Theme 1 Sub-themes.....	81
Theme 1 Sub-theme 1. Enabling a culture of questioning	82
Theme 1 Sub-theme 2. Being real world	84
Theme 1 Sub-theme 3. By creating an inductive research environment	85
Theme 1 Sub-theme 4. By dissemination and translation of outcomes	87
Theme 1 Conclusion	88
4.5.3.2 Theme 2. The DHB doesn't make it easy!	90
Theme 2 Sub-themes.....	92
Theme 2 Sub-theme 1. Research is only tolerated	92
Theme 2 Sub-theme 2. The daily grind of hospital busy-ness.....	93
Theme 2 Sub-theme 3. Business process doesn't accommodate research	94
Theme 2 Sub-theme 4. Massive know-do gap!	96
Theme 2 Sub-theme 5. Not everything is bad though!	98
Theme 2 Conclusion	99
4.5.3.3 Theme 3 "Opportunities not barriers!"	101
Theme 3 Sub-themes.....	101
Sub-theme 1. Research is what we do!	101
Sub-theme 2. Time to research	103
Sub-theme 3. Budget for research.....	103
Theme 3 Conclusion	104
4.5.4 Summary of themes	105

Chapter 5: Discussion

Introduction.....	106
5.1 The challenge of sustaining a visible and pervasive research ethos.....	107
5.1.1. Busy-ness and business can constrain a research ethos.....	108
5.1.2 Differing aims confuse a research ethos	109
5.1.3 Differing processes and timelines disrupt a research ethos	110
5.1.4 Missed communication of intent impacts potential for a research ethos	110
5.1.5 Summary	112
5.2. Staff engagement in and with the research process.....	112
5.2.1 Engagement in and with Audit and Evaluation	113
5.2.2 Engagement in and with Interventional and Observational Research.....	115
5.2.2.1 Collaboration as an indication of engagement in research.....	116
5.2.2.2 Funding of DHB research	118
5.2.2.3 Alignment of research	119
5.2.3 Summary	120
5.3 Knowledge for a healthy difference.....	121
5.3.1 Knowledge transfer takes time.....	121
5.3.2 Inherent conservatism restrains knowledge translation.....	122
5.3.3 Summary	123

Chapter 6: Conclusion

Introduction.....	124
6.1 Summary of Findings	124
6.2 Limitations and Opportunities	126
6.2.1. Communicating with busy people	126
6.2.2. More interviews	126
6.2.3. Partial review of audit and evaluation research	127
6.2.4. Awareness of insider perspective	127
6.2.5. Passage of time in the context of the study	127

6.2.6. Transferability of results.....	128
6.3 Recommendations	128
6.3.1. Actively communicate that research is part of the DHB's core business.....	128
6.3.2. Overt messaging that the DHB engages in research to deliver best care	129
6.3.3. Focus DHB research to the DHB's and Government's health targets.....	129
6.3.4. Enable staff with allocation of time and resource, and mentoring programmes ...	129
6.3.5. Research translation requires supported navigation of business process	130
References:	131
Appendices:	
A AUT ethics approval 17/204 10/7/2017.....	140
B AUT ethics amendment approval 17/204 07/08/2018	141
C Waitematā DHB locality approval RM13427 13/06/2016.....	142
D Waitematā DHB locality approval amendment RM13427 24/07/2017	143
E Waitematā DHB locality approval amendment RM13427 15/08/2018	144
F Email invitation and participant information sheet - Survey 1	145
G Email invitation and participant information sheet - Survey 2	148
H Questions Survey 1	151
I Questions Survey 2.....	155
J Email invitation and participant information sheet - Interview.....	157
K Participant consent form - Interview.....	161
L Interview guide	162
M Confidentiality agreement - survey administration	163
N Confidentiality agreement - transcription	164
P Database interrogation form	165

List of Figure

1	Scope of proposed Knowledge Centre, Sept 2004.....	16
2	Distribution by project type	57
3.	Locality approval status	58
4	Locality status listed as proceeded (n=191) by project type	58
5	Notified compared to expected project completion rate by project type	59
6	Form of dissemination for completed projects	59
7	Research type	61
8	Type of ethics committee review	62
9	Coordinating investigator's primary affiliation for research project	63
10	DHB locality role	64
11.	Māori involvement in research	69
12	Funding source identified by survey respondents (n=24)	70
13	Reported project conduct status in August 2017 (n=24)	70
14	Forums in which interim outcomes were disseminated	71
15.	Forums in which final outcomes had been disseminated	71
16	Participant's opinion – Did the research outcomes answer the question posed?	73
17	Theme 1 Research should inform the DHB	82
18	Theme 2. The DHB doesn't make it easy	91
19.	Theme 3. Opportunities not barriers	101

List of Tables:

1	Literature search strategy	23
2	Ten largest global health research funding organisations	29
3	Four general areas of assessment encompassed in the survey “Is research working for you?”	51
4	Information provided at time of locality application	64
5	Evidence of project planning provided at locality application	65
6	NZ Health targets	66
7	Current work role/academic status	68
8	Project status and outcomes.....	72
9	Are we able to acquire research?	76
10	Can we tell if the research is valid and of high quality?	76
11	Can we tell if the research is relevant and applicable?	77
12	Can we summarise results in a user-friendly way?	77
13	Do we lead by example and show how we value research use?	78

Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning

Signed

Lorraine Mary Neave

Dated 10/01/2020

Acknowledgments

I wish to express my sincere appreciation to the DHB staff who willingly participated in the surveys and interviews.

A special thank you is extended to my supervisors, Professor Duncan Reid and Professor Brian McKenna who have provided unswerving support, critique and encouragement throughout my doctoral journey. I have been truly privileged to benefit from your experience and knowledge. I would also like to thank all the Doctor of Health Science advisors, and in particular Professor Liz Smythe, for their compassion, inspiration and expertise they willingly shared.

Thank you to Charles Grinter (AUT Research Ethics Advisor) and the AUT ethics committee for considering my ethics application and providing ethical approval (AUTEC 17/204).

As well, I acknowledge my employer, Waitematā DHB, in particular, Fiona McCarthy, (Director of Human Resources), and Dr Andrew Brant, (Chief Medical Officer and Chair of the Research Governance Group), who reviewed and provided Locality Approval for my research conduct (RM13427). Fiona, has remained engaged in my journey throughout, and provided me with study leave when I needed it.

There are many others who have offered me encouragement and the benefit of their wisdom and knowledge throughout my journey. I would especially like to thank Professor Wayne Miles (Clinical Director for Research, Waitematā DHB) and my colleagues from the Research and Knowledge Centre.

I also wish to thank Marie Arellano for her help in administering the surveys, and Erika Gajdocsi for her excellent transcribing of the interviews and final proofreading of the thesis document.

To my family, thank you for your enduring love and encouragement. In particular, Alistair, thank you for understanding why I needed to complete my education to a doctoral level so late in our lives, and for lending your ear to my train of thoughts, and to the many verbal iterations of my writing. Hamish and Michelle, your confidence in my ability to complete the journey has been

inspirational. Finally, a very special recognition is made to my constant companion Gracie (my cat) who has spent many hours sleeping beside my desk, and importantly reminding me to take breaks... to feed her.

Chapter One.

1 Introduction:

1.1 Challenge of undertaking research in a District Health Board.

In 2011 a government Health Committee Inquiry into improving New Zealand's environment to support innovation through clinical trials (Ministry of Health, 2011) recognised the importance of clinical research conducted by, at or in collaboration with district health boards (DHB). However, the government's response to this notion clearly articulated that research cannot be considered a frontline activity funded by DHBs (NZ Government, 2011). This stance has not changed and governments successive annual funding rounds for DHBs have not included funding to support research activity. However, most DHBs do host research, and the larger DHBs in particular facilitate their staff to engage in research and related activity.

To exemplify, a little over a decade ago, the elected Board of the Waitematā DHB sanctioned a local research approval pathway and knowledge management process to be facilitated by a Knowledge Centre. The brief was to provide an environment of support, facilitation, education and knowledge management of ethically conducted research and related activity. The expectation was that the knowledge gained would be disseminated and ultimately translated to practice that maximised patient and community healthcare outcomes (Miles & Anderson, 2004). The maxim coined was 'knowledge for a healthy difference' built from the Waitematā DHB mission statement at the time. The term research in this context was and has continued in the DHB research policy to broadly refer to interventional and observational research and the related activities of clinical audit, quality improvement, and innovation conducted at, by and/or in collaboration with the DHB (Awhina Waitemata DHB Research Innovation and Knowledge Centre, 2015)

At the inception of the Knowledge Centre in 2005, the primary researcher was employed by the Waitemāta DHB as a clinical nurse specialist with a focus in research. The clinical nursing role was subsequently halved to encompass the role of the Knowledge Centre Research Advisor. With the support of a half time senior medical officer as Clinical Director of Research,

the Centre embarked upon facilitating the DHB research activity and research mindedness for a healthy difference. Over the subsequent 10 years the clinical aspect of the primary researcher's nursing role continued to diminish from the direct patient interface to a role that influenced and supported the research practice of others. In this period the Knowledge Centre team grew slowly to cover the wider base of expertise required to meet the envisioned scope for the centre (Figure 1). The primary researcher's role in this time also grew to manage the team, and the collective services they offer the DHB and its staff, that include guidance in research design and analysis, systematic review, and ethical advice. Librarians are available to support with literature searches; a grants acquisition coordinator is available to guide staff applying for funding; and a limited resource is offered to mentor those new to research management and project development. Also developed and managed by the team in this period has been a database tool for the collection of research data and an electronic evidence based clinical decision support system which provides rapid clinical guidance to staff at the point of care.

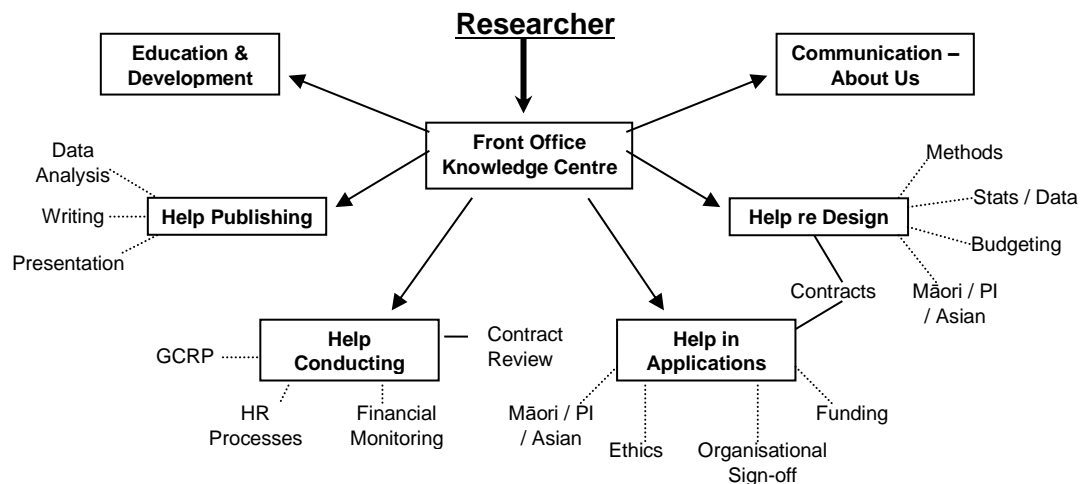


Figure 1. Scope of proposed Knowledge Centre, Sept 2004

An important milestone for the DHB was the commissioning of a proprietary research management database in 2008. The database enabled the Knowledge Centre (latterly renamed the Research and Knowledge Centre) to better facilitate and monitor the locality

management of research approvals, associated contracts, and personnel, and to record the outcomes of research in the form of publications and disseminations. This repository of knowledge management data has matured with time and by 2017 more than 2500 research and related projects had been registered in this database. The breadth of the research knowledge management information collected and collated in a searchable and reportable format is unique for a New Zealand (NZ) DHB.

Moreover, the Research and Knowledge team work in close collaboration with the DHB's legal counsel, Privacy and Security Governance Group, and the Māori research advisor. Since 2017, the DHB's finance team has also been active in supporting researchers to identify costs needed to develop their research budgets.

In 2015, the Waitematā DHB executive established an overarching governance body for research charged with developing a five-year research strategy that could guide the alignment of the research it hosts with its organisational purpose (Waitemata DHB Research Governance Group, 2015). The DHB's executive leadership at the time noted there were already a number of research groups that produce high quality research to inform local clinical practice, and that they wanted the DHB to build on these research achievements to become a centre of research excellence. In the process of the research strategy development a key question arose "Does research overall help to inform the DHB's purpose?" This remains an important question for the iterative direction of the Waitematā DHB research strategy, and for the DHBs ongoing planning to support research capacity and capability. Moreover, Waitematā DHB is in the unique position of having the data to inform the question, with the potential for the findings to be extrapolated to inform the wider context of the New Zealand publicly funded health research system at a time when the NZ Health Research Strategy 2017-2027 is in implementation mode. To appreciate this possibility more, it is important to comprehend Waitematā DHB's place in the wider NZ health and health research sector.

1.2 The New Zealand Health Sector

Waitematā DHB is the largest of the twenty publicly funded district health boards in New Zealand. Its district encompasses the north Auckland metropolitan and rural areas of Rodney, Waitakere and North Shore, with a collective population in excess of 630,000. Waitematā DHB employs just under 7000 staff and has two major hospital campuses as well as 30 other community facilities across the district. Its promise is “best care for everyone”, with its purpose described as preventing, ameliorating and curing ill-health, promoting wellness, and relieving the suffering of those entrusted to its care (Waitemata District Health Board, 2016).

There are 19 other DHBs in New Zealand, with each DHB governed by a board of up to 11 members made up of four government appointees and seven locally elected members (Ministry of Health, 2018). The NZ government is the major health funder, and the minister of health has overall responsibility for the national health and disability system. DHBs however, are legislated by the NZ Public Health and Disability Act 2000 to be accountable for the provision of health services in their district (Ministry of Health, 2017a).

New Zealand is a geographically isolated island nation in the southern Pacific Ocean. In the year to June 2018, the New Zealand net population increased at a rate of 1.9%; a historically high figure for NZ driven mainly by migration, and it compares to Australia’s population growth of 1.6% and to the global population growth of 1.2% (Stats New Zealand, 2018). The NZ population generally enjoys good health in the global context, as well as experiencing many of the same health sector challenges of other first world economies (World Health Organisation, 2016). For example, NZ has an increasing number of older people living longer, with the numbers aged over 65 up by 40% from a decade ago. Statistical algorithms indicate those born in the 1950s are likely to live into their late 80s, while those born around 2010 have a projected life expectancy into their 90s (Stats New Zealand, 2016). Many of these elderly citizens will be living with multiple health issues and associated treatment complexities (Associate Minister of Health, 2016; Blank & Burau, 2014). Additionally, NZ has an increasing number of younger and middle-aged populations afflicted with long-term conditions such as

heart disease, diabetes, depression, dementia and musculoskeletal conditions; and an increasing prevalence of infections with antibiotic resistance. Of note, among those afflicted by chronic ill health is a disproportionate representation of people who face inequity in other social determinants (Ministry of Health, 2016b, p. 9) in particular the indigenous Māori, and the Pacific Island populations resident in NZ.

The NZ Health and Disability System has a statutory structure made up of over 20 pieces of legislation, with the Public Health and Disability Act 2000, the Health Act 1956, and the Crown Entities Act 2004 being the key regulations. The government supports the health of its people through the provision of a publicly funded, universal health care system and an internationally unique no-fault Accident Compensation Corporation scheme (ACC). In addition, a third of the population report having a private health insurance scheme (Ministry of Health, 2016c).

New Zealand's total health and disability spending was estimated by the Organisation for Economic Co-operation and Development (OECD) in 2016 as 9.2% of gross domestic product (GDP). This compares to the OECD figures for Australia at 9.3%, the United Kingdom at 9.8% of their GDP (Organisation for Economic Co-operation and Development, 2018), but falls short of Canada at 10.5% and the USA at 17.1% of GDP. The NZ figure of 9.2% equates to a spend of about \$18 billion (NZD) annually and covers spending in the public, private and non-governmental organisation (NGO) sectors, including ACC expenditure (Ministry of Health, 2016b). The actual government spending on health in the same year was \$16 billion or 6.1% GDP (The Treasury, 2017, p. 47).

The publicly elected Minister of Health has responsibilities for a number of strategies to support the health and disability framework. Those specific to the research question being the New Zealand Health Strategy (Ministry of Health, 2016b), He Korowai Oranga: Māori Health Strategy (Ministry of Health, 2017b) and the NZ Health Research Strategy 2017- 2027 (Ministry of Business Innovation & Employment and the Ministry of Health, 2017). The NZ Health Strategy adheres to the World Health Organisation (WHO) definition of health, as 'a state of complete physical, mental and social well-being and not merely the absence of disease

or infirmity' (World Health Organisation, 1946). It also acknowledges local contextual Māori values. In particular, it refers to the Māori term wai ora (literally translated as water) in a broader conceptual reference of resources and environments that support and sustain a healthy life. Wai ora requires the government and its agencies to ensure equity of access for Māori and all New Zealanders to resources and environments such as quality housing, safe drinking water and air, and healthy food, to support and sustain the health and wellbeing of individuals and their society (Ministry of Health, 2014). However, the Ministry of Health warns that the costs of providing the current model of health funding will be unsustainable for New Zealand long-term (Ministry of Health, 2016b, p. 11). This statement underscores the potential value for research to inform affordable and equitable healthcare policy and direction.

1.3 The Research Question “Does research overall help to inform a healthcare organisation’s purpose?”

Research that informs better evidence-based, quality, cost-effective and available health care provision should be of prime importance. Indeed, the NZ Health Strategy refers to a healthcare system that can grow best practice through research (Ministry of Health, 2016b, p. 8). Importantly, it encourages health researchers to engage in, rather than just engage with research. This is an important distinction articulated by S. Hanney, Boaz, Jones, and Soper (2013) and Harding, Lynch, Porter, and Taylor (2017) whereby engaging in research refers to clinician researchers playing an active role in the whole research cycle, as opposed to just engaging with and translating the findings of research done and reported elsewhere. Inevitably, while NZ health researchers are encouraged to attend to research in the context of the NZ population’s health status, functioning, well-being, and economic conditions, they will be influenced and intrigued by the outcomes of global health research. Indeed, the NZ Health Research Council (HRC), which is the government’s primary funder of health research, refers to a key goal of NZ health researchers’ being their ability to translate global research outcomes to the local context (Ministry of Health and Ministry of Business Innovation and Employment, 2015). The NZ Health Strategy similarly concurs that “in general we need to get better and

faster at sharing the best new ideas and evidence and putting them to work throughout the system” (p. 27), thereby reducing the potential for unnecessary duplication, wasted research effort and misuse of the limited health funding.

The question remains “does research help to inform a healthcare organisation’s purpose?” Simply stated the question belies its complexity. Answering the question required an appreciation of the perceptions of those who approve research, those undertaking the research, and the type of research being conducted in the DHB. This included assessing whether the research questions posed were answered, the outcomes were disseminated, practice has changed (where it should), and those changes have been sustained. To date an in-depth review of the activity and value of research to inform the organisation’s purpose has not been undertaken in Waitematā DHB or in any other DHB in New Zealand.

1.4 Summary

NZ DHB’s are not funded by the government to fund research, however, they do host research activity. The Ministry of Health state the cost of providing the current model of health funding will be unsustainable for New Zealand long-term (Ministry of Health, 2016b, p. 11). This would seem to signal the importance of research to inform the delivery of an equitable healthcare pathways and policy planning. The current study provides an appreciation of the level of research activity in one DHB, and assesses whether research does help to inform this DHB’s purpose. Recommendations from the study will inform the Waitematā DHB’s research strategy, and will be of interest to the other NZ DHBs.

Chapter Two: Literature Review

Introduction

This chapter provides an appraisal of the literature pertaining to the question “does research help inform a health care organisation’s purpose?”. The topic area does not lend itself to a systematic review per se. To this end a narrative review of the literature was undertaken, described by Greenhalgh, Thorne, and Malterud (2018) as a reflective process of engagement, interpretation and critique. The review outlined key themes and topics central to the question by describing what was already known, emergent issues and where gaps in the knowledge may lie, thereby providing direction for the subsequent data collection. The initial broad literature review framework was situated globally, before positioning to the rapidly evolving context for health care research in New Zealand.

2.1 Literature search method:

In the performance of the primary researcher’s DHB research and knowledge management role a wide pool of literature related to the research question has been accessed over the past decade. To confirm the focus of the research question, heed was taken of the challenge in establishing the right inclusion criteria for the search (S. Hanney et al., 2013; Harding et al., 2017; Weiss, 2007). Broadly, the inclusion criteria for the review included publications that referred to research culture in healthcare organisations. The accumulated literature was explored to establish keywords for a more focused search.

Google Scholar was initially scoped using the phrase research informs a healthcare organisation’s purpose and this produced 40,100 results. The returns were scanned for relevance and then EBSCO Health Databases (MEDLINE and CINAHL) were searched for publications from 2006 to 2016 using health organisation’s purpose and research culture. Related terms and synonyms listed in Table 1 were then combined using ‘OR’. Truncation and proximity operators were used to identify phrases containing search terms in close proximity

and the resulting searches combined using the 'AND' operator. Four hundred and fifteen results were returned.

Table 1

Literature Search Strategy

Concept	Health Organisation (organization* OR organisation* OR hospital* OR institution* OR corporate)	AND	Research
Related terms and/or Synonyms combined using OR	purpose		culture
	strategy		performance
	policy		activity
	culture		investment
	values		capacity
	impact		capability
			training

Titles from the search results were screened to exclude papers that did not meet the inclusion criteria (Table 1), duplications, and publications that attended to patient treatment interventions. Appraisal of the remaining abstracts (n=72) further refined the selection (n=30). Subsequent citation checking using SCOPUS and reference checking of selected papers was conducted to search for additional articles, with reference to key words.

A supplementary narrative review (Greenhalgh et al., 2018) of the literature available on NZ government websites and the NZ Ministry of Health library's grey literature bulletin "Grey Matter" was undertaken; and New Zealand university websites were checked for relevant publications and theses. As well, International health research organisations and government department sites were scanned for global policies and regulations. Finally, documents routinely sourced or created in the course of the primary researcher's role with the DHB, for example, annual plans, research and related policies, business cases, strategies, and standard operating procedures, have also provided referential background to the topic.

2.2 Defining Health Research

“Research and the evidence that research yields are critical elements for improving global health and health equity, as well as economic development” (World Health Organisation, 2012, p. 1).

To define the purpose and place of research in the healthcare continuum it is important to first determine the commonly held definition of health. Originally set out in the Preamble to the Constitution of the World Health Organization (WHO) in 1946, health is referred to as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World Health Organisation, 1946, p. 1). Greater awareness of the influence of social determinants and in particular the effects of cultural, economic and environmental deprivation on a population’s health related behaviour has broadened the understanding of the WHO definition (Bland, Khan, Loder, Symons, & Westlake, 2015; Braveman & Gottlieb, 2014; Brook, 2015; Canadian Institutes of Health Research, 2011; Cooksey, 2006; Davies, 2011; Durie, 1998; Hudson, Milne, Reynolds, Russell, & Smith, 2010). Contemporaneously, the rapid assimilation of innovative electronic and mobile technologies that are changing access to and provision of health care should also be considered in the broader definition of health (International Bioethics Committee (IBC), 2017).

This widening definition of health has been influenced by and reflected in the topics of health research, evidenced in an increasingly broad group of stakeholders in research, and the expanded professional base of the researchers. The Canadian Academy of Health Science (2009) referred to research that included basic biomedical research, applied clinical research, health services and policy research, and population and public health research (investigating populations and health determinants). There has also been a slow but increasing inclusion of patients and the community in the co-design and conduct of research (National Institute for Health Research, 2018). Co-design is held to increase research value (Greenhalgh, Jackson, Shaw, & Janamian, 2016) whereby the construction and translation of knowledge from research can occur across the levels of the individual and the social collective. More recently,

technology has enabled research to be conducted using “large collections of complex health-related data sets from multiple sources” and the developing innovation of computerised machine learning to produce algorithmic guidance in evidence-based practice (International Bioethics Committee (IBC), 2017, p. 3).

Multi-professional researchers clearly have an expanding platform upon which they can propose, trial and evaluate innovative ways to diagnose and treat disease, understand the effects of complex and chronic conditions from an individual and societal perspective, and disseminate research findings that may influence quality of life and access to equitably supportive care (Cooksey, 2006; McKeon, 2013; 2017). Therefore, health care research should be beneficial for everyone.

2.3 Benefits of health research

It has been suggested that globally health research accounts for a third to half of the improvements in health outcomes experienced over the 20th century (Ministry of Health and Ministry of Business Innovation and Employment, 2015; Moses et al., 2015; Selby & Autier, 2011; Thune & Mina, 2016). Indeed, in 2013 a World Health Organisation (WHO) report stated that “universal health coverage cannot be achieved without evidence from research” and that to ensure the relevance of research findings to local context all nations should be involved as producers and consumers of research. (Dye et al., 2013, p. xi). Health care research has the potential to inform and improve healthcare performance (Boaz, Hanney, Jones, & Soper, 2015) and guide healthcare providers’, policymakers’ and the funders’ decisions about resource and purchasing at a national, regional and local level (Canadian Institutes of Health Research, 2014; Cohen et al., 2014; Ministry of Health and Ministry of Business Innovation and Employment, 2015; Sarkies et al., 2017). Furthermore, a research enabled environment can engender intellectual curiosity, positive questioning of routine practice, and robust research practices lift process and practice in general (Clarke & Loudon, 2011; S. Hanney et al., 2013; Krzyzanowska, Kaplan, & Sullivan, 2011; Saini et al., 2017; Selby & Autier, 2011). Organisationally, a positive research culture can facilitate recruitment and retention of

excellent clinicians, and generally improve staff attitudes, commitment, and values (Makkar et al., 2016; Saini et al., 2017). As well, involvement in research at an individual clinician level can support their personal career progression.

Health care research can also draw together previously disparate professions and disciplines. In the past decade advances in the area of genetic and data research has required collaborative cross-sectoral and multi-national partnerships (Greenhalgh et al., 2017; Mittra, 2016). Such collaboration has enhanced research production and enabled the more rapid generation of new knowledge with the potential to be translated to benefit patients and society.

However, the payback of research activity to health care organisations and communities is not linear (Greenhalgh et al., 2017; Pater, Rochon, Parmar, & Selby, 2011) and the outcomes in the development and diversity of health research may not always deliver the aspired to goals. Indeed, caution has been voiced that the relentless quest for greater innovation, new knowledge, and commercial advancement may at times create waste at the expense of patient benefit (Chalmers et al., 2014; Greenhalgh et al., 2017; S. R. Hanney & Gonzalez-Block, 2016). The next section outlines the literature that describes the potentiators of research waste in more detail.

2.4 Potential for research waste

Health researchers have a responsibility for the conduct and reporting of their work because once translated to practice it is not easily changed. As early as 1753 James Lind noted in the course of his research on the treatment of scurvy that several authors had made errors in their research that had potentially caused pernicious treatment effects. Lind commented *"it is no easy matter to root out old prejudices, or to overturn opinions which have acquired an establishment by time, custom, and great authorities..."* (The James Lind Library).

Instances of ethically and scientifically questionable researcher behaviour have and still do occur, which at various levels devalues research effort, wastes resource, and misuses the trust of individual participants and society by failing to deliver meaningful outcomes. Altman (1994)

referred to a possible cause being naïve researchers who use “the right techniques wrongly, misinterpret their results, [and/or] report their results selectively...and draw unjustified conclusion,” (p. 283) and thereby lead others toward further misinterpretation.

More recently Chalmers and Glasziou (2009) commented that 85% of research investment was still being wasted for the same reasons Altman(1994) had listed, and noted not only was the data selectively reported, it frequently remained inaccessible for future researchers to undertake comparative replication. Chan (2014) referred to trial discontinuation, non-publication, and non-contactable investigators also adding to research waste. Indeed, in one systematic review of 79 studies where research results were reported in abstracts, the estimated rate of full report publication after 9 years was only 53% (Scherer, Langenberg, & von Elm, 2007). Chan et al. (2014) also referred to publication rates of only 45% for research approved by research ethics committees. Furthermore, where reported selective publishing saw positive results appearing in journals sooner than those studies that did not have positive outcomes (Chan et al., 2014; Hopewell, Clarke, Stewart, & Tierney, 2007). Such practice potentiates overestimation of benefits, which in turn may lead to increased costs associated with the introduction of a new treatment or practice “without a corresponding improvement in patient outcomes” (Simera et al., 2010, p. 2). Begum and Kolstoe (2015) reported on a review of research approved by their regional United Kingdom ethics committee that found a publication rate of only 32%, and of greater concern were the inconsistencies in the results reported in more than half of those published studies.

Additionally, the process from research-produced knowledge to its translation into practice or policy is slow and at times arbitrary, being variously dependent upon researcher dissemination, and health professionals’ awareness, agreement, adoption, and adherence to a practice or policy change (Glasziou & Haynes, 2005). Even where the highest quality research evidence is available, there remains a gap between what is known to work based on research evidence and what is actually translated to practice and policy (Andermann, Pang, Newton, Davis, & Panisset, 2016; Lander, Hanley, & Atkinson-Grosjean, 2010). First reported

in the 1980s, the still frequently quoted average time to translation is 17 years (Bowden et al., 2018; Hanney S et al., 2015; Morris, Wooding, & Grant, 2011; Nystrom, Karlton, Keller, & Andersson Gare, 2018). More recently Morris et al. (2011) and Hanney S et al. (2015) indicate this estimation is subject to conjecture due to the complexity and different measures used. Moreover, there was a lack of differentiation between purposeful delays in translation needed to ensure efficacy, safety and cost effectiveness of new treatments and technologies, and undesirable delays. Regardless, slow or no translation remains a significant contributor to research waste, devalues health research and researchers' credibility, and lessens community confidence to partner and participate in research.

Likewise, the potential for research waste diminishes the willingness of investors to pledge funding to research. The next section will discuss the literature pertaining to research investment.

2.5 Investment in Health Research

Funding health research requires the commitment of significant financial resources. Global medical research expenditure across the United States of America, Europe, Asia, Canada and Australia has been estimated at USD \$265 billion annually (Moses et al., 2015). Given such investment in research, society should expect to benefit from the translation of the findings to provide a healthier, longer and more equitable quality of life. Moreover, research-informed public health systems should be better able to respond to the unexpected threats to health brought about by natural forces or human intrigue; to operationally provide a better return on investments to sustain health systems; and to perpetuate future research and health gain by attracting successive generations of clinicians and researchers to the sector (Canadian Academy of Health Science, 2009).

While global health research spending appears large, funding remains a scarce and competitively sought resource for many health researchers. Viergever and Hendriks (2016) reported that in 2013, ten global public and philanthropic health research funders (Table 2)

together funded \$37.1 billion of research. Comparatively, for a similar period in NZ, a report indicated that after adjusting for population and converting to NZ dollars, government funding of research was less than a third of that in Australia, less than a fifth that in the United Kingdom, and only 10% of that in the United States (Reid, Joyce, Fraser, & Crampton, 2014).

Table 2.

Ten largest global health research funding organisations

Public/Philanthropic health research funding organisations	Country	USD 2013
National Institutes of Health	USA	26,081.3
European Commission - Cooperation Programme and Research Council	EU	5,682.8
United States Department of Defense	USA	1,426.7
Institut national de la santé et de la recherche médicale	FR	1,041.2
UK Medical Research Council	GBR	1,321.5
Wellcome Trust	GBR	909
Canadian Institutes of Health Research	CAN	883.6
Australian National Health and Medical Research Council	AUST	777.6
Howard Hughes Medical Institute	USA	752.6
Deutsche Forschungsgemeinschaft - German Research Foundation	DEU	630.6

Note. From Viergever and Hendriks (2016, p. 4)

In summary, research funding in an increasingly pragmatic and regulated global economy is scarce and hotly contested. To encourage ongoing research investment, a measurement of impact from research must be evidenced. The next section describes a series of research impact frameworks instituted over the past 30 years.

2.6 Measurement of Research Impact

The 2013 World Health Organisation (WHO) report on research for universal health coverage stated “all nations will benefit from taking a systematic approach to the monitoring and evaluation of research investments, practices, outputs and applications” (Dye et al., 2013, p. 30). As already stated, attributable links between research conduct, and the outputs and outcomes, tend to be complex and indirect (Banzi, Moja, Pistotti, Facchini, & Liberati, 2011; Raftery, Hanney, Greenhalgh, Glover, & Blatch-Jones, 2016; Thonon et al., 2015). However, to inform decisions about future funding directions, public and private funders will want to know whether their investments make a difference. The Payback Framework concept created by

Martin Buxton and Steven Hanney in 1996 broadly described the key research impact zones as knowledge, future research influence, political and administrative benefits, health sector policy and product benefits, and broader economic benefits (Buxton M & Hanney S, 1996). In 2009, the Canadian Academy of Health Sciences (CAHS) framework added additional indicators related more specifically to returns on investment in health research. For example, the CAHS asks whether the funded research fulfilled its anticipated aims, increased awareness of a research organisation to encourage future support, and allowed opportunities, challenges and successes to be recognised and learned from (Canadian Academy of Health Science, 2009). In developing their version, the Canadians had extensively reviewed nine other impact measurement frameworks, commenting that each had merits and drawbacks depending upon the priority of the impact being assessed. They noted at the time that “the science behind defining returns on investment in health research is embryonic” (p. 33).

In the subsequent decade many more indicator measures were introduced, reflective perhaps of the increasing demand from funders and governing bodies to transparently account for their investment in research. In their systematic review, Thonon et al. (2015) identified 57 reported indicators, covering the scientific impact and health service impact of research. They focused their review on measures of health service impact beyond bibliometric measures and found while complicated by indirect attribution, indicators that described change in practice, improvement in health services, clinician awareness, public knowledge and changes in legislation were better reflectors of impact value. However, they cautioned there was insufficient information about the relevance of many of the 57 indicators to cast light upon the broader impact of research. Indeed, they commented that many of the created measures had not been practically applied nor had there been further discussion about them in the literature. They concluded that to come some way toward an accurate impact measure of research requires a mix of several indicators.

Another report from the United Kingdom (UK) Health Technology Assessment 2005-2014 described 110 reviews utilising 20 different research impact models (Raftery et al., 2016). They

and others (Banzi et al., 2011) concluded the Payback Framework and its Canadian advancement (CAHS framework) remain the most robust, widely used and influential impact assessment tool. Though, Raftery et al. (2016) did qualify their findings by noting that the robustness of these methods are complex and require a significant resource, and as such utility is not always feasible or affordable. They concluded that different approaches to impact assessment are appropriate in different circumstances, and that research on research impact remains a developing field. They also suggested the prospect of new forms of electronic databases that allow funders to more rapidly connect outputs to awards from an entire funding stream, while not so robust, will increasingly become the default.

Of interest, the broader economic benefits of health care research were quantified in a 2008 report commissioned in the UK by the Medical Research Council, the Wellcome Trust and the Academy of Medical Sciences. The report authors compared the economic benefits from medical research in cardiovascular and mental health research by focusing on the value of health gains and the impact on gross domestic product (GDP). Overall, they found every pound of public and charitable funding spent generated a higher level of benefit than the standard minimum required by the UK Treasury for the investment of public money. This was repeated in 2014 for cancer research and the rate of return was found to be even higher.

In summary, the link between healthcare research and the measurement of its impact is a specialist area imbued with complexity. In the fiscally restrained environment of health research, research impact assessment is an important and evolving discipline of health research in itself. However, the heterogeneity, complexity, cost and resource involved in its robust conduct is a barrier to its utility, thereby potentiating research waste and perpetuating the evidence to practice gap first described in 2001 (Institute of Medicine, 2001a). The next section describes other potential barriers and enablers to involvement in healthcare research.

2.7 Barriers and Enablers to Research Engagement

The literature articulating the perceived barriers and conversely the supposed facilitatory environment required for health professionals to engage with and in research across the spectrum is well documented. A recent UK survey of 2,000 doctors described key individual barriers of insufficient time, absence or minimal funding and individual limitations in skills required to undertake research. These were followed closely by the often perceived arduous nature of the ethical approval process, and a lack of resource in the form of research support administration and research nurses (Royal College of Physicians, 2016). Limited access to research leadership and mentorship has also been highlighted (Mustafa, Murray, Nicklin, Glaser, & Andrews, 2018). Additionally, Rahman et al. (2011) referred to a professed potential for conflict between the role of clinician and researcher as an inhibitor, whereby the clinician's ability to personalize patient care is constrained by the research protocol.

Similarly, in publications by Black, Balneaves, Garossino, Puyat, and Qian (2015); Evans, Duggan, and Boldy (2014); Loke, Laurenson, and Lee (2014); New K. and Bogossian F. (2012); O'Byrne and Smith (2011), clinical nurses describe a lack in the time, training, exposure to, and support (both in organisational infrastructure and nursing leadership) of research, as inhibitors to their engagement in the research activities. Of particular mention was the lack of flexibility for time out for research in front line roles.

Allied health professionals have been referred to as "research emergent" (Pager, Holden, & Golenko, 2012, p. 53), referring to the comparatively low research evidence base to guide allied health interventions. Key barriers to research involvement for allied health workers essentially mirror those articulated by their nursing and medical colleagues. Additionally, the multiple specialties within the domain of allied health, and the ancillary nature of their roles in the hospital clinical environment was also cited as a barrier. Frontline allied health staff must negotiate access to participants and therefore more frequently than their medical and nursing colleagues must look to engage in more interdisciplinary research collaborations.

Comparable barriers also exist for public health and policy evaluation professionals. Primarily their role is to evaluate and interpret research outputs and outcomes and to synthesise results “in a way that makes it accessible and palatable to senior decision makers” (Huckel Schneider, Campbell, Milat, Haynes, & Quinn, 2014). These professionals also cite deficiencies in their access to research, time frames allowed, and provision of funding. As well, they refer to difficulties navigating the conceptual and actual motivational divide between clinical researchers, and public health and policy researchers (Huckel Schneider, Milat, & Moore, 2016; Makkar, Haynes, Williamson, & Redman, 2018).

Unsurprisingly, the perceived prime enablers expressed in the literature across all specialties were protected time to research, access to funding for research, a supported grants application process, research mentoring and a simple transparent ethical review process (Black et al., 2015; Evans et al., 2014; Loke et al., 2014; Mustafa et al., 2018; Royal College of Physicians, 2016). Provision for flexibility with the ability to backfill frontline roles for periods of research activity was cited as an apparent enabler for clinical nurses and allied health professionals (Borkowski, McKinstry, Cotchett, Williams, & Haines, 2016; O'Byrne & Smith, 2011). Also, organisational support for research career pathways with collaborative academic partners especially in the development of research skills was considered important (Golenko, Pager, & Holden, 2012; O'Byrne & Smith, 2011).

Evans et al. (2014) described an apparently successful programme in an Australian hospital which had purposefully appointed nurse research consultants to provide research education and training opportunities and to mentor nurses through identification of a clinical problem, development of a research proposal and conduct of the research. Overall this programme enabled the nurses to develop knowledge, skills and a level of confidence to engage in and with research. However, the authors cautioned that further follow-up was needed to explore the impact on changes in clinical practice.

Huckel Schneider et al. (2014) found for health policy, highly skilled policy researchers and ready access to research mentors and researchers are important. However, they noted even

when this is missing an organisational culture that values research can tacitly enable environmental facilitators to knowledge acquisition, attainment of research skills and encouragement in research collaboration.

Likely barriers and enablers to engagement in and with research by health professionals are not entirely contingent on the availability of all the perceived facilitators described above. Clinician apathy toward engagement in and with research cannot be simply overcome by the implementation of systems to support research (Rahman et al., 2011). Moreover, individual researchers cannot translate research outcomes to organisational policy and practice on their own. Organisational strategies are needed that give direction by highlighting research priorities, providing a supportive research infrastructure, developing opportunities for staff research capability, and enabling opportunities for dissemination and translation of research findings (Dye et al., 2013; Kothari, Edwards, Hamel, & Judd, 2009; Rahman et al., 2011). Indeed, in the development of the World Health Organisation (2012) global health research strategy, issues identified included “the lack of a common vision for health research, the lack of coordination of research activities, the lack of a dedicated budget to support research, and inconsistency in using evidence as the basis of policies, programmes, and global norms and standards” (p. 9). The report considered these could be “overcome by improving the quality, impact and inclusiveness of research practices”. (World Health Organisation, 2012, p. 9)

In summary, many reports in the literature identify barriers and/or enablers that may impede or assist the individual researcher or research teams (Black et al., 2015; Borkowski et al., 2016; Choo, Muninathan, Pung, & Ramanathan, 2017; Evans et al., 2014; Golenko et al., 2012; Huckel Schneider et al., 2014; Huckel Schneider et al., 2016; Loke et al., 2014; Makkar et al., 2018; Mustafa et al., 2018; New K. & Bogossian F., 2012; O'Byrne & Smith, 2011; Pager et al., 2012; Rahman et al., 2011; Royal College of Physicians, 2016). There is a divide in research focus between health care researchers who frequently attend to a defined and focused research question, and the organisational decision makers who “must appraise the entire problem with all of its complexities” (Kothari A, MacLean L, Edwards N, & A., 2011).

Regardless, across professional groups there remains a general concurrence in relation to the key perceived barriers and enablers to the conduct and use of research evidence. The next section describes a selection of tools developed to support organisations to appreciate their capacity to gather and use research evidence.

2.8 Organisational Capacity to Use Research Evidence

The authors of reports in the preceding section gathered their data utilising surveys, focus groups and/or interviews primarily focused within a professional group. Even where an organisational perspective has been sought, the questions were frequently framed from a particular profession's lens. Comparatively, the current research question seeks a non-partisan, cross-sectoral organisational view. Examination of the literature found those publications focussing on policymakers offered a more cross-organisation fit. For instance, the Canadian Foundation for Healthcare Improvement (CFHI) developed a tool in 2005 entitled "Is research working for you?" that provided a survey and discussion method to assist the leadership in healthcare organisations to understand the organisation's capacity to acquire, assess, adapt, and apply research (Canadian Foundation for Healthcare Improvement, 2014). This tool intentionally focused on an organisational perspective rather than the individual practitioner view. Usability of this validated tool was reported by 32 organisations across Canada that endorsed its facility where a culture shift from just service delivery to a more knowledge-based learning was the aim. It was described as a catalyst for open discussion on the topic of research use to inform organisational purpose (Kothari et al., 2009). Thornhill, Judd, and Clements (2009) reported more than 400 requests to access the tool internationally, with comments from users that the tool provided valuable insight to where support was needed in organisations to enable research evidence to inform management and policy.

Gholami et al. (2011) describe a similar **Self-Assessment Tool for Research Institutes (SATORI)** developed to identify the issues of knowledge translation in the university research sector. The authors describe this tool as complimentary to the CFHI tool, and similarly place emphasis on the value of engendered discussions. SATORI asks the questions "Do we identify

decision makers' research needs and convert them into research questions? Do we produce useful evidence for decision making? Do we have appropriate means for disseminating the organization's research results to their target audiences? And do we help decision makers utilize research results better?" (p.2). They found that while research capacity and knowledge production occurred, weaknesses were apparent in the knowledge transfer and the use of evidence.

Redman et al. (2015), discussed a framework used to evaluate the impact of a group of methods to increase the capacity of health policy agencies to use research. Using the acronym SPIRIT (**S**upporting **P**olicy **I**n health with **R**esearch: an **I**ntervention **T**rial) the action framework was focused on both the organisation and the individual policy maker. It utilised facilitated discussion and leadership programmes that drew upon the experience of the CFHI EXTRA (**E**xecutive **T**raining) quality improvement programme, which itself incorporated the CFHI tool "Is research working for you?" (Canadian Foundation for Healthcare Improvement, 2014). The SPIRIT framework included an online self-report survey entitled **S**eeking, **E**ngaging with, and **E**valuating **R**esearch (SEER) (Brennan et al., 2017). The survey was followed by interviews to gain more in-depth **S**taff **A**ssessment of **e**n**G**agement with **E**vidence (SAGE). As well, a separately focused and structured interview guide was used with senior leaders, coined ORACLe (**O**rganisational **R**esearch **A**ccess, **C**ulture, and **L**eadership), that evaluated the systems, supports, and tools available to enable research use, and their impression of the worth the organisation placed on research (Makkar et al., 2016). The recently published early outcomes from the SPIRIT framework suggest that supporting capacity and capability may be effective in increasing the use of evidence from research (Williamson, Barker, et al., 2019).

Wilson et al. (2015) conducted a comparative interventional study to evaluate the six National Health Service (NHS) Clinical Commissioning Groups (CCGs) use of research evidence to support resource decisions. Unlike the outcomes from the SATORI and SPIRIT frameworks, this group found no real change in research evidence seeking behaviour as measured by the

CFHI tool (Canadian Foundation for Healthcare Improvement, 2014) at baseline and at 12 months (Wilson et al., 2017).

Other similar tools have been described by Boyko, Lavis, Dobbins, and Souza (2011); Catallo and Sidani (2014); Rodriguez et al. (2017). The areas described in these reports were broadly similar to those described by Brennan et al. (2017); Canadian Foundation for Healthcare Improvement (2014); Gholami et al. (2011); Makkar et al. (2016); Redman et al. (2015); Wilson et al. (2015). While variation in application and outcome was evidenced, consistency existed with most reports at the very least referencing the CFHI tool “Is research working for you?” (Canadian Foundation for Healthcare Improvement, 2014), which speaks to its universality. In the next sections the focus will shift to consideration of the New Zealand perspective, in particular the strategic direction, level of investment, and value placed on research to inform healthcare delivery at all levels.

2.9 The New Zealand Context

Similar issues discussed in the global context were also identified in the development of the Waitematā DHB Research Strategy 2020 (Waitemata DHB Research Governance Group, 2016) and the NZ Health Research Strategy (Ministry of Business Innovation & Employment and Ministry of Health, 2017). There is, however, limited peer review commentary related to NZ’s health care research infrastructure in the 20 NZ district health boards. Much of the recent literature comes from reports to government and policy consultations.

2.9.1 District Health Boards (DHBs)

Those organisations with much to gain from the outcomes of research in New Zealand are the DHBs. However, DHBs are bound by government policy that directs funding, provisioning and governance (Blank & Burau, 2014). The majority of the government’s healthcare funding (75.7%) goes to the 20 DHBs to purchase and provide health services for their district (New Zealand Treasury, 2017). While the government has increased health funding year on year in its budgets, the New Zealand Treasury figures record an ongoing drop in health spending as

a percentage of GDP from 6.56% in 2009/10 to 6.47% in 2012/13 (Association of Salaried Medical Specialist, 2014) and 6.1% in 2016/17 (The Treasury, 2017). This drop was caused by the rising costs of healthcare delivery associated in part with the growing and aging NZ population, where a portion of that longer lifetime is being spent in poor health with complex health needs (Blank & Burau, 2014).

Healthcare research and its governance has not been specified in the annual DHB funding from the government. The reasoning for this stance was articulated in the governmental response in 2011 to the Health Committee Inquiry into improving New Zealand's environment to support innovation through clinical trials (Ministry of Health, 2011). It stated clinical research may only play "some" role in DHBs but cannot be considered a "frontline activity" (NZ Government, 2011, p. 14). Current Health and Disability Ethics Committee (HDEC) and DHB research policies still reflect upon this statement in their process for the locality approval of research activity (New Zealand Health and Disability Ethics Committees, 2014, p. 39). Nevertheless, most New Zealand DHBs do host research, and the larger DHBs facilitate their staff to engage in research and related activity with the provision of a research infrastructure specifically focused on delivering advice and related research support. Indeed, the Ministry of Health recognises a level of research activity occurs in DHBs, because it requires the DHBs' Chief Executive Officers to be responsible for the suitable, safe and effective conduct of clinical research in their organisation (New Zealand Health and Disability Ethics Committees, 2014). The DHB executive, therefore, will want to ensure that where supported, research does help inform the organisation's purpose, and that any investment will in the long-term lead to the healthcare improvements DHBs are targeted with delivering (Ministry of Health, 2015).

2.9.2 Health Research Council (HRC)

While DHBs are not directly funded for research, the government does endow healthcare research through key national collaborative health research programmes funded by the New Zealand Health Research Council (HRC). The HRC is a Crown entity responsible to the Minister of Health (Health Research Council of New Zealand, 2014). The HRC annual

contestable funding rounds support research that has the potential to improve health outcomes and the delivery of healthcare, and to produce economic gains for New Zealand. However, a report in 2014 found after adjusting for population and converting to New Zealand dollars, the HRC funding of research was less than a third of that in Australia, less than a fifth that in the United Kingdom, and only 10% of that in the United States (Reid et al., 2014). In 2015, the Minister of Health and the Minister of Business, Innovation and Employment jointly requested a strategic refresh of HRC activity with the subsequent report noting that health research is “essential to the efficiency and effectiveness of the health system” (Ministry of Health and Ministry of Business Innovation and Employment, 2015, p. 6). Subsequently to this, the government went some way to address the research funding deficit by announcing an overall 56% increase in HRC funding of \$97 million over a period of four years from 2016 (Minister of Science and Innovation and Minister of Health, 2016).

2.9.3 A National Health Research Strategy

One of the main recommendations forthcoming from the HRC strategic refresh report was the need for a national health research strategy with a major focus on improving collaboration between health researchers and those in the health system delivering care. In addition, it stated a research strategy should focus on a framework to better connect the health and innovation sectors that in turn could set the direction for future government funding (Ministry of Health and Ministry of Business Innovation and Employment, 2015).

The NZ Health Research Strategy 2017-2027 (Ministry of Business Innovation & Employment and Ministry of Health, 2017) was consulted on during 2016 and delivered into policy in July 2017. It states there are opportunities to “improve the environment and culture for research and innovation” in the NZ health sector (pp. 16-17), and in particular it mentions the need to “strengthen the clinical research environment and health services research” (p. 17). It urges researchers to strive toward excellent, collaborative, and translatable research that is cohesive and can lead to positive societal impact. However, it recognises New Zealand can only produce a small contribution of original research to the global effort. For this reason there

should be an added emphasis on “translating discoveries, innovations and evidence from offshore to the New Zealand context” (p. 19) with this most effectively being done by health sector clinicians (Ministry of Business Innovation & Employment and Ministry of Health, 2017). District Health Boards (DHBs) are seen as having a key role in “strengthening the focus” (p. 19) on translation.

The NZ Health Research Strategy 2017-2027 implementation plan sets out principles and directions for New Zealand that comprise research excellence to ensure; (a) ethically safe, scientifically rigorous and well-designed research; (b) transparency that prioritises investment toward research to address the health needs of New Zealanders; (c) a true embrace of the Treaty of Waitangi principles with respect to He Korowai Oranga - the Māori Health Strategy (Ministry of Health) and the principles of Vision Mātauranga that gives deliberate direction to research relevant to Māori (Ministry of Business Innovation and Employment); (d) vibrant multi-professional, cross-sectoral and cross-community collaboration that can “build research expertise in the health workforce” (p. 31) and “build clinical understanding in the research development workforce” (p. 31); and (e) translation of outcomes into policy and practice, and where appropriate toward commercial opportunities. The health research strategy sets an aspirational goal that by “2027 New Zealand will have a world-leading health research and innovation system” whereby “excellent research improves the health and wellbeing of all New Zealanders” (p. 6).

In response to the national research strategy, the research agenda has been given increased focus in New Zealand DHBs; with many reportedly now organising their local research strategy and policy documents to aid in their delivery of the national research strategy (DHB Research Office Managers, personal communication). Already stated, Waitematā DHB had previously endorsed a five-year research strategy to 2020, whereby research and its translation will be recognised and valued, and there will be continued investment in research infrastructure to enable opportunities for staff to acquire skills to be engaged in and engaged with research (Waitemata DHB Research Governance Group, 2016). In recent years Waitematā DHB annual

plans have also mentioned research and innovation, and in particular the 2017/18 annual plan (Waitemata DHB, 2017) details a strategic theme to deliver “safe and high-quality care based upon evidence from research, [and] clinical expertise” (p. 4), and a workforce aim of building staff research capacity and capability to become “a centre of research excellence” (p. 26).

The national health research strategy document provides focus to how the implementation of the national research strategy will be managed and measured. Additionally, in 2018 the HRC formed an expert development group to oversee a priority-setting process for strategic research investment areas. Their plan will be publicly consulted on prior to its release in 2019. However, at this point there is no detail on how the impact of the strategy will be determined, beyond broad statements that refer to monitoring and evaluating the whole system robustly using “bibliometrics and international benchmarks where possible to measure performance” (Ministry of Business Innovation & Employment and Ministry of Health, 2017, p. 28).

2.9.4 Research Collaboration

A key theme evident throughout the Strategic Refresh of the HRC and the NZ Health Research Strategy 2017-2027 is collaboration, that allows for the sharing of knowledge, expertise, and resources to solve health sector issues. Collaborating where knowledge and experience are paradigmatically similar can broaden and strengthen a research programme, and there are many New Zealand examples where health research collaborations between university and DHB researchers are supported by HRC investment (Health Research Council, 2018). The HRC Partnership Programme, for example, has supported an expansion of collaboration across sectors and professions whereby research of mutual interest is enabled through a pooling of resources. It provides a way for organisations, institutions and professions to achieve more than they can individually (Green & Johnson, 2015).

Good collaboration can enhance reciprocal communication among parties with diverse knowledge, experience and perspectives, enabling acceptance of potentially different cultural and professional values and practices. The benefits of collaboration include real-world research questions, broadly-based skills, innovative thinking and application of methods.

Where funding is limited the potential for access to expensive equipment, techniques and experts is an additional benefit. Importantly, collaboration allows for a broader dissemination base for the reported outcomes, enhancing the likelihood of translation and thereby reducing research duplication and waste (Green & Johnson, 2015; S Rajaram, 2018; Sprunger, 2017; Steinke, Rogers, Lehwaldt, & Lamarche, 2018).

However, the complexity of multiple collaborative partners is also recognised as a potential confounder that has an impact upon the time to complete the research activity. Issues such as consensus in planning, equitable distribution of the funds, addressing potential for conflict of interest and power imbalance, ownership of intellectual property, and academic freedom and authorship must be addressed. Such issues are further magnified when the collaboration is across jurisdictions requiring regulatory, cultural and time zone differences to be negotiated too (Green & Johnson, 2015; Helena Teede & Hans Meij, 2017; S. Rajaram, 2018).

Managing the demands of collaborative research programmes is especially difficult for DHB researchers with demanding clinical loads. Not surprisingly, therefore, the principal or lead investigators of HRC funded research projects have tended to be from academia or independent research institutions, and not DHBs. This is evidenced in the HRC publication of funding recipients over recent years where relatively few of the successful applications were led by DHB investigators (Health Research Council, 2018).

2.10 Summary

The research in this study question asks does research help to inform a DHBs purpose? Chapter 2 has discussed the NZ and the global literature pertaining to healthcare research and organisational capacity and capability to support and sustain engagement with and in research. The literature recognises the potential value of healthcare research globally and in the local context. There remains, however, ongoing debate on the strategic direction, level of investment, and how best to measure its worth. Notably, in the setting of the research question, NZ DHBs are not funded to conduct research. However, most NZ DHBs, and in particular the larger ones, do host research conducted by their staff internally and/or collaboratively with

external researchers. To date, as far as the primary researcher has discerned, no NZ DHB has attempted to systematically evaluate whether the research activity it hosts helps to inform that DHBs stated purpose. In the development of the Waitematā DHB research strategy this question was raised and the DHB has taken the first step toward an answer in its sanction of the present doctoral research project.

In order to examine the question “does research help to inform a DHBs purpose?”, the following chapter, outlines the mixed method research approach to address this question in the context of Waitematā DHB. The volume, type and the outcomes of the research activity the DHB hosts will be quantitatively examined. Current literature was used to assist in the design of a focused survey of researchers. A second survey utilising a validated open-source tool entitled “Is research working for you?” (Canadian Foundation for Healthcare Improvement, 2014) was to be used to gather an organisational perspective of the question. As well, individual interviews seeking the opinions of individual key DHB research leaders with regard to the purpose and benefits of research, and their perception of the enablers and barriers to conducting and/or supporting research activity in this DHB’s context, will be undertaken.

Chapter Three: Method

Introduction

The question to be answered was “does research overall help to inform a healthcare organisation’s purpose? In NZ, there is a national ethical requirement for HDEC approved research to seek individual locality authorisation from a host facility “from which the procedures outlined in the [research] protocol of a study are to be conducted” (New Zealand Health and Disability Ethics Committees, 2014, p. 38). In the process of locality review the host locality should seek to understand any impact the research activity has on the routine health care it provides, on the workforce that provides that care, and on any resource provision that may be affected in the process of the research conduct (New Zealand Health and Disability Ethics Committees, 2014). To manage its public service responsibilities and its knowledge acquisition in line with the National Ethics Advisory Committee (NEAC) guidance (National Ethics Advisory Committee, 2012), Waitematā DHB has purposely broadened its definition of research requiring locality approval to capture innovative technology research, clinical audit, and quality/service improvement evaluations too.

The setting for this study was Waitematā DHB, a NZ publically funded healthcare delivery organisation tha hosts research. To answer the posed research question, a descriptive mixed method approach was employed to appreciate both retrospectively and prospectively collected data, and to combine both in the final analysis. The mixed methods movement originated around the late 1980s and early 1990s (Creswell, 2013; Thasakkori & Creswell, 2007). It broadly allows the researcher to collect and analyse data, integrate the findings, and to draw inferences using both the quantitative and qualitative frames “untangled from philosophy and paradigms” (Thasakkori & Creswell 2007, p. 304). Utilisation of mixed methods in the context of this research pragmatically deals to the pluralistic culture of healthcare research, by accommodating a more post-positivist stance where empirical content and experiential context can both be appreciated (Giddings & Grant, 2007; Thasakkori & Creswell, 2007). Creswell (2013), describes an explanatory sequential mixed method approach,

whereby the first phases quantitatively gather and descriptively analyse data. The outcomes from the quantitative phases can then be used to plan the subsequent qualitative stage. Specifically, the outcomes from the initial quantitative phase guide the type of questioning in the qualitative interviews, and in turn the data from the qualitative phase helps to inform a greater depth of understanding from the quantitative data. In essence, the quantitative and qualitative analysis will occur independently and then be woven together in the final analysis and discussion.

To answer the research question, which is attentive to an organisation's view of research use, an appreciation of individuals' engagement in and with research in their context was required. Summary statistics, document analysis, survey, and interview methods were used sequentially to examine the research effort and its overall impact on a DHB. Part 1 utilised reporting from the research and knowledge management database, and part 2 retrospectively analysed the locality application documents for interventional and observational research. In part 3 data was prospectively gathered in two surveys, the first targeted the researchers identified from Part 2, and the second the DHB senior management and clinical leaders. Part 4 data was collected in a series of interviews with a small number of key DHB clinician research leaders to gain their perspective on enablers and barriers to research.

3.1 Part 1 Retrospective Database examination

The DHB maintains an electronic research and knowledge management database that records all research and related activity, including audit and evaluation, where the DHB's patients, staff, facilities and/or resources are involved or utilised. Part 1 of the research undertook a retrospective review of the project information recorded in this database from 2008 to 2015 inclusive. Anecdotal evidence gathered by the primary researcher, whose role involves regular contact with like roles in other DHBs, indicated that Waitematā DHB was unique among DHBs in this time in registering and recording audit and evaluation projects for resource and knowledge management purposes. The objective of the retrospective review was to describe the types of research broadly categorised as interventional research, observational research

or audit/evaluation. This initial review was undertaken to provide an indication of the direction and general investment in research by Waitematā DHB (Guthrie, Wamae, Diepeveen, Wooding, & Grant, 2013). Descriptive statistics utilising frequency and percentage statistics were used to analyse and describe the basic features of the research projects registered in the database. These were then graphically displayed.

A cohort of interventional and observational research projects registered in the years 2013, 2014 and 2015 was then selected to be the focus for the more in-depth analyses in Part 2, and Survey 1 of Part 3.

3.2 Part 2 Descriptive Analysis of Locality Applications

In Part 2, locality approved interventional and observational research projects from the years 2013, 2014 and 2015 (n=119) were selected to further elucidate the research conducted at, by and in collaboration with Waitematā DHB. The types of documents reviewed for their content included the locality application form, the project protocol, ethics application form, as well as any email correspondence at the time that sought additional clarifications to the application.

Coding of the data was important for consistent navigation of the texts in relation to the research question. To this end, a small (10%) random pilot sample of approved projects was selected and the associated locality application documentation was reviewed to establish key categories the data could be coded to during collection. The chosen categories broadly reflected the questions asked in the locality application form. (Appendix P).

3.2.1 Inclusion/Exclusion Criteria

Inclusion:

Part 2 included non-industry sponsored interventional research and observational research projects registered, and given Waitematā DHB locality approval in the years 2013, 2014 and 2015. These years have been purposely chosen because they reflect the period when;

- (a) the DHB's annual plans state its strategic purpose will be to promote wellness; to cure, ameliorate and prevent ill health and to relieve suffering of those entrusted to its care;
- (b) the landscape for New Zealand ethical review changed (July 2012) following the 2011 government health committee report "Inquiry into improving New Zealand's environment to support innovation through clinical trials" (Ministry of Health, 2011). At this time, there was a devolution of HDEC responsibility to focus only on the ethical aspects of research, with research host sites (localities) held responsible for checking and authorising the local aspect of research conduct as part of the overall HDEC approval;
- (c) the level of the bar that triggers the requirement for HDEC review was raised, meaning determination of the level of risk for participants (primarily patients) must be more than minimal, as described in the HDEC Standard Operating Procedures (New Zealand Health and Disability Ethics Committees, 2014);

As well, the choice of these years provides for a sufficient elapse of time to enable evaluation of whether the outcomes from the research activity have occurred.

Exclusion:

Part 2 excluded.

- (a) Industry-sponsored clinical research because in the context of the research question "Does research overall help to inform the DHBs purpose?", research that is deemed by HDEC to be "for the benefit of the manufacturer" indicates that the collected data goes directly to the industry sponsor for analysis. As well, the outcomes are contractually not available to the DHB until the analysis is published, sometimes many years later. Even then, the researched product may not always be procured in NZ.
- (b) Research where the DHBs involvement is only as a resource or referral site. Some interventional and observational research projects that sought host locality approval were not primarily conducted at a Waitematā DHB locality site. The DHB's only role will have been the provision of a resource (for example pathological blocks/slides for participants involved in a clinical trial at another locality site; or to advertise (place posters) an external research

programme to potential participants (either staff or patients/visitors); or to refer suitable patients to another locality site hosting the research.

(c) Audit and evaluation

The contextual content of the locality application documentation was further elucidated in Part 3 (Survey 1), where the primary researcher for a project identified in Part 2 was invited to complete a questionnaire related to the development, conduct and outcome of their research.

3.2.2 Analysis

Similarly, to part 1, the analysis of the coded data in part 2 utilised frequency and percentage statistics to analyse and to objectively, systematically and quantitatively describe the features of the locality application documents for the interventional and observational research projects. These outcomes data were displayed in tables.

3.2.3 Ethical Considerations for Part 1 and Part 2

Research and the related activities of clinical audit, quality improvement evaluation, and innovative research practice must be ethical and must seek to add value (New Zealand Health and Disability Ethics Committees, 2014). In developing the method to conduct Parts 1 and 2 the guiding ethical principles of informed and voluntary consent, respect for privacy and confidentiality, minimisation of risk, social and cultural sensitivity, research adequacy, avoidance of conflict of interest, and truthfulness were considered (AUT, 2018).

Parts 1 (database examination) and 2 (descriptive analysis of locality application documents) utilised a retrospective review of data already collected for purpose and thus were considered to be a minimal risk not reaching the threshold requiring a formal ethics committee review. However, such activities may still carry some form of risk, and the ethical, privacy and security principles described above were considered by the host organisation in the approval process for locality authorisation of this research (Appendix C). Locality host approval was given by the Director of Human Resources and the Chief Medical Officer of Waitematā DHB.

3.3 Part 3 Surveys

Two surveys were developed to gather the opinions of researchers about their research (Survey 1), and the perspective of senior managers and clinical leaders about the organisation's use of the knowledge gained from research (Survey 2).

3.3 Part 3, Survey 1

A survey tool utilising online Survey Monkey® was developed to gather data directly from the primary research investigators, to gain their perspective on a broad range of matters related to their projects.

3.3.1 Development.

The design of the survey tool included a mix of questions with a selection of predefined answers and an additional option for comment intended to elicit more comprehensive responses to particular aspects. Prior to conducting the survey, its design was critiqued by experienced research and knowledge centre staff whose roles include the support of staff in the design of research questionnaires and surveys. Minor changes to enhance clarity and improve the layout of the questions were made from their suggestions.

The scope of the survey questions covered the primary motivation for the research question, had they been able to answer their research question, had the outcomes been reported and disseminated, had a practice changed as a consequence and had any change been sustained. Some questions required participants to explain their answer choice, for instance, how practice changed or why practice may not have changed. (Appendix H)

3.3.2 Participants

Participants invited to participate in Survey 1 were identified as the principal or lead investigator from the projects identified in Part 2 and were still or had been a Waitematā DHB staff member at the time of conducting their research (n=62). They were invited to complete a questionnaire related to the development, conduct and outcome of their research.

3.3.3 Procedure

The DHB locality process routinely requires researchers to provide a contact email address for the purpose of ongoing correspondence. An email invitation to participate in the survey was sent by an administrator not involved in the current research to the email listed in the research and knowledge database for the locality approved researcher. The email had attached a participant information sheet (Appendix F) describing the purpose of the survey and the safeguards in place to maintain the confidentiality of information provided. Additionally, it explained how their overall contribution would provide information to inform the Waitematā DHB Research Strategy 2020 and would also inform the primary researcher's doctoral thesis. Consent was implied where participants chose to click on the link to an external Survey Monkey site to complete the survey. In this way participant responses were separated from the identifying email and could remain anonymous unless a participant purposefully chose to identify themselves.

The survey was open for 1 month and a reminder email was sent at two weeks. Due to the anonymity of responders, the reminder email was re-sent to all researchers with a statement thanking those who had already responded and reminding those yet to do so of the remaining time the survey would remain open. The survey was planned to take no more than 15 minutes of their time to complete. The use of the software Survey Monkey® enabled responders and their responses to be anonymous to both the primary researcher and to the administrator. In this way, it was hoped that respondents would be more inclined to open and honest disclosure. Koha in the form of a voluntary draw for one of five \$50 Prezzy® cards was offered to participants. To enter in the draw at the conclusion of the survey participants were provided with a link to respond to the survey administrator thereby ensuring the anonymity of their survey responses was maintained.

3.3.4 Analysis

The analysis of the survey was undertaken utilising the aggregated data that was exported to SPSS statistical software, whereupon frequency and percentage statistics were used to

analyse the discrete data. Any additional explanatory comments participants chose to provide were also considered to identify issues which might complement the closed questions. The data were then descriptively reported.

3.4 Part 3, Survey 2

The second survey was intended to provide the organisational perspective of decision makers (senior managers and clinical leaders) with regard to the DHB's capacity to conduct, acquire and use of research knowledge.

3.4.1 Development

Survey 2 was sourced from a validated Canadian survey entitled "Is research working for you?" described as a self-assessment tool and discussion guide for health services management and policy organisations (Canadian Foundation for Healthcare Improvement, 2014). It was designed to assess organisational, not individual, capacity for research which sits well with the current research question which also attends to the perspective of research supporting the organisation's purpose. The outcome from an evaluation of the tool across 32 organisations in Canada, endorsed its usability, and found it acted as a catalyst to open organisational discussion on the topic of research use to inform organisational purpose (Kothari et al., 2009). The survey tool is provided in open source format for organisations to use. It utilises a Likert scale scoring system to explore four broad areas encompassed under the headings of acquire, assess, adapt and apply. (Table 3)

Table 3

Four general areas of assessment encompassed in the survey "Is research working for you?"

Acquire:	Can your organisation find and obtain the research findings it needs?
Assess	Can your organisation assess research findings to ensure they are reliable, relevant, and applicable to you?
Adapt:	Can your organisation present the research to decision makers in a useful way?
Apply:	Are there skills, structures, processes, and a culture in your organization to promote and use research findings in decision-making?

Note. From Canadian Foundation for Healthcare Improvement (2014, p. 4)

3.4.2 Participants

Participants invited to participate in Survey 2 were identified as Waitematā DHB decision makers and drawn from a current list of senior managers and clinical leaders who have been involved in the locality approval of research (n=87).

3.4.3 Procedure

Similarly, to Survey 1, the targeted population was sent an email invitation to their DHB email address by an administrator not involved in the current research. The email had attached a participant information sheet (Appendix G) describing the purpose of the survey and the safeguards in place to maintain the confidentiality of information provided. It too explained that participant's overall contribution would inform the Waitematā DHB Research Strategy 2020 and would also inform the primary researcher's doctoral thesis. Participants could participate anonymously by clicking on a link to the survey. In this way, it was hoped that respondents would be more inclined to open and honest disclosure. As with Survey 1, koha in the form of a voluntary draw for one of five \$50 Prezzy® cards was offered to participants who could enter the draw at the conclusion by clicking a link to respond to the survey administrator, thereby ensuring the anonymity of their survey responses was maintained.

The survey ran concurrently with Survey 1 (researcher survey) for one month with a reminder email being sent at the 2 weeks point. While each survey had a different focus and audience, a few participants may have received both surveys due to the multi-faceted nature of their DHB role. However, the purpose of each survey and the perspective from which they should respond was made clear.

3.4.4 Analysis

The analysis undertaken for Survey 2 also utilised the aggregated data that was exported to SPSS statistical software, whereupon frequency and percentage statistics were used to analyse the discrete data. The format of the survey did not allow for additional commentary. The data was analysed and descriptively reported.

3.4.5 Ethical Considerations for the Surveys 1 and 2

Surveys 1 and 2 required an AUT Ethics Committee (AUTEC) approval, which was sought and granted in mid-2017 utilising the expedited review pathway (AUTEC approval 17/204). Additional DHB locality host approval was also sought and given for part 3 (surveys) by Director of Human Resources and Chief Medical Officer.

Participant information was provided, and the participants' consent assumed when they clicked on the survey link provided in the email, completed and then submitted the anonymous on-line survey.

To minimise the likelihood of individual identification, participants were asked not to provide their name or position title in the survey. As well, the subsequent reporting of the information provided was reported in aggregate form. The process of offering koha for a participant's time would require a participant to identify themselves. To manage this potential breach in anonymity the koha process was managed separately to the survey by the survey administrator.

The outcomes from the preceding parts 1, 2 and 3 were used to inform the direction of the interview questions with key DHB clinician research leaders in Part 4.

3.5 Part 4. Interviews

As described previously, the overall methodology for this research entails the use of mixed methods. Parts 1 to 3 have been quantitative in method. The data collection and analysis for Part 4 follows a qualitative pathway that involves participant interviews to be analysed utilising thematic analysis. A weaving of the quantitative and qualitative outcomes to answer the research question will follow in the discussion.

3.5.1 Development

The interview guideline questions for Part 4 were informed from the outcomes of the previous parts 1 to 3 that included a retrospective database audit, descriptive document content analysis, and two prospective surveys of DHB researchers, and of DHB decisionmakers.

Interview discussion with senior DHB clinician research leaders allowed for a deeper exploration and pragmatic perspective with regard to the facilitators and barriers to developing, conducting, disseminating and translating research in a DHB environment. Kothari et al. (2009) reported a similar validation process was used with the tool “Is research working for you” (Canadian Foundation for Healthcare Improvement, 2014), and that it was found to enhance the value of this instrument of measure. The questions for the current interviews led from the findings in the previous parts 1, 2 and 3 of the research. The format was semi-structured with a set of predetermined open-ended questions that allowed the opportunity for additional questions to be asked should an answer require further exploration. The question “does research overall help to inform the DHBs purpose”, served as the introduction with further questions covering the facilitators and barriers, funding, collaboration, and translation of research, from the experience of these experts (Appendix L).

3.5.2 Participants

In discussion with colleagues from the Research and Knowledge Centre, potential participants were purposefully identified from among staff who had registered research projects on the research and knowledge database. Prime consideration was given to candidates' seniority in the DHB that would ensure their active insight to the research question and subsequent discussion, the volume of research they had conducted, and a history of collaboration in their research. Eight potential interview candidates were identified and invited to participate. Six responded and agreed to be interviewed.

3.5.3 Procedure

Potential interview participants were sent an explanatory invitation by email, with participant information attached (Appendix J) by the primary researcher who had sought ethical clearance and locality approval with regard to the appropriateness for this approach. Notably, the primary researcher did not have a professional, operational or management responsibility for the potential participants, and did not hold authority for the provision of the DHB's locality approval for their research projects (this authority sits with the DHB service manager and head of

department). Therefore, it was considered there was no power relationship between the primary researcher and the potential interviewees. However, it was acknowledged there may be a potential for those approached to feel obligated to participate through collegiality, and to this end, the voluntary nature of participation was made clear in the initial invitation email, and in the participant information sheet. Potential participants were given the opportunity to ask for clarifications either by email, phone or in person. When satisfied they were asked to nominate the time and place for their interview. Participants had yet another opportunity to ask questions before signing a consent form (Appendix K) prior to the face to face interview.

The interviews were audio-taped with participant permission and subsequently professionally transcribed. While care has been taken to guard their anonymity, participants recognised that because of their seniority in the DHB, and in some cases their known views, their anonymity may be compromised by what they said. To this end the verbatim transcriptions were offered to the interviewee to review, and where necessary to correct or to retract statements. All interviewees reviewed their transcripts and a few made some minor clarifications but none felt it necessary to retract the information they provided. All interviewees received a small gift or *koha* for their time and interest.

3.5.4 Analysis

Reflexive thematic analysis (TA) described by Braun and Clarke (2006) was the pathway chosen to analyse the interview data. Central to the analysis was to regularly reflect upon the prime research question. The reflexivity of the TA method allows for the primary researcher's active role in the interview process and in the subsequent iterative exploration, appreciation and interpretation "of patterned meaning across the dataset" (Braun, Clarke, Hayfield, & Terry, 2018, p. 6). The six-stage TA process referred to by Braun and Clarke (2006) includes listening to the recorded interviews and reading the verbatim transcripts multiple times for familiarisation before embarking on a recursive process of coding to capture the core meanings. In this process a series of experiential themes can be inductively extracted and interpreted, before finally being reported in relation to the research question.

The analysis would be focused on the semantic content of interview transcripts, as opposed to an interpretation of latent meaning. A semantic approach identifies themes within the “explicit and surface meanings of the data and the analyst is not looking for anything beyond what a participant has said or what has been written” (Braun & Clarke, 2006, p. 13). Utilising this method, the analysis would be able to inductively focus on identifying common semantic themes within and between the transcripts.

3.5.5 Ethical Considerations

An amendment to the university ethics committee application was requested for the addition of part 4 (interviews) and approved in mid-2018. Additional DHB locality host approval was also sought and given by the Director of Human Resources and the Chief Medical Officer for Waitematā DHB.

Interview participants were all employees of the DHB. The key ethical issue for consideration for the Part 4 interviews was how best to maintain the anonymity and safety of the interview participants and the data they volunteered. To this end it was important to make it clear during the giving of information and consenting process that the name of the organisation would be used in the thesis, associated publications and reports. Participants were also told the information they provided during the interview would be stored and reported using pseudonyms in place of their real name and other potential identifiers such as their area of practice would also be framed as much as possible to mask their identity. However, participants were all made aware because of their seniority and research role in the organisation there would always remain a potential that their comments would identify them to others, and because of this their anonymity could not be totally guaranteed. Participants were told they would be able to review and amend or retract the verbatim transcripts subsequent to the interview.

Chapter Four:

Results

4.1 Part 1: Retrospective Audit of the Research Management database

4.1.1 Introduction

Waitematā DHB research policy requires the collection of project information related to the research it hosts. Since 2008, this information has been recorded in the DHB's research and knowledge management database. The data collected in this repository broadly encompasses information about the people, collaborative or partner institutions, resources required, and the activities involved in the research conduct and a record of the approvals given. Of note the database does not hold the ensuing research data. Projects listed in the database collectively span interventional and observational research, and clinical audit and evaluation type projects.

For the purpose of this review a time point has been set at 31 December 2017 for projects registered with the DHB in the years January 2008 to Dec 2015. A portion of projects had a locality application registered as pending on the database, but the primary researcher subsequently did not proceed or were unable to be contacted. These projects have been excluded from this analysis.

4.1.2 Findings

In this period there were 1196 research projects recorded as either interventional research (n=261), observational research (n=246) or audit-evaluation (n=689) in the research and knowledge management database (Figure 2).

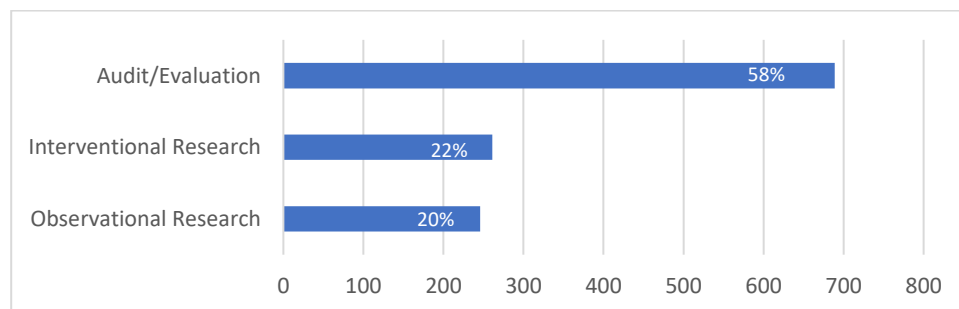


Figure 2. Distribution by project type

Eighty-four percent (n=1005) gained full DHB locality approval to conduct the research activity. Of the remaining projects, 191 (16%) proceeded without completing the locality approval process. (Figure 3)

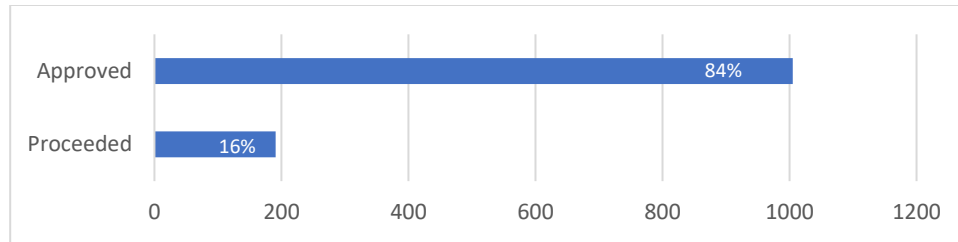


Figure. 3. Locality approval status

When the locality approval status was interrogated further for this group (Figure 4) it was evident that the greatest number of proceeded projects sit within the category of audit/evaluation (73%). The 191 proceeded projects represent those where the investigator progressed with their project before completing the DHB's locality approval process. Subsequent follow-up by the DHB's Research and Knowledge Centre will have occurred, at which time the project's status will have been adjusted to Proceeded/Active (as opposed to Approved/Active) to denote while it was not sanctioned by the DHB, the knowledge gained can still inform the DHBs purpose.

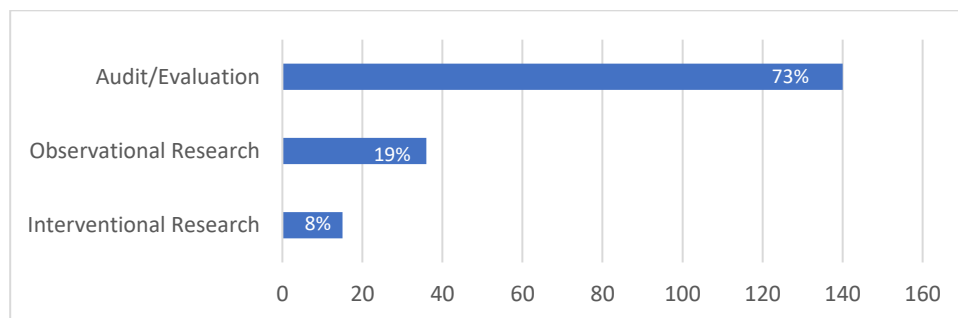


Figure 4 Locality status listed as proceeded (n=191) by project type

Research projects, particularly those listed as observational and interventional, may extend over many years. Comparatively audit and evaluation activity was usually of a short duration. At the time of locality application all projects must have provided a provisional start and end date. Seventy-nine percent of audit and evaluation projects were estimated to begin and end in the same calendar year, whereas only 5% of interventional and 16% of observational research was expected to be completed in a calendar year. In the group being analysed 1023 (85%) had an end date scheduled prior to January 2018, and of these 801 (74%) researchers

had notified the Research and Knowledge Centre that their project had been completed. Figure 5 depicts the notified compared to expected completion rates by project types, and it was noted that fewer audit and evaluation project types had been recorded as completed (75%) compared to 87% for interventional and 81% for observational research.

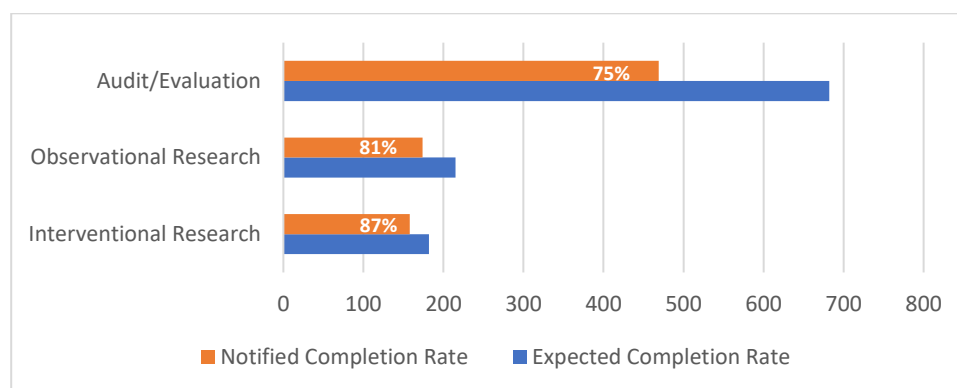


Figure 5. Notified compared to expected project completion rate by project type

Three hundred and sixteen (40%) of the completed projects have reported some form of dissemination (Figure 6), with some projects having multiple forms of dissemination recorded. In January 2018 point, there were 515 research outputs linked to the 316 projects recorded in the database.

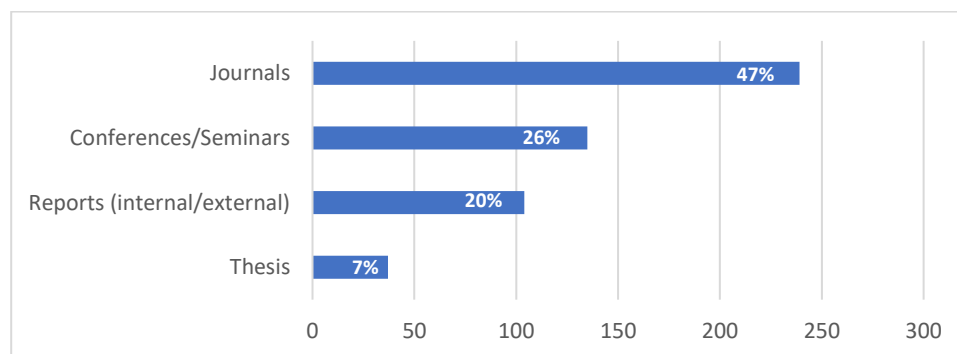


Figure 6. Form of dissemination for completed projects

4.1.3 Summary

In Part 1, the Waitematā DHB research and knowledge management database was queried for an inclusive period from 2008 to 2015. Descriptive statistics were used to provide a high-level appreciation of quantity and type of research undertaken in the categories of

interventional, observational and audit/evaluation. As well, progress toward completion and the ways the research outcomes have been reported has been described.

The greatest number of the 1196 projects registered on the database in this period were categorised as audit-evaluation (58%). Interventional and observational research projects were evenly spread at 22% and 20% respectively. Eighty-five percent of the projects had indicated a provisional end date prior to January 2018. Seventy-four percent of these projects had been notified as completed, with 40% subsequently reporting some form of dissemination of the outcomes had occurred.

In the next section, the locality application forms and associated documents for a selection of interventional and observational research will be interrogated to further elucidate the research conducted at, by and in collaboration with Waitematā DHB, its staff and facilities.

4.2 Part Two: DHB Research locality application document analysis

4.2.1 Introduction

For the purposes of Part 2, 248 interventional and observational research projects meeting the inclusion criteria were registered on the DHB research and knowledge database by 31 Dec 2015. One hundred and nineteen of these projects completed the locality approval process in the years 2013, 2014 and 2015. The content of the locality application forms for these 119 research projects, and any additional information sought for clarification at the time of application, was extracted to a purposefully designed data collection form (Attachment A). The cumulative data from this extraction have been descriptively analysed and reported here.

4.2.2 Findings

4.2.2.1 Research Type

Figure 7 displays the distribution of research by type. The greater majority of the projects (n=75) fell under the designation of observational research whereby the researcher did not intervene in the delivery of standard of care or a routine activity. Comparatively, there were 44 interventional research studies, with an even split between randomised and non-randomised controlled trials. Additionally, 10 of these projects involved the use of innovative devices and techniques.

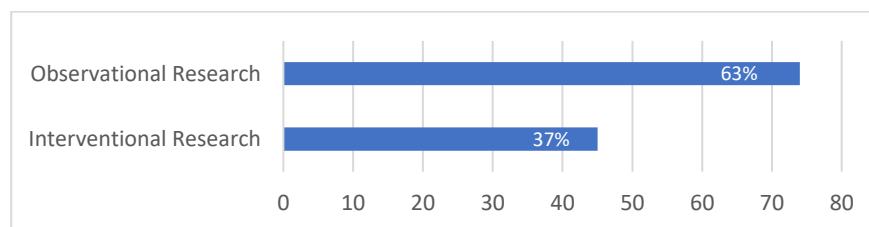


Figure 7. Research type

4.2.2.2 Ethical Review

Research that involves Waitematā DHB patients, staff or facilities, must complete a locality application and gain Waitematā DHB's approval in addition to any ethics committee review that may be required.

The majority of locality applications (93%) had some form of ethical committee review. Seventy-three percent of the projects reached a level of risk that triggered the requirement for an HDEC review. Of the remaining that fell below this threshold, 20% did receive an institutional (university) ethics committee (IEC) review because the coordinating investigator was either a student researcher or an academic researcher. A further 7% of projects were deemed to be of sufficiently low risk observational evaluations and received only the DHB locality assessment (Figure 8). However these observational research projects did complete the scrutiny of the Waitematā DHB locality approval process that assessed the level of ethical risk against the HDEC standard operating procedures, considered the merit of the research question and whether it was suited to the DHB, as well as considering whether privacy and confidentiality issues were addressed and that those impacted by the research activity had been consulted.

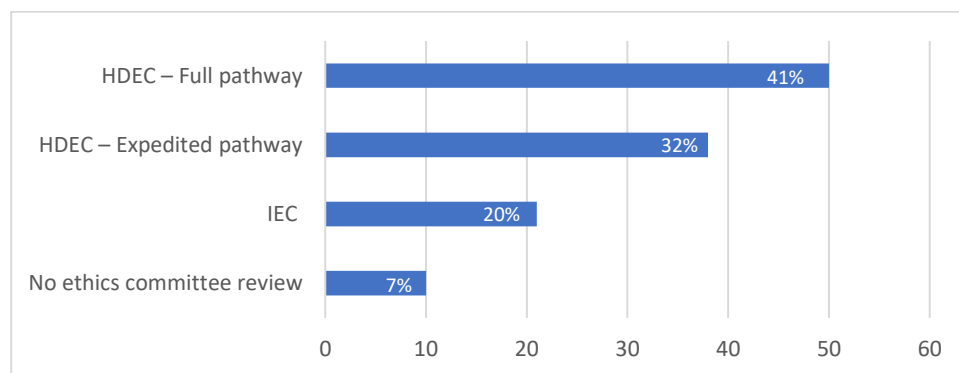


Figure 8. Type of ethics committee review

4.2.2.3 Coordinating Investigators

The research experience of the study coordinating investigator's (CI) was mixed with 65% having had some previous exposure to research conduct. Thirty-nine percent were external researchers affiliated with an academic institution and were conducting collaborative research that involved Waitematā DHB as a locality site. A further 12% of the research was undertaken collaboratively with international research groups, and while a lead investigator in NZ will have been responsible for coordinating the national trial activity (that included seeking NZ ethical

approval), the overall coordinating investigator for the research was from overseas. A further 19% of the research activity was conducted by Waitematā DHB employees who additionally had academic co-appointments or were enrolled in postgraduate academic study that incorporated research activity. Twenty percent of the research projects were initiated and conducted by a Waitematā DHB employee with no external affiliations or collaborations. (Figure 9).

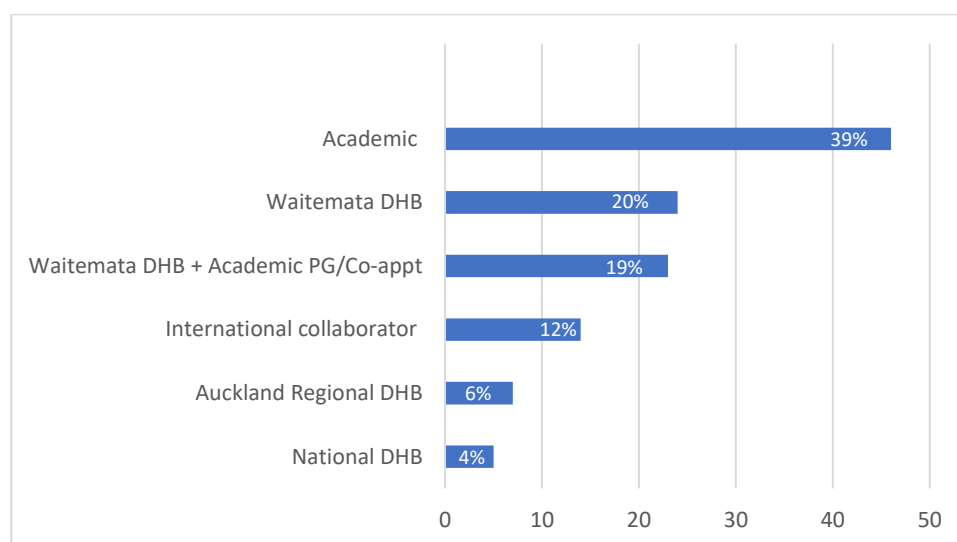


Figure 9. Coordinating investigator's primary affiliation for research project

4.2.2.4 Locality role

Waitematā DHB most frequently hosted collaborative research, with 60% of locality applications being for multi-site research projects. As well, the DHB's researchers more frequently took a sub-investigator role, with less than a quarter of the multi-site applications recording Waitematā DHB as lead site for New Zealand. Forty percent of the research conducted in this period cited Waitematā DHB as the only site participating in a particular project (Figure 10).

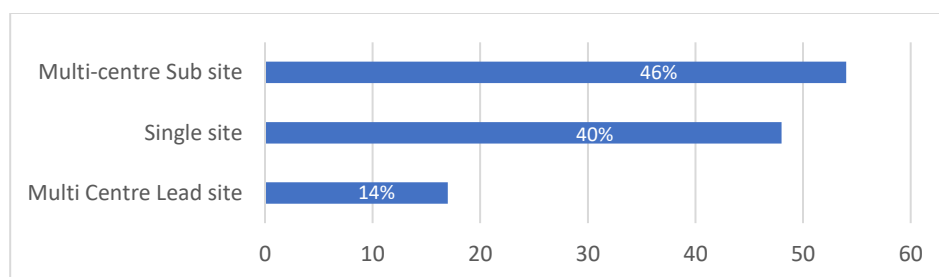


Figure 10. DHB locality role

4.2.2.5 Information provided at time of research locality application

Most researchers did articulate a research question, hypothesis or aim (92%), and 78% described their method in the online locality application form. As well, 65% attached a proposal, protocol or ethics application with their locality application (Table 4). Twenty-six percent of the locality applications did not provide sufficient clarity in the initial documentation, and a subsequent request for the proposal, protocol or ethics application was required.

Table 4.

Information provided at time of locality application

Research question/hypothesis/aim articulated	110 (92%%)
Research method described	93 (78%)
Proposal/protocol/ethics application provided	77 (65%)

Evidence of the planning with respect to design, method and consultation undertaken for the research projects was not always evident from the locality application and associated documents (Table 5). The purpose and data collection methods were universally evidenced in the documentation. A literature review (80%) and analysis planning (82%) were frequently evident, however, the robustness with which these were done was not always well described in the documentation provided.

Notably, consideration of health disparity was only apparent in 56% of the documentation provided at the time of locality application. However, to complete the locality process the lead researcher or their delegate would have been directed to discuss the project, where

appropriate, with the DHB Māori research advisor, and so further consideration of Māori disparity and inequity from the Waitematā district perspective will have subsequently occurred.

Table 5.

Evidence of project planning provided at locality application

Literature reviewed	95 (80%)
Purpose explained	118 (99%)
Health disparities considered	67 (56%)
Data collection method described	119 (100%)
Analysis plan provided	97 (82%)

4.2.2.6 Funding of research

In this period, the DHB did not require a review of the research budgets as part of the locality approval. However, there was a statement in the locality approval documents signed by managers that asked them to confirm that resources, facilities and staff were available to conduct the research. Without a formal research budget review process, surrogate markers have been used to assess whether there was funding associated with each project. Sixty percent of the research applications recorded that some form of funding was being sought, however, only 27 contractual agreements related to non-industry sponsored research were recorded in the research knowledge database between 1st January 2013 and 31st December 2015. Potentially, some DHB costs related to a research activity may have been directly invoiced to the lead researcher whose fund source was kept externally. As well, some project costs related to the research activity in the DHB may have been small and the DHB approvers may have, knowingly or unwittingly, accepted the costs within the department cost codes.

4.2.2.7 Completion of research

Forty percent of the research required a locality extension on their provisional end date (supplied at time of locality application). Sixty-two percent of the projects have been recorded as completed, with 77% of those reporting some form of dissemination of outcomes whether by publication (journal, thesis or similar), presentation at a conference or seminar, or a report

to the project sponsor. Slightly fewer (69%%) have provided the DHB with a reference to a publication of the outcomes.

4.2.2.8 Potential to inform the government health targets

The government monitors DHB performance in the delivery of care in targeted areas. Table 6 lists the health targets in the period 2013 to 2015, and includes the change in focus from diabetes to child health that occurred in 2016, and the likely change in focus 2017/2018. Review of the 119 research projects commenced in the period of January 2013 to December 2015 indicates a third were broadly focussed on research to inform the prevention and/or improvement in diagnosis, treatment and care in the health target areas.

Table 6.

NZ Health targets

	No. of projects with focus on health targets
2013- 2015	
Shorter stays in emergency departments	4
Improved access to elective surgery	1
Faster cancer treatment	6
Increased immunisation	
Better help for smokers to quit	
More heart and diabetes checks (to 2015)	12
2016	
Raising healthy kids (replaced More heart and diabetes checks)	10
2017/18	
Mental health (mooted as a new health target for 2019)	10

4.2.3 Summary

In Part 2, the locality application forms and associated documentation for 119 non-industry sponsored interventional and observational research projects registered with Waitematā DHB in the years 2013 to 2015 inclusive have been reviewed. The greater number of research projects were observational, and almost all received some form of ethics committee review and approval. Sixty percent of the research hosted by the DHB was in collaboration with

external groups. However, only 54% of single and multi-site research projects had a Waitematā DHB lead investigator. From the information provided at the time of locality application, most researchers had considered their research question and the method required to answer it. Slightly fewer articulated their data analysis plan. Most notably though, only 56% of the applications had clearly articulated issues relating to health disparity.

Research has costs associated with its conduct, and 60% of the applications indicated that funding was being sought. However, in this period the DHB did not have a policy requiring all research to complete budget review and approval, and so it was unclear whether the DHB not only hosted, but as well unknowingly funded the research activity. Given the latter scenario the outcome of the research activity will be even more important to maximise the DHB's potential and unwitting investment. Close to two-thirds of the projects have been completed to date, and the outcomes have been disseminated in some form for 77% of these. Notably though, only a small number of research projects given the DHB locality approval in this period focussed on a government health target the DHB was tasked to meet.

The next section reports the outcome of a survey that asked the researchers themselves about their research and the ensuing transfer of knowledge and translation of outcomes.

4.3 Part 3: Survey 1: Does research help to inform the DHBs purpose? Researchers perspective

4.3.1 Introduction

Survey 1 was designed to gather information directly from the lead research investigators about a specific research project. Twenty-four survey responses were received from 61 invitations, equating to a response rate of 39%. Approximately two-thirds (63%) of the respondents identified their project as primarily interventional research and one-third (37%) indicated their study to be observational research. Participants were able to respond to the survey questions by selecting from preset answers, with only a few questions also providing a free text option for greater explanation.

Predictably, given the setting of the survey, most respondents (75%) identified as clinicians (doctor, nurse or allied health professional), with some indicating a joint DHB/academic role or at the time were undertaking research for a postgraduate academic qualification. (Table 7)

Table 7.

Current work role/academic status

Clinician only (doctor/nurse/allied health)	13
Mixed (clinician/academic)	4
Academic only	5
Health professional (non-clinical role)	1
Researcher	1

4.3.2 Findings

4.3.2.1 Motivation to Conduct Research

Most responders (70%) indicated their main motivation to undertake a piece of research was to answer a question they had come across in their practice and felt professionally compelled to answer, while 16% listed an educational requirement as the main motivation. Only one respondent indicated their research question was both professionally and collaboratively motivated, and was also a government health target.

Notwithstanding the prime motivation, only 25% indicated they alone primarily decided the research question and design. Seventy-five percent indicated they had collaborated in formulating the question and design of their research. What was not able to be discerned with any accuracy was whether this collaboration extended to research conduct or was limited to the period of design and was in the form of advice by colleagues and mentors.

4.3.2.2 Research involving Māori

Only two projects (8%) did not involve Māori as participants. While none of the respondents indicated that they had purposefully recruited Māori participants, fifteen responders (63%) indicated their research project had Māori as participants. Twenty-nine percent also reported Māori as the research investigator and/or as a member of the project governance (Figure 11). Only one response indicated purposeful targeting of a specific ethnicity for their research but didn't state which ethnic origin.

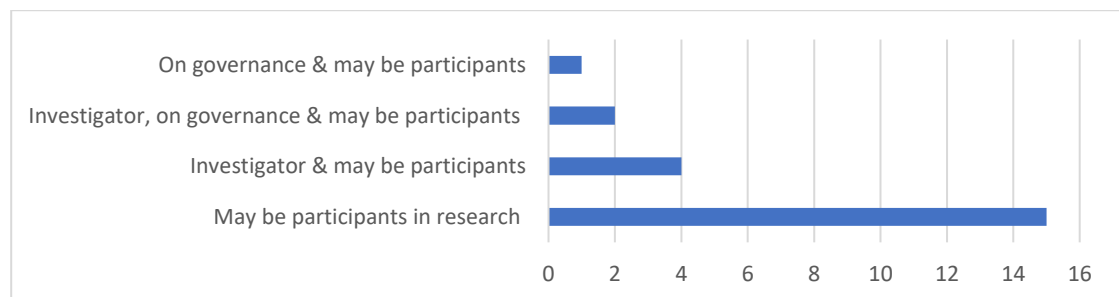


Figure 11. Māori involvement in research

4.3.2.3 Funding of Research

Seventy-four percent of survey responses indicated that their research funding was externally sourced (in full or part), with 22% reporting a component of self-funding had occurred. In the time period the survey covered, the DHB did not proactively seek information to identify the funding source of the research it hosted, except where a sponsor of the research was contractually paying the DHB for its associated services. The most frequent example of this would be industry-sponsored research which for the reasons stated elsewhere were purposefully excluded from the survey. Therefore, the numbers included here reflect projects

that were not required to specifically identify the source of funding, and the question was designed to broadly illustrate the amount of research the DHB knowingly or unwittingly funded (Figure 12).

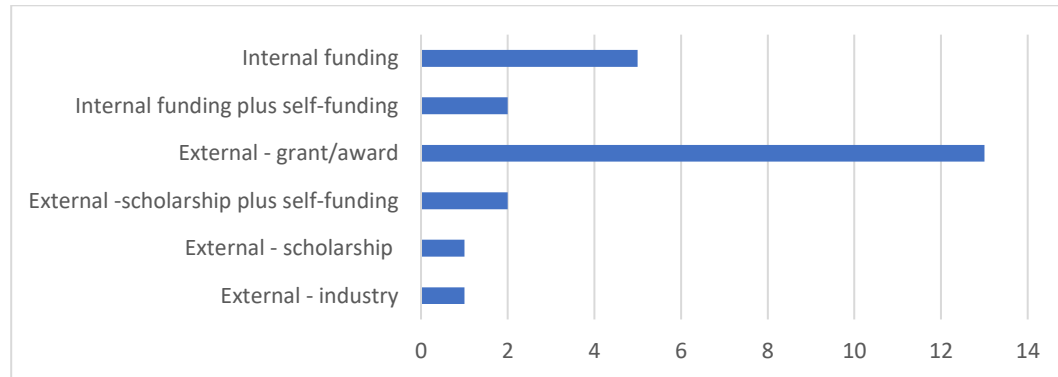


Figure 12. Funding source identified by survey respondents (n=24)

4.3.2.4 Project status

At the time of the survey in August 2017, sixty-two percent (n=15) indicated the research conduct component of their project had been completed. Figure 13 outlines the activity status for all 24 projects.

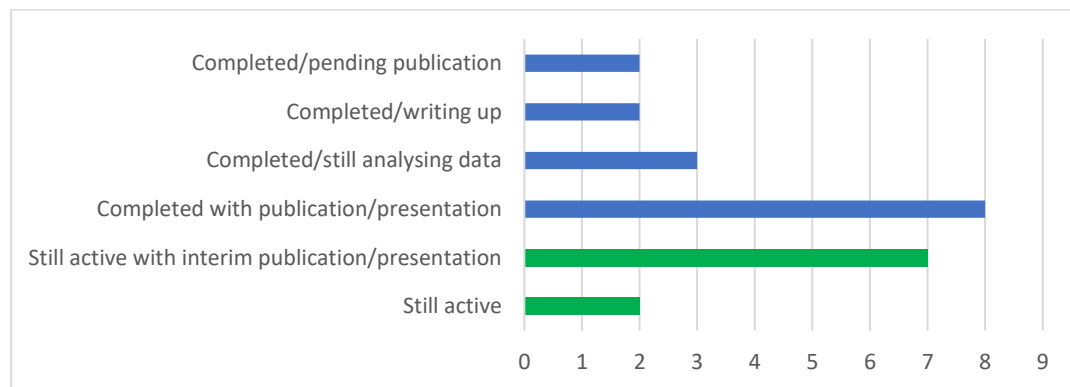


Figure 13. Reported project conduct status in August 2017 (n=24)

Notably, 80% of 24 projects (active and completed) had undertaken some form of interim reporting of their methods and/or interim results. Figure 14 provides an indication of the range of forums used for dissemination, with many researchers using multiple mediums.

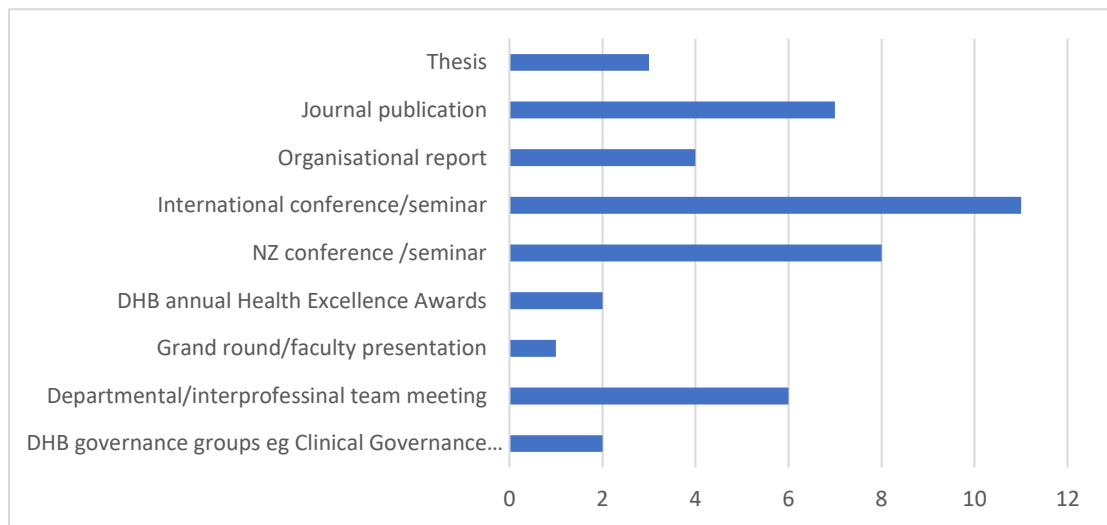


Figure 14. Forums in which interim outcomes were disseminated

Of the 15 completed projects, 53% reported some form of dissemination of the final outcomes at the time of the survey (Figure 15). The remaining 47% of the completed projects were still being analysed, written up, or were pending publication of their final report.

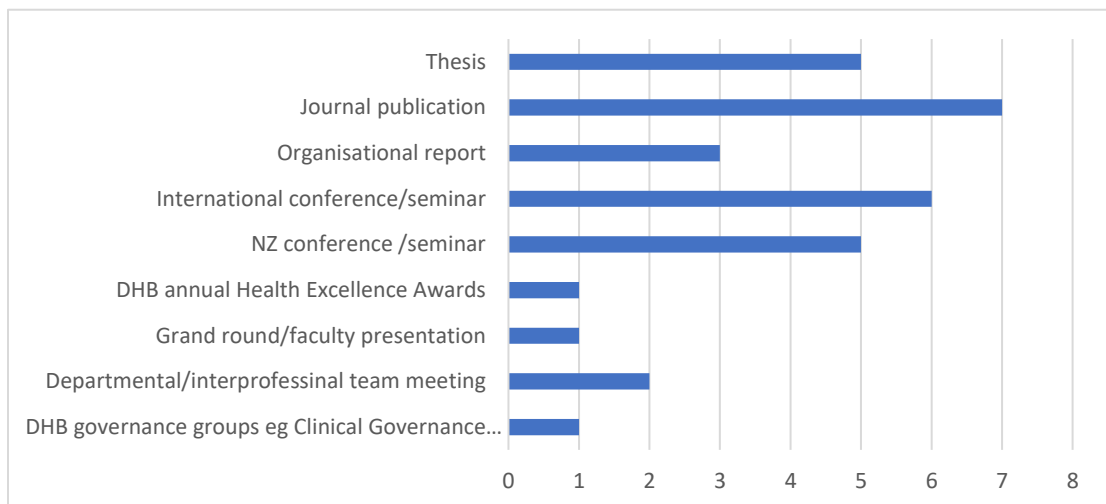


Figure 15. Forums in which final outcomes had been disseminated

Table 8 provides an overview of the 24 survey responses with regard to the project status broadly categorised as still active or completed. Those respondents who indicated their research was completed were asked whether the outcomes had been disseminated, and if not

the reason why; and whether the outcomes had been translated to practice where that was recommended.

Table 8.

Project status and outcomes

Survey	Answered Research Question (%)	Interim Dissemination	Outcomes published/presented	Translation	Comment
1	73%	Yes	No	No	Additional research
2	Still Active	No			
3	100%	Yes	Yes	No	Difficulty involving staff in practice change
4	90%	Yes	No - writing	Pending	Prep. business case
5	Still Active	Yes			
6	100%	Yes	No - analysis	Pending	
7	70%	No	Yes	No	
8	90%	Yes	Yes	Yes	Implemented @ HQSC
9	100%	No	Yes	Yes	
10	55%	No	Yes	No	Additional research
11	72%	No	No - analysis	Yes	
12	100%	Yes	Publication pending	Yes	Partial – funding constraints
13	Still Active	Yes			
14	83%	No	Yes	DNA	
15	70%	Yes	No - analysis	Pending	
16	Still Active	Yes			
17	Still Active	Yes			
18	Still Active	Yes			
19	95%	No	Yes	DNA	
20	67%	No	Yes	No	No dept funding / time
21	90%	Yes	Yes	Not Sure	Stakeholder has taken on recommendations
22	Still Active	Yes			
23	Still Active	Yes			
24	Still Active	No			

4.3.2.5 Project Outcomes

Finally, survey participants of the completed projects (n=15) were asked to rate, on a sliding percentage scale, whether they considered the outcomes of their research had answered the question that was originally posed. Figure 16 graphs their responses, with the majority considering the research question was at least 70% answered, and four indicating the research

question was 100% answered. The lowest score was 55% and, in this instance, the respondent indicated further research was required to clarify the outcomes.

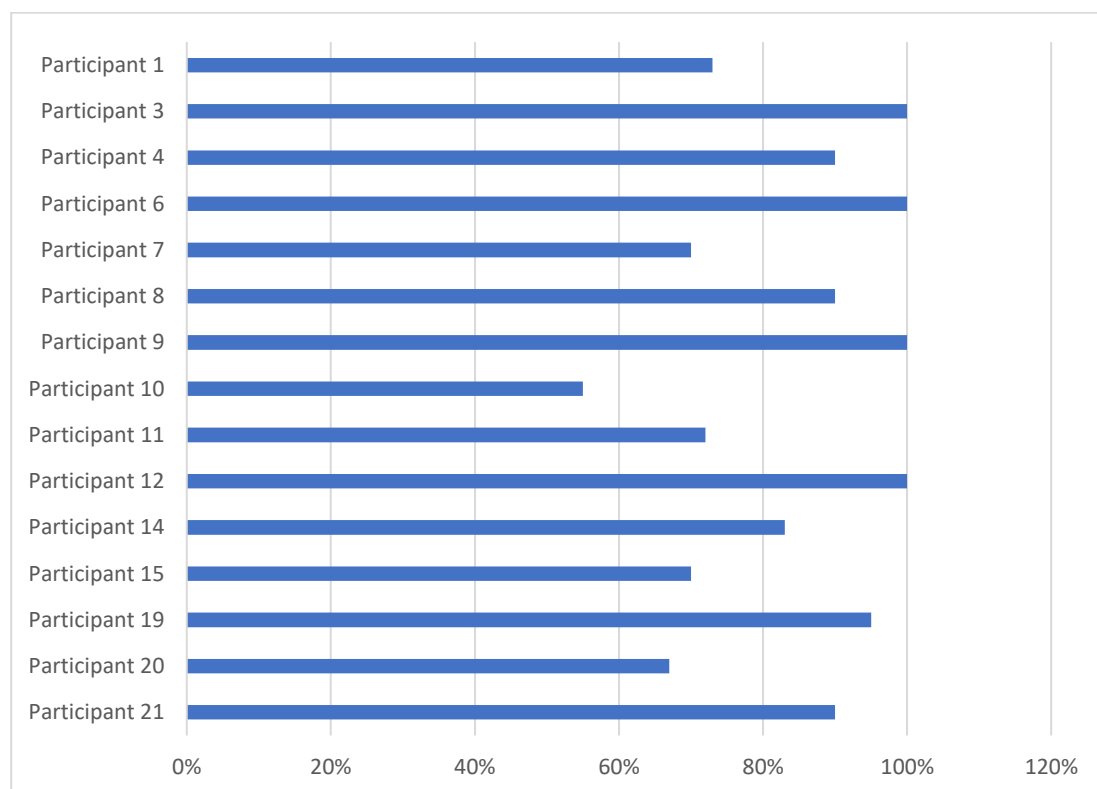


Figure 16. Participant's opinion – Did the research outcomes answer the question posed?

Of the fifteen completed projects, only four reported translation of the findings into practice. Two projects required further research to clarify the findings, and four were pending final analysis and write up. Another four researchers indicated that while their research findings recommended change, for a variety of reasons listed in Table 5, the change had not been or was yet to be implemented. Three respondents did not answer the question. Given the wording of the question “if change was recommended has this been translated...” the lack of response may be interpreted that change was not recommended from these projects.

4.3.3 Summary

Sixty-one lead investigators of interventional and observational research that had been given Waitematā DHB locality approval, were invited to complete a survey related to a specified

research project they had conducted. The response rate to the invitation was 39%, which provided a reasonable researcher perspective. Notably, and conversely to the distribution from part 2 where the majority of the locality applications were for observational research, two-thirds of the survey respondents described their research project as interventional.

The prime motivator to undertake research was described as being in response to a clinical question, and therefore not surprisingly most survey responders identified themselves as clinicians. Most indicated they had collaborated with others in the design and conduct of the research. As well the greater majority specified they had sourced funding externally to the DHB which included an element of self-funding. The respondents had been proactive with regard to their Treaty of Waitangi responsibilities of cultural inclusivity by involving Māori as participants, and /or in consultative, participatory or governance roles. Two projects were excepted as they targeted a specific ethnic group.

At the time of the survey two-thirds had completed their research, with half reporting some form of dissemination, however only four projects specified that some form of translation had or was occurring.

The next section reports the outcomes of a second survey conducted to gather senior DHB management and clinical leader views on the DHBs ability to support research.

4.4 Part 3: Survey 2: Does research help to inform the DHBs purpose? Management and clinical leadership perspective

4.4.1 Introduction

This section reports the outcomes of a survey that seeks an organisational perspective and asks the DHB decision makers (senior managers and clinical leaders) their opinion on the DHBs capacity to conduct, and acquire and translate the knowledge from research.

Eighty-nine DHB decision makers were invited to participate in the survey, with an initial response rate 30% (26/89). Only question one had 27 responses, responders to questions 2 and 3 reduced by one, with a further reduction to 24 responders for Questions 4 and 5.

The survey questions (Tables 9 to 13) utilised a Likert scale to record opinions to a question and its series of associated statements. The choices to disagree or strongly disagree indicated the respondents considered the DHB had a low capacity or there was little occurrence of an activity, while a rating of agree or strongly agree considered the DHB was well served in both capacity and capability. The overall responses were widely spread with a few statements eliciting quite polarised views. For understanding when referenced the “we” refers to the DHB.

4.4.2 Findings

In response to the first question regarding the DHBs ability to acquire research, the opinions scored fairly evenly overall with slightly more respondents disagreeing with the statements pertaining to this question (42%) than those taking an affirmative stance (37%) and a further 21% recording uncertainty. The scoring of individual statements indicated the respondents considered the DHB has skilled staff for research, however, the direction of opinions indicated that these staff are inhibited by insufficient time or resources to conduct research. (Table 9)

Table 9. <i>Q1. Are we able to acquire research?</i>	Strongly Disagree	Disagree	Neither Agree/ Disagree	Agree	Strongly Agree
We have skilled staff for research	0	1	5	17	4
Staff have enough time for research	5	15	6	1	0
Staff have incentive to do research (ie. research outcomes are used in decision-making)	3	6	9	9	0
Staff have resources to do research	3	14	3	7	0
We have arrangement with external experts who search for, monitor &/or do research for us	1	8	6	11	1
SCORE	12 (9%)	44 (33%)	29 (21%)	45 (33%)	5 (4%)

Question 2 asked whether the DHB can tell if the research is valid and of high quality. Fifty-nine percent of the respondents considered DHB staff had the skills and tools to appraise, and/or that the DHB had arrangements with external experts who could appraise the validity and quality of research. (Table 10)

Table 10. <i>Q2. Can we tell if the research is valid and of high quality?</i>	Strongly Disagree	Disagree	Neither Agree/ Disagree	Agree	Strongly Agree
Staff have critical appraisal skills & tools for evaluating the quality of methodology used in research	0	5	5	12	4
Staff have critical appraisal skills & tools to evaluate the reliability of specific research by identifying related evidence & comparing methods & results	0	6	4	12	4
We have arrangements with external experts who use critical appraisal skills & tools to assess methodology & evidence reliability, and to compare methods & results	1	6	5	14	0
SCORE	1 (1%)	17 (22%)	14 (18%)	38 (49%)	8 (10%)

Responders to Question 3 (Table 11) were spread in their opinion regarding both staff' and paid external experts' ability to identify the relevance and applicability of research outcomes to the local DHB context, with a largest number of respondents choosing to neither agree nor disagree (42%).

Table 11. <i>Q3. Can we tell if the research is relevant and applicable?</i>	Strongly Disagree	Disagree	Neither Agree/ Disagree	Agree	Strongly Agree
Staff can relate research to our organisation and point out similarities & differences	1	5	9	8	3
We have arrangements with external experts to identify the relevant similarities & differences between what we do and what the research says	0	6	13	7	0
SCORE	1 (2%)	11 (21%)	22 (42%)	15 (29%)	3 (6%)

Responses to the organisation's ability to summarise research results in a user-friendly way were largely negative, with only 12% of respondents considering DHB staff do have the time, incentive and resources to present, systematically synthesise, and link outcomes to key issues facing decision makers, and to then communicate translatable actions. (Table 12)

Table 12 <i>Q 4. Can we summarise results in a user-friendly way?</i>	Strongly Disagree	Disagree	Neither Agree/ Disagree	Agree	Strongly Agree
We have enough skilled staff with time, incentives, & resources who use research communication skills to present research results concisely & in accessible language	0	16	4	5	0
We have enough skilled staff with time, incentives, & resources who use research communication skills to synthesise in one document all the relevant research along with information and analyses from other resources.	0	16	7	2	0
We have enough skilled staff with time, incentives, & resources who use research communication skills to link research results to key issues facing our decision makers.	1	13	9	2	0
We have enough skilled staff with time, incentives, & resources who use research communication skills to provide recommended actions to our decision makers	0	14	8	3	0
SCORE	1 (1%)	59 (59%)	28 (28%)	12 (12%)	0

The final question explored whether the respondents considered the organisation leads by example and demonstrates that the DHB values research use. Responses to the statements were fairly spread with 32% agreeing and 39% disagreeing. However, there was evidence of disagreement arising from two statements related to whether the DHB ensures it involves staff in discussions about the relevance of research outcomes to the DHB's purpose which

garnered a negative response rate of 40% in comparison to the 20% in agreement. Similarly, the statement that the organisation communicates internally to ensure there is equitable information exchange drew a negative response from 52% of the respondents compared to only 24% in agreement. (Table 13)

Table 13 Q5. Do we lead by example and show how we value research use?	Strongly Disagree	Disagree	Neither Agree/ Disagree	Agree	Strongly Agree
Using research is a priority in our organisation	1	7	8	9	0
We have committed resources to ensure research is conducted, accessed, and applied in making decisions.	2	7	7	9	0
We ensure staff are involved in discussions on how research evidence relates to our main goals.	1	9	10	5	0
Management has clearly communicated our strategy and priorities so that those creating and monitoring research know what is needed in support of our goals.	0	8	9	7	1
We communicate internally in a way that ensures there is information exchanged across the entire organisation.	5	8	6	5	1
Our corporate culture values and rewards flexibility, change, and continuous improvement with resources to support these values.	3	8	4	10	0
SCORE	12 (8%)	47 (31%)	44 (29%)	45 (30%)	2 (2%)

4.4.3 Summary

Eighty-nine of the organisation's senior managers and clinical leaders were invited to complete an anonymous survey to examine whether research is working for the DHB. Opinions were canvassed utilising a validated survey tool designed to indicate an organisation's ability to conduct, acquire and translate research outcomes. The response rate to the invitation to complete the survey was 30%.

Generally, the responses were evenly spread across the Likert scale, with similar numbers agreeing and disagreeing with a series of statements relating to each question. Respondent dissension was evident, however, with regard to DHB staff capacity and capability. Most survey respondents considered the staff capable to conduct or acquire and appraise research, but considered they lacked the capacity of time, resource and thereby incentive to give to

research. Furthermore, time and resource were considered to be inhibitory to the contextual transfer of knowledge and its subsequent translation to beneficial practice. There were two standout statements of note in the final question that asked “Do we [the DHB] lead by example and show how we value research use? Responses to the ensuing six statements were overall mixed, however, two statements related to the organisation’s involvement of staff in discussions on how research evidence relates to the DHB’s main goals; and the DHB’s efforts to communicate internally in a way that ensures there is information exchanged across the entire organisation, received a greater number of negative responses. Given the survey respondents’ roles as senior DHB clinical leaders and managers, the negative direction of the responses is an important finding.

The information gathered from the surveys (part 3), document analysis (part 2) and database interrogation (part 1) will be used in the next section, to guide the direction of a series of interviews with senior DHB research clinician leaders.

4.5 Part 4. Does research help to inform the DHBs purpose? Interviews with senior DHB clinician researchers

4.5.1 Introduction

There are five key sections to interview results. To imbue context to the findings a brief background of the study participants is provided, followed by presentation of the key themes from the interviews, and concluding with a discussion of the findings.

4.5.2 The Study Participants

Recruitment took place in September and October 2018. Eight potential participants were purposely selected from among senior DHB clinicians who are well recognised and respected research leaders. Six clinicians, three men and three women, responded to the invitation to interview. The interviewees represented the broad disciplines of general medicine, surgery, public health and psychiatry. Two interviewees are recognised researchers in indigenous health and inequity. All but one had been recipients of, or were key members of research collaborations that had received HRC funding. Additionally, all had either active or honorary co-appointments with Auckland Regional Universities.

Face to face interviews were conducted at a pre-arranged time and place suited to the interviewee and lasted between 25 to 40 minutes. Participants had been sent the information sheet with the invitation to participate. At the time of the interview participants were given further opportunity to ask questions. Once satisfied, they were requested to sign the informed consent. All the interviews were voice recorded and subsequently transcribed verbatim. All participants were given the verbatim transcription for their review and to amend or retract where they deemed this was required. Only a couple of minor clarifications were required, which did not change the overall context of the interviews.

Interviews were analysed using the principles of reflexive thematic analysis (TA) described by Braun and Clarke (2006).

4.5.3 Themes from Participant Interviews

Thematic analysis, utilising the recorded interviews to appreciate the nuanced tones, and verbatim interview transcripts for documentary accuracy, has delivered three key themes. There was a resounding response to the opening interview question “does research overall help to inform the DHBs purpose?”. The first theme describes the participants’ universal opinion that “it should”. The second theme was struck from a participant comment that research can inform the DHBs purpose, but that the DHB doesn’t make it easy. The final theme came from participants’ largely optimistic attitudes captured by one interviewee who referred to potential research barriers as opportunities for the DHB to support robust research and knowledge creation to inform the DHB’s purpose. To enhance the description of the themes, each was broken into a series of sub-themes, with illustrative quotes to support interpretation.

4.5.3.1 Theme1. Research should inform the DHB purpose...

A large number of extracts contributed to this theme, with the participants generally concurring that research should inform the DHBs purpose, and in some instances, their dialogue appeared to indicate that it was doing so. Other exchanges looked to an immutable ideal of an organisational culture where ethically and methodologically sound research conducted with a robust method is inextricably embedded into practice.

Theme 1 Sub-themes:

A series of sub-themes (Figure 17) emanated from the interviewee dialogue. In the first sub-theme (a) interviewees defined the importance of enabling a culture of questioning within the organisation. In the discussion that led to the second sub-theme (b) interviewees emphasised the importance for research to always be contextually relevant and inclusive. The third sub-theme reflects on (c) the interviewees’ view that DHB research should be conducted collaboratively and/or in partnership with external agencies or bodies. The final sub-theme (d) describes the interviewees overall views that research outcomes should be actively disseminated and translated for research to overall help to inform the DHBs purpose.

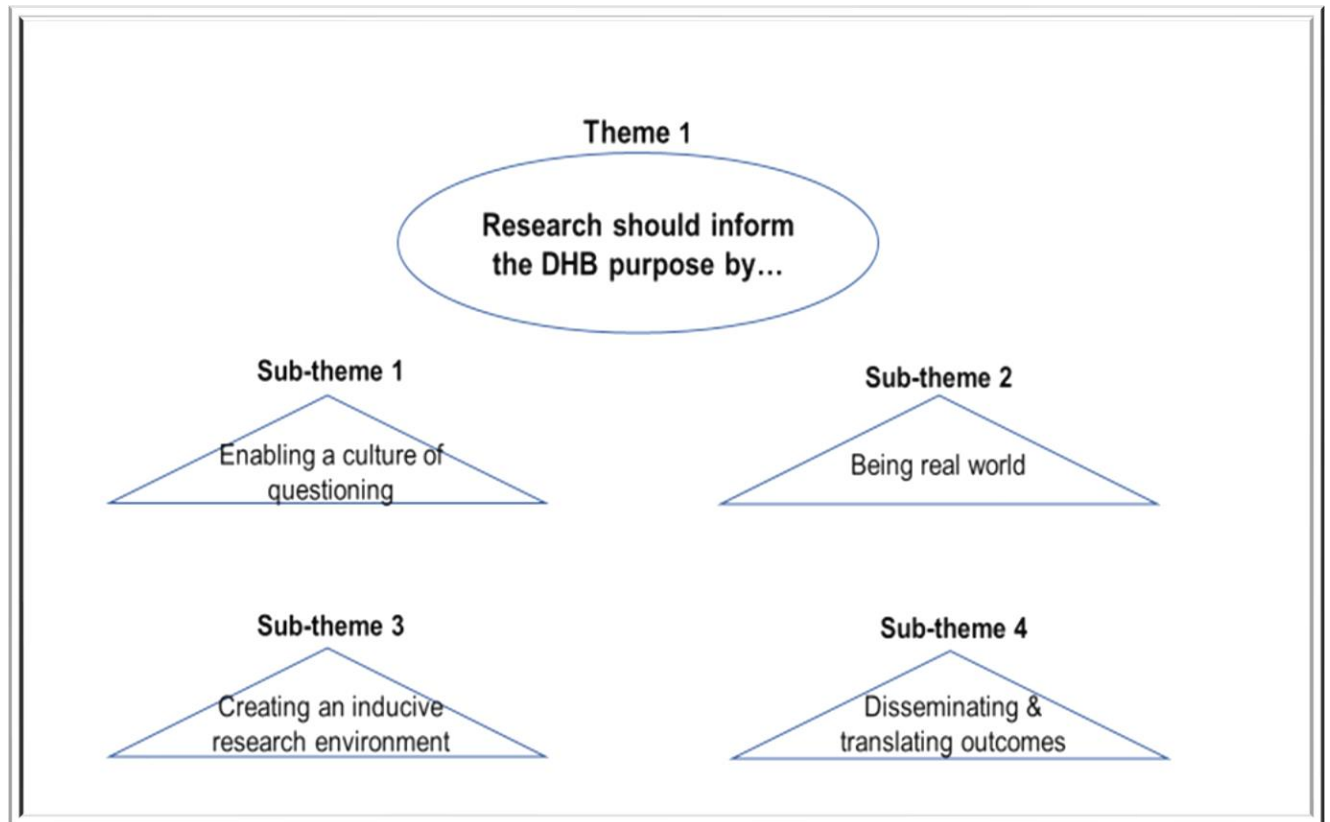


Figure 17. Theme 1 Research should inform the DHB

Theme 1 Sub-theme 1. Enabling a culture of questioning

The Waitematā DHB Research Strategy 2020 (Waitemata DHB Research Governance Group, 2016), and the recently released NZ Health Research Strategy 2017 – 2027 (Ministry of Business Innovation & Employment and Ministry of Health, 2017), both reflect the imperative that a culture of excellence in research, can help improve the health and wellbeing of all New Zealanders. As well, Waitematā DHB's annual planning document (Waitemata DHB, 2017) indicated the importance the DHB places on a research culture of questioning when describing the delivery of safe and high-quality care must be informed by "evidence from research, clinical expertise, patients and whānau..." (p. 4). Moreover, it states the workforce aspiration for "an organisational culture, where innovation, excellence and learnings mix to support our staff to achieve the best care for everyone" (p. 27).

The interviewees, all experienced senior DHB clinician researchers, naturally ask and seek to answer the questions that arise in their specialty areas. Universally they placed importance on a nurturing environment that inspires enquiry and permits staff to stop and question what they do. Interviewee 5 explained, *“we’ve got to create an environment where the culture is around ensuring that we remain current of what we do, that we don’t just do things because we’ve always done it, that we’re interested in advancing knowledge to deliver better care”*.

Likewise, Interviewee 3 said, *“we need to understand what works and what doesn’t and why... it’s really difficult to practice without undertaking research of various sorts”* and *“having a research supportive organisation means you can have infrastructure to think through what is the research question I want to answer and then in what order do I need to answer those things”*

Similarly, Interviewee 2 reflected on the importance of *“feedback loops so that you look at what you’re doing and seeing how you perform and if you’re not performing as well as you think you should be or thought you were then you obviously need to change”*.

The interviewees recognised there are pockets of a research ethos in the DHB, however, they generally didn’t think the environment yet enabled a natural culture of questioning. Interviewee 4 suggested the DHB has opportunity to be more proactive in supporting a culture of enquiry. *“Research in DHBs is largely clinician driven or enthusiast driven. And so, in some ways it’s good, but in some ways, I’d actually like to see DHBs get a lot more prescriptive and say here’s a big problem for us... I think DHBs could actually use the research resource that they have a lot more effectively”*. The interviewee went on to describe the under-tapped resource of routinely collected data, expounding the value of utilising that data through big data analysis to solve those big problems.

Interviewee 3 concurred noting, *“a lot of the research that we do around kind of data things and epidemiology is surfacing various forms of inequity, so that we can actually start thinking about what are the drivers of those things, what can we do to impact either the broader social*

determinants or you know health care specific factors. So, if we don't have those big picture kinds of questions to look at and then drill down on then we can't start fixing inequities...".

Creating an organisational culture of questioning supports the DHB's purpose of best care for everyone. Interviewee 2 sums up the sub-theme, *"I think that seeing that you're doing well or looking to see to try and do better makes a big difference to morale and keeps people honest and focussed rather than just paying lip service to what's happening"*.

Theme 1 Sub-theme 2. Being real world

Interview participants generally agreed that for research to inform the DHB's purpose, the research method must be rigorous and be able to demonstrate internal validity (whereby the findings are not due to chance). Otherwise, at best the outcomes may not be useful and at worst they may cause harm.

Interviewee 5 said, *"if it isn't done robustly with the ... values and principles that are used in high quality clinical research it can in fact be quite harmful. For two reasons, one you might get a good finding but because others look at the methodology and the way it was done and go phugh! that was just a really biased look at the stuff and I don't believe it so I'm not going to change. Or it encourages substandard work that might actually come up and say this is the answer when it's not the answer... And that puts us more at risk in translating bad findings into practice change"*

Even where internal validity is met, research outcomes must also be applicable in the real-world context. To this end researchers must ensure the research questions are contextually relevant, and the method of conduct is appropriate to the setting, so that organisational decision makers can be confident that the costs of research conduct and the business costs of any translation they agree to meet the organisation's purpose. Interviewee 5 comment typified the discussion,

"in order for [research] to have impact then it's important to address the questions that are relevant to the delivery of care in that environment. ... it needs to be done in a manner which

leaves people in the organisation confident that the results really are results we should listen to. So that we don't run into problems where we'll have insufficient power to studies or have designs which you could drive a truck through ... and then wonder why we don't translate findings".

Interviewee 6 observed her research team has a deliberate focus on implementation research and is *"conducting in-house [research] with our clinicians and our patients so that we end up with programmes that are hopefully best suited to our patients and the context of [the] health service".*

While other interviewees' research has focused on the more traditional scientific research principles of randomised control trials, they too noted the importance of having the consumers' perspective to ensure the kind of research questions asked do make sense to people who have or who are going to use DHB services. *"If you work together with consumers and if they understand that this is another way of capturing [their] voice... you can create a culture of having consumers raising those [research] questions]" (Interviewee 1)*

Interviewee 3 concurred noting, *"the real benefit of health research, is thinking from the patient or the population perspective and thinking how can we design something that benefits people... and how [would] we translate th[e] finding[s] into practice. ...And that's the benefit of clinician researchers I think, seeing real clinical problems that they want to solve ... with that line of sight to the benefit to patients.*

Theme 1 Sub-theme 3. By creating an inductive research environment

The Waitematā DHB Health Research Strategy 2020 document recognises and encourages the DHB and its staff to engage in collaborative relationships with external research groups, tertiary partners (regional, national and international), and the community (Waitemata DHB Research Governance Group, 2016).

Already described, the interview participants are all employed by the DHB and also hold joint appointments (honorary or employed) with an academic institution. Additionally, they have

conducted research in a variety of external collaborations and partnership models, and thus enthusiastically and experientially spoke to the worth of such relationships in research.

Interviewees noted that collaborative research relationships with external agencies and the community do require additional effort and time to establish, nurture and maintain in what may be culturally disparate environments. The major impediment collaborative research ventures must negotiate, nevertheless, is the “massively siloed” professions in the healthcare continuum (interviewees 3, 4 and 5). However, where research collaboration does occur it was considered to be initiating the breakdown of the professional silos,

“people are getting it’s quite cool to work with other people. But it is very organic and it generally depends on you know a critical mass of two or three individuals who get on for whatever reason and have a common question they want to answer (Interviewee 4).

Interview participants talked about collaborative research opening doors to experienced non-clinical researchers, and to the influence of their diverse and complementary perspectives, skills and training,

“the DHB with its focus almost entirely on secondary and tertiary services will gain considerably if it works with other care providers like the PHOs and the NGOs and the private sector” (Interviewee 5).

Interviewee 6 noted, *“We’re working with all sorts of different [disciplines and professions] that we wouldn’t otherwise have normally worked with in [our] own institution....”* and *‘It’s fantastic because everyone brings their own bit to the party basically and you end up doing things that you wouldn’t necessarily otherwise do...”*

Similarly, interviewee 3 commented, *“[Collaboration] means that I can have a whole range of skills in my research. A whole different set of eyes looking at the same question...”*

The Waitematā DHB’s Annual Plan has a focus on workforce capacity and capability training, career growth and development, as well as the goal of attracting and retaining talented healthcare professionals who share the DHB’s patient-centred culture in their practice and in their contribution to organisational life (Waitemata DHB, 2017). Interviewees considered

research collaboration with universities supports the DHB's workforce aim whereby *"we bring in people with particular expertise around design, around models of inquiry, around analysis, but we also bring in some young talent through people who are in training"* and *"the opportunity for [the DHB] to grow what we do and give them a good experience"* which in turn may foster future workforce candidates (Interviewee 5).

Theme 1 Sub-theme 4. By dissemination and translation of outcomes

The Waitematā DHB Research Strategy 2020 (Waitemata DHB Research Governance Group, 2016) encourages an increase in dissemination, and the DHB hosts an annual research symposium and excellence awards to support this. As well, one of the NZ Health Research Strategy 2017-2027 action statements requires the health sector to "enable and embed translation" and to do this effectively research translation must be planned for as "part of the strategic frameworks of health delivery agencies and health research organisations, and in the everyday work of those involved in health research" (Ministry of Business Innovation & Employment and Ministry of Health, 2017, p. 21).

An interview question referred to the acknowledged know-do gap and the populist view of 17 years between the research proposal and the translation of any findings to practice (Morris et al., 2011). Interviewees all held that knowledge creation from research must be heard, to be translated, and where this occurs appropriately then research should inform the DHBs purpose of best care for everyone.

Interviewee 5 took the view that dissemination shouldn't be left to the end of the project. Rather, frequent communication updates to those involved in the research, whether as participants and their whānau, DHB colleagues and/or co-researchers was important throughout,

"researching so other people will know, so for example ... I try and involve the caregivers and the community teams so that they ...[are] involved and know about what was going on. That makes a big difference".

The application of research outcomes to practice was considered easier if the intent to translate was planned for from the beginning of the research project. Participants generally agreed that *“it helps if indeed the research itself has been in the environment it’s going to be translated into”* (Interviewee 5)

Interviewee 1 talked about translation being easier if the end users have had the opportunity to *“gauge is this going to be something that’s going to be useful...”* with this being particularly relevant for externally driven research where such collaboration would see the research question *“[re]framed by the service which then makes it easy to translate”*.

Interviewee 3 felt a bit more DHB infrastructure was needed to support the process of translation to practice which requires navigation of the business process, *“change into practice is often a frustration of we know these things work but you know they’ve got to go through the wheels of the funding system and those kinds of aspects”*.

Interviewee 6 articulated frustration too, where research done in context indicate a change in practice but the translation is stalled by business process and /or staff’s resistance to change. *“I think everyone has the drive to improve the services that we provide for the health of our population ... There’s no point doing the research, publishing it and or not publishing it, and then doing nothing”*.

Theme 1 Conclusion

In theme 1, six clinician researchers have shared their opinions that research should inform the DHB’s purpose, but will only do this where the environment allows. A series of sub-themes emanated from their discussion. The first sub-theme looked at the creation of a culture of enquiry, where there is both time and an expectation to question whether what is done makes a difference and is there a better way. Sub-theme 2 discussed research that makes a difference must be robust, contextually relevant (real world) and inclusive of all perspectives. Sub-theme 3 considered the benefits of collaboration and partnership that can support capacity and capability, and attract, recruit and retain an expert workforce that in turn

beneficially supports the DHB's purpose. While the final sub-theme looked to the end goal of research, the dissemination and subsequent translation to real-world practice. To achieve these outcomes interviewees considered dissemination and translation must be planned for from the beginning, and crucially that dissemination doesn't need to happen just at the end, but should be part of a communication plan throughout the research conduct.

The consensus views indicated that adopting a whole organisational approach to research and its dissemination and translation to practice would contribute beneficially to the ethos within the DHB, thereby supporting its purpose of providing best care for its community. The next theme expands upon organisational frustrations, experienced by the interviewees, that get in the way of research being able to inform the DHBs purpose.

4.5.3.2 Theme 2. The DHB doesn't make it easy!

The DHB encourages its staff to deliver their services based on the organisational values of “everyone matters”, “with compassion”, “connected”, and “better, best, brilliant”. These values, and in particular the latter value of “better, best, brilliant”, encapsulates the potential that a workforce with research capability and capacity can provide the DHB in support of its purpose. Interviewees’ comments suggested that where staff are empowered and resourced to stretch themselves, for instance, to research something that is meaningful to them and their practice, they are generally more motivated and able to withstand the less ideal aspects of their roles. An interviewee illustrated such encouragement with the following quote,

“If you want to build a ship, don't drum up people to collect wood and don't assign them tasks and work, but rather teach them to long for the endless immensity of the sea. Antoine de Saint-Exupéry 1900 – 1944 (quoted by Interviewee 2)

However, the second theme indicated the DHB may unintentionally inhibit its staff's research endeavours and the ensuing knowledge transfer and translation of research evidence to practice. Interviewee dialogue showed general consensus to a theme “the DHB doesn't make it easy”.

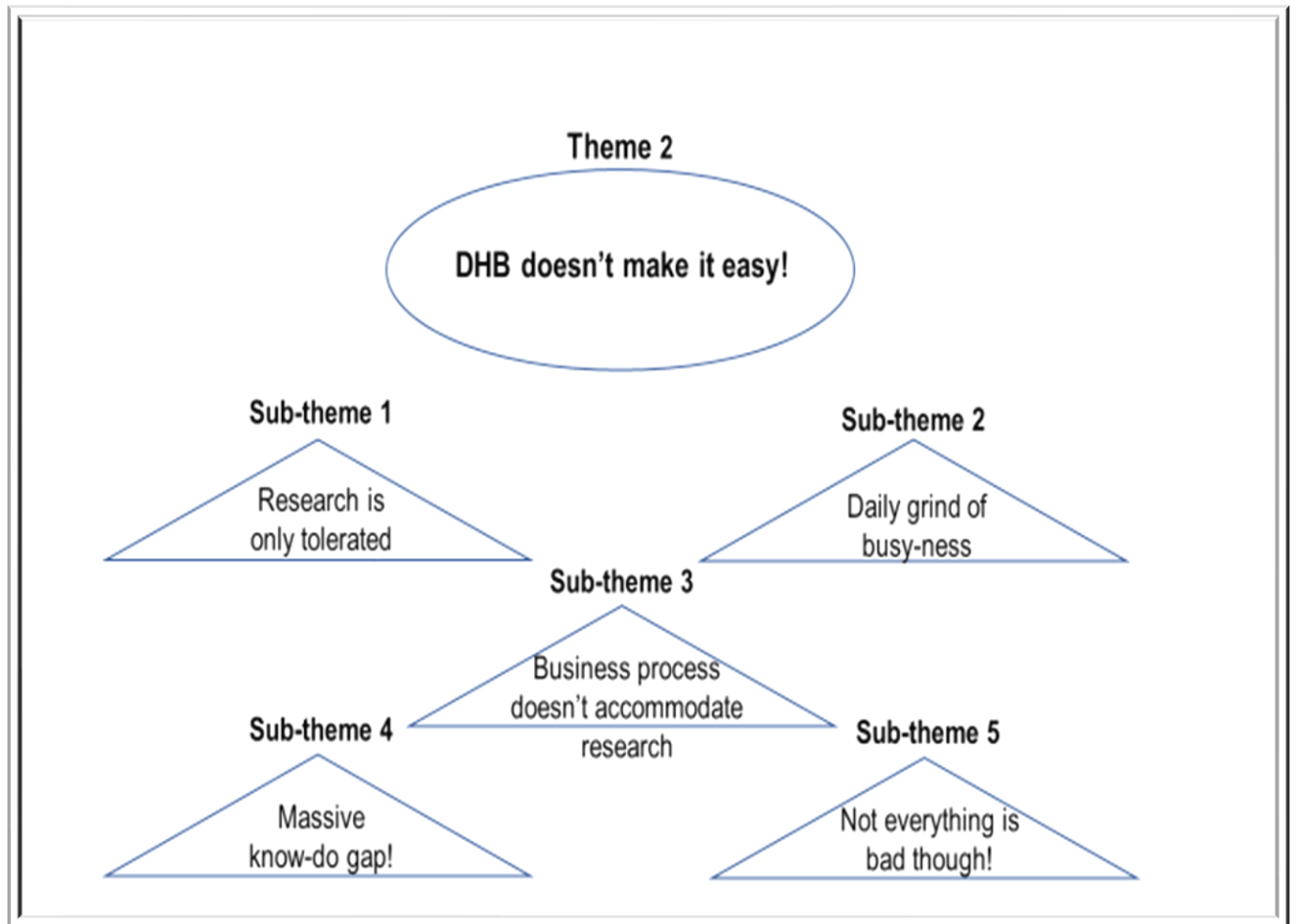


Figure 18. Theme 2. The DHB doesn't make it easy

Sub-themes in this section (Figure 18) focus on (a) “research is only tolerated”; (b) “the daily grind of busy-ness”; (c) “business practices that don’t easily accommodate the research process”; (d) “know-do gap (between knowledge creation and translation to practice) is massive”. The final sub-theme in this section (e) “not everything is bad though!” came from interviewees concession that the DHB does provide some support for research development and conduct.

Theme 2. Sub-themes

Theme 2 Sub-theme 1. Research is only tolerated

This sub-theme relates to the interviewees shared sense that the DHB doesn't make the conduct of research easy. More specifically, in this sub-theme interviewees discussed research activity as only tolerated within the DHB. There was a pervading expression that purposeful research resourcing, such as time to research, and funding for that research to occur, is missing in the current DHB context.

While there is some expectation in the medical, nursing and allied health staff Multi-Employer Collective Agreements (MECA) (Association of Salaried Medical Specialists, 2017; Auckland Region District Health Boards/Public Service Association, 2018; NZ Nursing Organisation, 2018) that non-clinical time should include an aspect of research, the interviewees intimated the actuality is frequently negated by the busy-ness of DHB's clinical load. Similarly, other non-clinical healthcare staff are unlikely to have research written into their position descriptions and must negotiate to incorporate research with business as usual activities. The lack of resourced time was addressed by Interviewee 1 who remarked,

"There isn't specific resource for [research], and you have to do it for the love of it more than anything else, and you have to sort of find the time for it and make it an important issue for yourself".

Similarly, Interviewee 2 and 4 commented respectively that research is *"often seen as a luxury when you've finished your day job, you can dabble around in research for a bit of self-fulfilment"*, and *"research tends to get done in my own time"*.

Waitematā DHB, as with other DHBs in New Zealand, has its annual funding determined by the government's health ministry. The amount sets limitations on how that capital can be spent. Interviewees 4 and 5 suggested the current government funding model for DHBs limits their ability to proactively accommodate research. Interviewee 5 noted,

“if all the DHB gets rewarded for is the number of operations the surgeon does or the number of people that the colorectal specialist nurse sees and gives advice to, then the bit of additional work that’s needed to do a research inquiry will [be viewed as] decreas[ing] the revenue”.

Interviewee 4 said, *“virtually every organisation in the world no matter what it is whether it’s government or private will acknowledge that quality improvement has to be a priority, you have to keep getting better. Research and development is one important way to do that”.*

Moreover, these interviewees considered that the current financial model may well perpetuate DHB thinking that *“research [is] this very separate thing that’s done out there or somewhere else, someone else’s design and therefore it becomes not [DHB] business and we shouldn’t be doing it”* (Interviewee 5). Mentioned elsewhere, interviewees saw value in clinical academic collaborations, however, they cautioned that where the research is done in isolation from the real-world clinical context it is less likely to be translated to practice.

Theme 2 Sub-theme 2. The daily grind of hospital busy-ness

Waitematā DHB region serves the largest and the oldest population in NZ. Currently 630,000 people live in the district, with a projected population increase of a further 100,000 in the next decade (Waitemata DHB, 2018a). Moreover, that population increase will be living longer, and many with complex medical conditions. The pressures of day to day busy-ness on the frontline of hospital operations, and the impact of insufficient staffing to meet the needs of the burgeoning population seeking health treatment was highlighted by interviewees. They referred to the general busy-ness of routine DHB business as inhibiting the opportunity to question why we do the things we do, and take the time to research better ways.

Interviewee 2 emphasised the importance of local research noting, *“if you are only just looking at what other people are doing and try and copy it without actually looking at your own outcomes then you don’t sort of appreciate the subtleties that are quite important and [research is about] getting the best outcomes for your patients”* This same interviewee went on to comment, *“the fundamental drive is trying to do your best for the individuals. And ... sort of*

knowing that you could do better and you're not, it isn't a nice position to find yourself in when you go home at the end of the day".

Interviewee 6 articulated the overall frustration referring to *"the daily grind and demands on everyone in their jobs... [with] so many areas under-staffed and under-resourced ... and [a] full hospital and all of those things mean that people have just got to concentrate on what's in front of them to a great degree just to get through... it's very difficult for people to prioritise doing something other than their job".*

However, staff in their routine busy-ness may miss the value that research-active clinicians can make to improve the efficiency of their actions and reduce their daily grind. Interviewee 3 considered because staff are so focussed on the job at hand, they tend to view research as *"a distraction or that it's wasting time or you know why do you spend two weeks putting data sets together, does that help what we're doing on the ground? Queues of patients at the door..."*

Notably, the interviewees were empathetic in their tone rather than critical of such negatively entrenched views toward research.

Theme 2 Sub-theme 3. Business process doesn't accommodate research

DHB business practices and processes were largely considered to be nonadaptive to research and contributed to the theme the DHB does not make research easy.

Interviewees recognised that the restrictions imposed by the government funding model dictates many of the current business processes. As well, the focus of the ministry's health targets that DHBs are tasked with meeting are more attentive to process and quality improvement than the creation of new knowledge to advance evidence-based practice.

Interviewee 6 provided an account of the frustration experienced with business processes even where the DHB at all levels had been actively engaged with the research,

"We developed a [research] programme here with our people, and we trialled it here with our people, and the decision makers were involved in that all the way through, and now trying to get it implemented we've just been going around and around the traps! ... we've got to go

through the usual big business case process which is quite time intensive, resource intensive, nobody's really sure who should be writing it, who's championing it... And that takes a lot of time and effort. The DHB doesn't make it easy!"

Interviewee 4 referred to DHBs having a very reactive rather than anticipatory mindset, and that a better business model that proactively supports planned prospective research was needed.

"I'd actually like to see DHBs get a lot more prescriptive and say here's a big problem for us [for instance] we have no way of knowing how many acute presentations will come to our emergency department over a twelve-month period. But we [do] have data for the last twenty years that tells us what that metric is... we [need to] develop some predictive tools so that we can be ready... [for instance] the ambient temperatures drop ten points and [its] beyond the first week of June [so] what that translates into is a thirty to forty percent increase in the number of potential admissions. You know you could actually get quite granular at that level... I think DHBs could actually use the research resource that they have a lot more effectively".

To an extent Waitematā DHB is addressing this with the recent establishment and purposeful staffing of the Institute for Innovation and Improvement, although the focus of this unit is toward quality process and technology improvement.

Another example cited of the perceived non-supportive business process came from a recent change in this DHB's business approach to recovering the costs of hosting research. Larger NZ DHBs have for some time required funded research to cover the research related non-standard of care costs incurred. To this end these institutions have also set a mandatory overhead (in the vicinity of 20% per project) to offset the indirect costs associated with hosting research. Waitematā DHB in mid-2017, as part of their research strategy, introduced a similar policy that requires all research to be purposely costed and approved by the service management, with a fifteen percent overhead applied to funded research to cover the indirect costs. One participant referred to the latter requirement as a major grievance among research clinicians, commenting, *"There's quite a bit of controversy about the levies on research ...yeah*

that's upset quite a few people. Probably because their perspective is that they don't get a lot in return for that. Um but you know DHBs have to pay the bills".

The perception of levies in research has likely arisen because of a DHB governance failure to adequately engage with clinicians to explain the new business process and listen to their concerns. Indeed, an overhead, where budgeted for, should be recovered from the external funder, and not penalise the local clinician's scarce research funds.

Conversely, interviewees noted that the DHB's former "hands-off" approach toward cost recovery, while naïve, was viewed as one of the few inducements available to clinician researchers. One interviewee noted the past attitude of *"just doing the research, and asking for forgiveness later"* felt more supportive than the current scenario.

During this discussion it became clear that while the business processes did not make research easy, failure in the DHB's communication has also had a part to play. For example, the executively approved and Board endorsed Research Strategy 2020 (Waitemata DHB Research Governance Group, 2016) was not considered by the interviewees to have been well socialised across the DHB. Most interviewees were unaware of the research strategy, and those that were aware commented,

"It's like many of the documents that the DHB's developed, policies and other things, they sit somewhere but they actually aren't prime drivers of people's thinking or practice or they're not go to's" (Interviewee 5).

I don't think people who are not doing research are particularly interested. (Interviewee 6)

Theme 2 Sub-theme 4. Massive know-do gap!

Translation of new evidence-based knowledge to practice should be the cornerstone of health care policy and process. However, the interview participants considered the internationally acknowledged know-do gap between knowledge creation and its translation to practice (Andermann et al., 2016; Lander et al., 2010) was alive and well in Waitematā DHB.

Interviewee 3 captured the general nature of responses by describing this as a “*massive gap*” that potentially challenges the worth of research effort in the DHB.

Participants alluded to several reasons for this gap, not the least of which were the hospital business practices, addressed in the previous sub-theme. Interviewee 3 commented for big translational change to happen it requires organisational commitment and “*it has to be on things that are important for the DHB*”. Interviewee 1 agreed “*the question of translation needs to be addressed at the start of proposal writing... [to] gauge is this going to be something that’s going to be useful... [and] the question itself [should be] framed by the service*”. Nevertheless, the recent experience described in the previous sub-theme by Interviewee 6 suggests even where contextually-relevant implementation research process has been followed, and the highest quality evidence is available, translation can still be stalled by DHB business process.

Staff resistance to change was also described as contributory to the know-do gap. Interviewee 6 considered this “*partly the conservative nature of our training and partly other [busy-ness] pressures ...and partly it’s just simpler to keep doing [things] the way we’ve always done because everyone understands their role*”. This interviewee went on to note translational changes are often seen as “*just more work for people and [the changes are] painful and you have to spend quite a bit of time initially to figure them out before they then become easier. So that initial increase burden is a major hurdle for people to get over*”. Interviewee 4 concurred that for evidence-based change to be enacted by staff “*it can’t be more time consuming, it must be less, or at least the same and it must make people’s lives easier. And you can’t replace a simple system with a more complex system*”.

Clinician scepticism is another factor that may impact translation, especially where the research has not been conducted in the local clinical context. Even where such research evidence is sound Interviewee 4 mentioned,

“In some ways the barriers to translation I think often lie with the researchers, that do it, because often... they’re not ... very clinically active, so you wonder about the relevance of what they do in terms of reflecting you know real life demands”.

The interviewees agreed that new knowledge cannot be simply or passively translated even where the outcomes are contextually evidence-based. Each interviewee described some experience of ineffective knowledge translation in DHB. Interviewee 6 summed up their thoughts somewhat despairingly with the following,

“In terms of every day clinical practice I don’t think there’s an awful lot going on to really try and encourage clinicians to be thinking about putting research into practice” and in terms of DHB business processes *“the DHB doesn’t make it easy!”*

Theme 2 Sub-theme 5. Not everything is bad though!

Theme 2 overall indicates that conducting research in the DHB is not easy for the variety of reasons outlined in the preceding sub-themes. It was recognised by the interviewees that the DHB does, however, provide some support for research in the form of a Research and Knowledge Centre set up to provide research guidance on ethical issues, locality processes, research design and analysis, research management, and coordination of grant submissions.

Interviewee 3 said, *“having a research office that you can kind of bounce ideas off or some specific skills around questionnaire design or focus group kind of methodology, we’ve had a lot of support on that and that’s been really helpful”*. While the interviewees were all senior and experienced clinician researchers and admitted they hadn’t individually needed to take advantage of these guidance services, they echoed Interviewee 4’s sentiment that it is *“really good for getting people involved [in research]”*.

More specifically these interviewees utilised the research office’s coordination for external grant applications, such as those offered through the Health Research Council and other philanthropic groups who focus on funding health research. Interviewee 3 noted, *“the kind of the stuff around getting grants through ... you know just all the backwards and forwards and flow and stuff like that, it just makes it a lot easier if we have good support on that”*. Interviewee 4 concurred that it was helpful to have *“a kind of marshalling of all that whole [grant acquisition] process because that does my head in, you know getting all the right bits”*. Similarly,

Interviewee 5 agreed, *“having systems whereby you can seek [external] funding... find funding. It’s really worked well”*.

Interviewee 6 noted the research management database was key for the organisation’s *“knowing what research is happening [in the DHB].”*

Mention was also made of the DHB’s collaborative Institute for Innovation and Improvement (i3), an initiative set up in late 2015 to support clinical teams in the design and implementation of care pathways and quality improvement processes. However, two interviewees were cautious of i3’s worth to research, suggesting many of their projects lack the “hard edged rigour” required of research methodology.

Interviewees also acknowledged some services more than others were supportive of research, allowing staff flexibility in their day to day work roles to include research activity. Already mentioned clinicians’ professional MECA contracts do indicate a small portion of non-clinical time should focus on professional development that includes research. From a workforce retention and recruitment perspective there is increasing recognition to the need for flexibility, with the DHB’s research strategy having stated a target of a 30% increase in university research co-appointments by 2020. However, only one interviewee indicated, *“they [DHB] employ me to do both jobs [researcher and clinician]”* (Interviewee 6). Interviewees 1, 4 and 5, indicated they have honorary appointments with the university, and credited their service level management with leniency toward their research activities. Interviewee 5 remarked, *“the most important things have been management’s kind of acceptance or sometimes even active encouragement of research as something I do”* and Interviewee 4 similarly noted *“Research is sort of [recognised as] my sideline. So that the department’s you know very supportive. And they don’t make a big deal of it but they get that that’s kind of what I do”*.

Theme 2 Conclusion

Theme 2 has captured the experiential perceptions from six senior clinician researchers who indicate that it takes resilience and dedication to conduct research in a DHB that wittingly or

unwittingly doesn't make it easy. Interviewees were honest and forthright in their opinions as to why the DHB does not make research easy. Five sub-themes have been thematically analysed. The first considered the lack of dedicated time and resource for research which gives a feeling that research is only tolerated by the DHB once the practitioner's key duties have been completed. The second sub-theme looked to the daily grind of busy-ness which seldom leaves time for research. The third sub-theme discussed business practices that don't easily accommodate the research process. Even where researchers persevere and do establish positive outcomes for change, the translation of findings to practice is frequently hindered by business process, and by the conservative nature of DHB staff resistant to accommodating change in their already busy work life. The final sub-theme "not everything is bad though!" spoke to purposeful pockets of positive action to support research in the DHB. Interviewees were grateful to flexibility and support where it was given, but appeared to caution that such actions generally fly under the organisation's radar.

In general, the interviewees were sympathetic to the DHB's situation. The next theme analyses their positivity for the future where research is overtly recognised by the DHB.

4.5.3.3 Theme 3 “Opportunities not barriers!”

In the previous theme the clinician researcher’s fortitude was shown to be tested in the midst of the relentless busy-ness and routine business of a DHB. Interview participants did not, however, dwell on barriers to research. Instead theme 3 reflects their focus on the opportunities the DHB has to reduce the height of the hurdles in healthcare research.

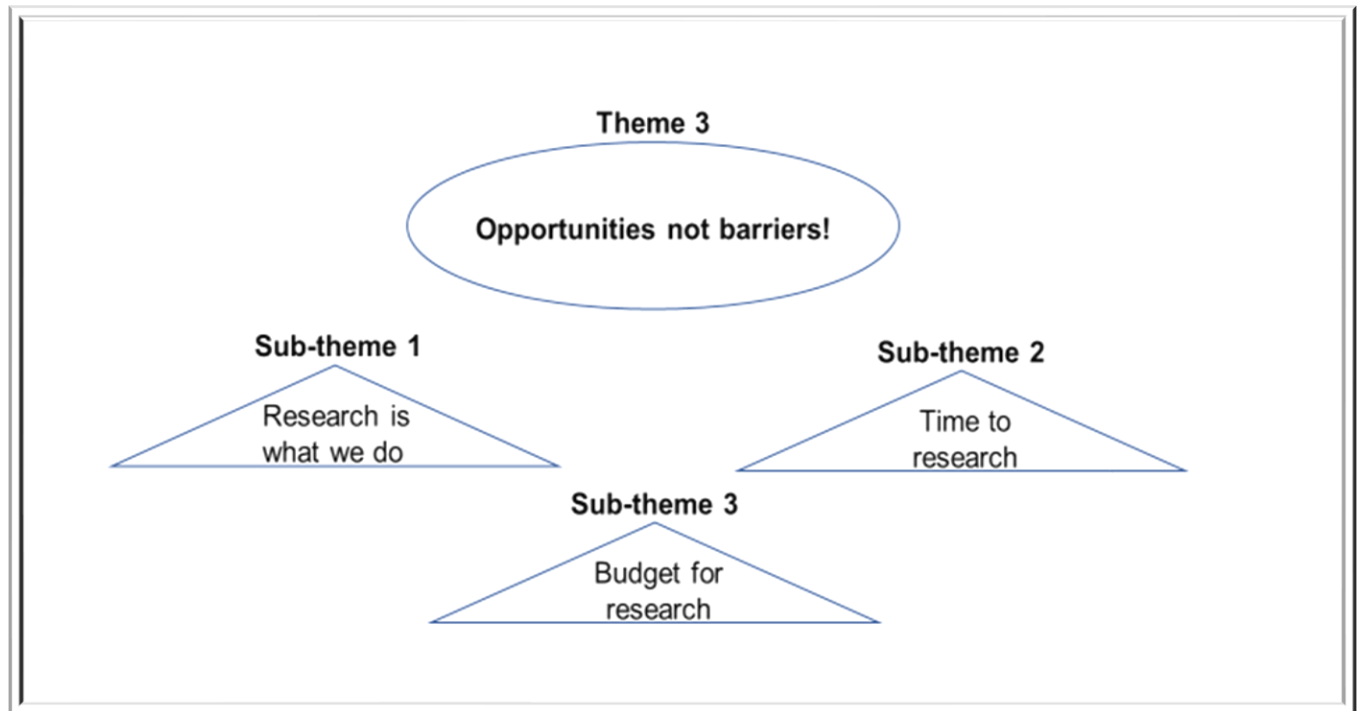


Figure 19. Theme 3. Opportunities not barriers

To address the promise of “best care for everyone” the sub-themes addressed three key areas the DHB needs to overtly acknowledge (a) research is what we do! (b) proactive time for staff to conduct research; and (c) a small amount of the annual budget set aside for DHB research or as seed funding of bigger research projects (Figure 19).

Theme 3 Sub-themes

Theme 3 Sub-theme 1. Research is what we do!

The DHB’s annual funding comes from the government via Vote Health and this allocation does not directly fund research. Despite this, Waitematā DHB does host research and to an

extent sponsors some innovative research and improvement activity. However, interviewees considered the DHB currently misses an opportunity to overtly recognise to its community that “research is what we do!” to improve the care delivered. Currently patients are not clearly advised that research to advance the evidence for best practice and to improve the care they receive actually happens every day in the DHB. In current information brochures available to patients on admission to hospital, mention of research is limited to where the DHB may be required to “share patient information with to the Ministry of Health and other government agencies for administrative, legal, contractual, statistical, planning, research or public health purposes” (Waitemata DHB, 2018b). Interview participants considered this gap to be an opportunity that must be addressed. Interviewee 6 commented¹³:

“I think if we made [research] more of a deliberate part of what we do ...it's not [seen as] our core business and so we don't tell patients necessarily this is what we do. Actually, we do a lot of research all the time because we're constantly trying to improve the service that we provide for you... Therefore, you may be approached while you are here to help with some research and if you've got time please do. BUT we don't do anything... I don't tell patients that we do research. We don't put up anything about results anywhere either, even to our own staff. We're not very good at saying ... there's research going on all the time and its purpose is to improve services for our population”.

Similarly, Interviewee 1 said “So, the way I see it is yes it [research] does help DHBs in lots of ways. I think it needs to be made clearer on how it helps. I don't think we're always very clear...”

Notably, interviewees felt most staff were generally unaware the DHB set up a Research Governance Group in 2015 to develop and oversee the DHB's approved Research Strategy 2020. Their common perception was the research governance group “floats under the radar quite a lot” (Interviewee 2) and “I don't think people who are not doing research are particularly interested”. (Interviewee 6)

Theme 3 Sub-theme 2. Time to research

In its 2017/18 annual plan (Waitemata DHB, 2017) the DHB committed to building research capacity and capability. As well, the clinical MECA contracts (Association of Salaried Medical Specialists, 2017; Auckland Region District Health Boards/Public Service Association, 2018; NZ Nursing Organisation, 2018) require the employer to allow clinicians time for education and research. Interviewees saw the opportunity for the DHB was to create the systems and processes that allow healthcare staff, in particular clinical staff, to take time off the front line to do research that will benefit the DHB's purpose. Already mentioned, Interviewee 4 encouraged the DHB to be more prescriptive in identifying the big problems that need to be solved, *"DHBs could actually use the research resource that they have a lot more effectively, and I don't think clinicians would push back against that. I think there's often expertise to solve a lot of [the DHB] problems"* (Interviewee 4).

Interviewee 3 noted there is an opportunity for the DHB to benefit best care by the *"valuing of time and staffing expertise to do [the research that will answer] those big picture questions,* and *"there's plenty of interest from clinicians [in research] ... if they had a bit of brain space and a bit of kind of protected time"*.

Likewise, Interviewee 5 said, *"[If] we're interested in advancing knowledge to deliver better care... then the next thing is you've got to give people the opportunity to do this work and ... give them some rewards when they complete work ... it doesn't mean pay them heaps of money, it means acknowledging, it means giving them the opportunity to do things"*.

Theme 3 Sub-theme 3. Budget for research

Interviewees appreciated that the funding the DHB receives from the government is limited, and that the government has signalled that the HRC should manage the government's investment in health research. However, Interviewees 4 and 5 felt the government funding model for DHBs is wrong, observing in other organisations both public and private a *"percentage of their revenue stream is applied to research and development But in health...*

it's not there" (Interviewee 5). Interviewees saw the opportunity for the DHB in this scenario was partnership and *"targeting particular things to take to funding organisations and saying how could we do this together and what if the DHB put in a little bit to do this bit or prototype it and then you do this bit. You know I think there's lots of opportunities in that. You have to be really clear about what you're doing. You have to have a pretty structured pathway"* (Interviewee 3).

Interviewees commented that another opportunity for the DHB was to have a deliberate research budget that provides (albeit competitively) funding for small research projects, where seeking external funding would not be cost or resource effective. It could also provide for seed funding to develop bigger projects or prepare the groundwork for grant applications. Interviewee 2 said, *"if [the DHB] can get the ball rolling and provide the seed structure and the facilities to allow [research activity] to grow then it will grow and be self-supporting and actually improve outcomes, improve staff retention and improve the financial outlay"*. Similarly, Interviewee 3 felt that the DHB would benefit from *"supporting researchers to get [research] track records..."* needed to apply successfully for HRC and similar award types.

Theme 3 Conclusion

Theme 3 describes the interviewees' preference to focus on opportunities for research in the DHB rather than highlight the barriers faced. Outlined are three sub-themes whereby the DHB could lower the research hurdle height for staff. Sub-theme 1 referred to the opportunity the DHB has to overtly communicate research is what we do. It is likely the community has an expectation the DHB is always trying to improve the care and service it delivers to its community. However, interviewees were of the opinion the DHB must make it explicit to its staff and community that research is imperative to ensuring the care delivered is robust and evidence based. Sub-theme 2 traversed the opportunity the DHB has to support the capacity of its staff to do research to make a difference in the care continuum. Finally, sub-theme 3 addressed a funding hurdle common to health research in general, but one that is more formidable in a DHB environment not funded to do research. Again, the interviewees

pragmatically considered this as an opportunity for the DHB to invest support in research partnerships with a small annual allocation of seed funding. Interviewees anticipated once rolling the capacity and reputation for research excellence will grow and attract further opportunities.

4.5.4 Summary of themes

Based from the overarching research question “does research overall support the DHB’s purpose” outcomes from a small series of interviews, with six clinician research leaders from Waitematā DHB, have been thematically analysed. Three major themes have been reported (a) research should inform the DHB’s purpose, (b) but the DHB does not make it easy, (c) however there are opportunities for the DHB to pursue to improve this should it be willing. Collectively the interviewees considered research conducted at, by and importantly in collaboration with this DHB’s staff, partners and community, can and does contribute to the evidential knowledge base of healthcare. As well, it provides health care workers with an opportunity to improve the care options available, opens their eyes to innovation at the clinical interface, and benefits them individually by satisfying their intellectual curiosity. The perspectives emanating from the thematic analysis embraced a spirit of opportunity.

Chapter 5 Discussion

Introduction

The overarching aim of this thesis was to investigate whether research helps to inform Waitematā DHB's purpose to prevent, ameliorate and cure ill health, promote wellness, and relieve suffering. The question posed for the thesis arose in 2015, during the preliminary discussion to establish the DHB's inaugural research strategy. A mixed method approach was utilised to gather the data needed to systematically appraise the question. The thesis has provided a portrait of the research activity in a publicly funded NZ health district, with attention to the perceptions of the DHB's researchers, clinical leaders and managers.

Four discrete pieces of work were completed, each building on what had been learned from the previous part. Part 1 described the volume, type and the outcomes of the research activity the DHB hosted in the years 2008 to 2015. To establish the context and gain an indication of the robustness of the research, Part 2 looked at the research documentation provided by the researchers at the time of their locality applications in the years 2013, 2014 and 2015. Part 3 involved surveying (a) the primary researchers from projects identified in Part 2 about the development, conduct and outcomes of their research project, and (b) senior DHB clinical leaders and managers to garner an organisational perspective toward research. The outcomes from the preceding parts were then used to guide the focus of the interview questions in Part 4. The interviews sought the opinions of senior DHB clinical staff, well recognised and respected as health researchers, with regard to the purpose and benefits of research, and the enablers and barriers to conducting and translating research in the DHB context. All four parts interdependently contributed to providing the portrait of the facilitators, barriers and opportunities for research to help inform the DHBs purpose.

Prime outcomes from this study are discussed in this chapter. 1). A pervasive research ethos was not evident in the DHB in this period. While research happened and many staff were involved in a research activity either directly or indirectly, a culture of research was not sufficiently recognised, enabled or celebrated. 2). The absence of an organisation-wide

research ethos affected staff engagement in and with the research process. 3). In consequence, the effective transfer and translation of knowledge integral to the DHB's purpose and promise of delivering best care for everyone was disrupted.

5.1 The challenge of sustaining a visible and pervasive research ethos

Schwandt (2017) referred to ethos, described by Aristotle in the 4th century in his treatise on the art of persuasion, as the act of influencing the actions of others through good character, moral principles, core values, and aspirations. An ethos or attitude can be at the level of an organisation, profession or individual. The value an organisation places on an ethos or culture of research may be evidenced by the availability of incentives and resources to support research and by the leadership's active interest in and use of the outcomes of research (Holden, Pager, Golenko, & Ware, 2012; Wilkes L & D, 2013). The importance of a positive research ethos or culture to support Waitematā DHB's purpose was investigated in this study.

Waitematā DHB staff surveyed and interviewed for this study, universally placed importance on a nurturing environment that inspires enquiry and permits staff to stop and question what they do. The DHB's annual planning (Waitemata DHB, 2017) also signalled the importance the organisation placed on a research ethos to support a culture of questioning. It described the delivery of safe and high-quality care must be informed by "evidence from research, clinical expertise, patients and whanau..." (p. 4). As well, the Waitematā DHB Research Strategy 2020 (Waitemata DHB Research Governance Group, 2016) and the subsequent NZ Health Research Strategy 2017 – 2027 (Ministry of Business Innovation & Employment and Ministry of Health, 2017) both reflected the imperative that a culture of excellence in research can help improve the health and wellbeing of patients and communities. This has also been an internationally held position, with the World Health Organisation (WHO) statement indicating "universal health coverage cannot be achieved without evidence from research" and that to ensure relevance of research findings to local context, all nations should be involved as producers and consumers of research (Dye et al., 2013, p. xi). Beyond a culture of research levitating a healthcare organisation's process and practice (Clarke & Loudon, 2011; S. Hanney

et al., 2013; Krzyzanowska et al., 2011; Saini et al., 2017; Selby & Autier, 2011), it also cited as an aid to workforce recruitment and the retention of excellent clinicians, and generally improves staff attitudes, commitment, and values (Makkar et al., 2016; Saini et al., 2017).

The interrogation of Waitematā DHB's research and knowledge management database, indicated the level of research activity, with just over 2000 research and audit and evaluation projects registered in the past decade. Most of the research projects listed multiple members in a research team, and as well there would have been ancillary services staff supporting activities related to the research. Therefore, the actual number of DHB staff involved in aspects of research would have been greater than just those identified as investigators. This level of involvement would suggest that DHB staff are persuaded to the benefits of research to inform their domain of practice and ergo the DHB's purpose.

However, key disruptors to a pervasive research ethos have been identified in this study. These were related to the busy-ness and business of DHBs, and the differing motivations of the clinicians with a duty of providing patient care and the business leaders tasked with managing a large and complex organisation. Also identified were the inherently different timelines between research and business, where research planning, process, and outcome dissemination infrequently aligned to the requirements for business decision making. Finally, discussion turned to the missed opportunity for embedding a culture of research due to poor communication of this intent.

5.1.1 Busy-ness and business can constrain a research ethos

Responses from Survey 2, and the interviews, indicated that an organisational research ethos may have been constrained in this DHB by its busyness and business process. Most survey respondents considered DHB staff were capable to conduct or acquire and appraise research. However, only 12% considered staff had the time, incentive and resources to present, systematically synthesise, and link outcomes of their research to key issues facing decision makers, and to have the opportunity to communicate translatable outcomes. Likewise, the interview participants recognised, while pockets of a positive research ethos exist in the DHB,

they generally did not think the environment enabled a pervasive culture of research. They held that the busy-ness of clinical care meant that research was frequently left to the enthusiasts to conduct in addition to their business as usual activity. Two interviewee comments illustrated the consensus; “... *you have to do [research] for the love of it more than anything else, and you have to sort of find the time for it and make it an important issue for yourself*” (Interviewee 1). Another interviewee said research was seen as something done “*when you’ve finished your day job, ... for a bit of self-fulfilment*” (Interviewee 2). Such responses are not unique to clinicians in this DHB. International literature, across professional disciplines, similarly describe the barrier of time to be involved in research for clinicians who must prioritise their clinical work ahead of research (Mickan, Wenke, Weir, Bialocerkowski, & Noble, 2017; Pager et al., 2012; Rahman et al., 2011; Royal College of Physicians, 2016).

5.1.2 Differing aims confuse a research ethos

A divide in focus has been identified between clinician researchers who frequently attend to practice based research questions, and an organisation’s business leaders who need to manage the organisation from a high-level systems view. In a publication by the Royal College of Physicians (2016) it was noted that clinicians are well placed to observe patterns and identify the research needs that can make the most difference to patients. Interview respondents in this study concurred, observing that for research to have impact it must address the questions that are relevant to the delivery of care in that environment. Interviewees articulated that research is ultimately about getting the best outcomes for patients.

Conversely, organisational decision makers’ must prioritise their view to information that addresses the challenges of their business reality (Gagliardi, Berta, Kothari, Boyko, & Urquhart, 2016; Kothari A et al., 2011; Williamson, Tait, et al., 2019). In the DHB setting, business leaders are responsible for implementing the health policies of the NZ government, and for administering the annual funding apportioned by central government for the provision of health services in their districts. This includes the focus on “seeking the optimum arrangement for the most effective and efficient delivery of health services in order to meet

local, regional and national needs” (Ministry of Health, 2017c). The differing aims of clinicians and business leaders potentially confuse the establishment of a research ethos, and more so in a DHB that is not funded to engage in research.

5.1.3 Differing processes and timelines disrupt a research ethos

The outcomes of interventional and observational research should be key to DHB business planning. However, timelines for research and business process do not easily align. Research rarely provides an outcome within a fiscal year, or even several years (Andermann et al., 2016; Kessler & Glasgow, 2011). Scherer et al. (2007) cited a rate of 53% for full publication of research results by nine years. Similarly, Chan et al. (2014) referred to publication rates of only 45% for research approved by research ethics committees. Even where research evidence was available, interviewees in this study identified that business procurement processes can create delays in translation to practice. The mismatch of timelines potentially devalues research to the business leaders. Equally, business process can be viewed as a bureaucratic impedance to the translation of research effort to practice. The mismatch in perspectives contributes to the challenge in establishing an organisational research ethos.

5.1.4 Missed communication of intent impacts potential for a research ethos

The executive summary of the DHB’s research strategy (Waitemata DHB Research Governance Group, 2016) states the DHB should build on research achievements and become a centre of research excellence that supports the organisation’s purpose and priorities. It then sets out a broad range of goals to grow and sustain research in the DHB. However, senior DHB clinician researchers interviewed in this study were of the opinion the DHB had not communicated its research agenda effectively to all staff, with half of those interviewed unaware that the DHB had a research strategy.

Interviewees also expressed the opinion that the DHB executive needed to be a lot more prescriptive in setting the targets of the research strategy. New Zealand DHBs already have a set of health targets (Ministry of Health, 2015), determined by the Minister of Health, that they

must meet. As well, this DHB's annual plans for the past decade have identified, as a major focus, the delivery of equitable health services (Waitemata DHB, 2019, p. 8), in particular for Māori, Pacific Island populations resident in NZ, and those with low socioeconomic status. The NZ government has subsequently made health equity a major focus in the NZ Health Research Strategy 2017 – 2027 (Ministry of Business Innovation & Employment and Ministry of Health, 2017). The DHB's research strategy should deliberately engage with staff to align their research questions and their resources (capacity and capability) to help solve the key issues. Moreover, research proposals approved by service leaders should articulate an equity focus, and describe where they intersect with a health target. Responses from the survey of management and clinical leaders suggested that in the process of managing the business in the constrained health sector environment, the organisation's decision makers may have become disengaged with research as a resource for key decisions. The potential for such disengagement may be explained given this study found only a third of the research undertaken by DHB staff between 2013 and 2015 could be broadly related to the health targets. Equally, survey respondents felt the DHB leadership did not suitably involve staff in discussions about the potential for, and relevance of research to the DHB's purpose.

Comparable views in the literature discuss the imperative to close the gap between what is known to work based on research evidence and what is actually translated to practice and policy (Andermann et al., 2016; Institute of Medicine, 2001b). This requires both the involvement of individual research capacity and capability near to the delivery of the health, and an organisation's decision makers to support a focus on translation (Dye et al., 2013; Kothari et al., 2009). Overt organisational communication of a research agenda is needed to give strategic direction. As well, a visibly supported infrastructure enables those conducting the research, and engages the users of the ensuing knowledge. Clearly, not all research findings can be translated to practice, or indeed require a definitive action. (Kothari & Wathen, 2017); Rahman et al. (2011) suggest even where a tangible research infrastructure is not available, a research ethos can still be enabled where the leadership in a healthcare

organisation is seen to regularly communicate research outcomes and discuss research evidence. Likewise, recognition and celebration of research achievements is important in sustaining the culture (Harding et al., 2017; Huckel Schneider et al., 2014).

5.1.5 Summary

Research activity is evident in this DHB, and support for research is referred to in the DHB's approved research strategy, and in its policy and planning documents. However, this study has highlighted that communication of the research strategy had been low key, and staff were generally unaware of its intent or in some cases of its existence. As well, constraints in the form of daily frontline busy-ness, and with business processes that do not easily align with research timelines, have challenged the establishment of a consistent and pervasive research ethos. In this study the staff interviewed saw an opportunity to better enable a culture of research through better communication of the research strategy, a focussed research agenda, and regular and open discussions about the intersection of research with the DHB's purpose.

5.2 Staff engagement in and with the research process

The previous section attended to the challenge of an organisational research ethos. Waitematā DHB is advertised as a values-based organisation where everyone matters. Staff are recognised in the rhetoric as essential to ensuring Waitematā DHB delivers its promise of best care (Waitemata DHB, 2019). Staff engaged in and with research should contribute to the DHB's purpose.

It is well recognised that staff engagement in research can be enhanced by a range of the facilitators that include protected time to research, access to funding for research, a supported grants application process, research mentoring and a simple transparent ethical review process (Black et al., 2015; Evans et al., 2014; Loke et al., 2014; Mustafa et al., 2018; Royal College of Physicians, 2016). However, the relationship between consistent engagement in and with research individually and organisationally, and improved healthcare performance is not clear cut (Clarke & Loudon, 2011; Rahman et al., 2011). Boaz et al. (2015) reported many overlapping mechanisms in multiple contexts have an impact on an organisation's

performance. However, there is some association between healthcare organisations who support their clinician's engagement in research, and improvements in healthcare performance at the level of improved health outcomes or at the least improved processes of care. This study considered the level of staff engagement in research practice and process.

The interrogation of the DHB's research and knowledge management database enabled the type and level of research activity to be utilised as a measure of engagement. The database, implemented in 2008, records interventional and observational research that sets out to create or extend new knowledge. As well, it records audit and evaluation research, broadly categorised as research, where already collected data is utilised to assess standard or current process and practice to evaluate "delivery of particular health or disability support service[s]" (National Ethics Advisory Committee, 2012, p. 4).

5.2.1 Engagement in and with Audit and Evaluation

Anecdotally, Waitematā DHB was the only DHB in this period that registered audit and evaluation research projects for resource and knowledge management purposes. This has provided a unique opportunity to comment on the wider categorisation of research than just interventional and observational research. Notably, in the period 2008 to 2015, more than half of the 1200 projects recorded were defined as audit and evaluation. This likely reflects the DHB's role as a teaching hospital where retrospective clinical audits are frequently conducted as a requirement for professional development by clinical staff. As well, some will have evaluated quality improvement initiatives and/or programme implementations. A portion of these may have been undertaken by time-poor and/or naïve clinicians, who may have defaulted to audit from the perception that it would be faster and less onerous than seeking an ethics committee review for research. In NZ, audit and evaluation research projects typically do not reach the level of risk that requires a HDEC review (New Zealand Health and Disability Ethics Committees, 2014).

Notably, while Waitematā DHB still required a locality approval process for audit and evaluation projects, a higher proportion, compared to interventional and observational

research, proceeded without completing the process. Less oversight may potentiate less well-defined questions, inappropriate method, inadequate sample size, incorrect analysis and unjustified conclusion (Altman, 1994; Chalmers & Glasziou, 2009; Ioannidis et al., 2014). Interviewees in this study expressed similar concerns that substandard work, “*puts us more at risk in translating bad findings into practice change*”. (Interviewee 5)

Additionally, review of the research and knowledge database found fewer audit and evaluation projects were recorded as completed, and more were lost to follow-up when compared to the interventional and observational research projects, even though they were generally of shorter duration, and should have been completed and reported within the time of this review. Projects recorded as lost to follow-up were generally due to an uncontactable investigator who had left the organisation, for instance, junior medical staff on short rotations. It is possible that some of these projects were completed and the findings were disseminated at a conference, however, where the DHB does not have a record of this or links to subsequent publications, the knowledge is lost to the organisation. Chan et al. (2014) referred to the lost knowledge from research discontinuation, non-publication, and non-contactable investigators as yet another form of research waste. The potential for this type of waste could be addressed by more rigorous policing of the research process, however, this would be staff resource-intensive, and likely to be viewed as bureaucratic and not conducive to staff engagement in research. Conversely, where an organisation’s leadership is seen to value and discuss research evidence, and to regularly recognise and celebrate research achievements, there is potential for this trend to be reversed (Harding et al., 2017). However, Harding et al. (2017) also caution where the focus of research impact remains on outputs in the form of publications, rather than on the translation of the knowledge to outcomes of care, then the benefits of engagement in research will remain limited.

While further follow-up of the audit and evaluation projects did not fall within the scope of this study, the amount undertaken in this DHB was substantial. Given the numbers will be similarly

reflected in the other 19 DHBs in NZ, then the value of clinical audit to DHBs should have additional scrutiny.

5.2.2 Engagement in and with Interventional and Observational Research

By comparison, 42% of the projects recorded on the research and knowledge database between 2008 and 2015 were designated interventional or observational research. Almost all (93%) received some form of external ethics committee review, and thus were more likely to have engaged in a more robust and ethical end to end research process required for that review. The 7% of the research projects considered to be of low ethical risk and did not require an ethics committee review were defined as observational research. However, in the process of the DHB's locality approval, these projects were still assessed against the HDEC standard operating procedures, and the merit and suitability of the research question was agreed by the appropriate manager and clinical leader before locality approval was given.

When compared to audit and evaluation projects, interventional and observational research projects were more likely to have been completed or to have advised an amended end date, indicating a greater level of researcher engagement in the research process.

Scrutiny of the locality application documents for interventional and observational research projects registered with the DHB between January 2013 and December 2015, and the survey of the lead researchers provided further insight into the level of engagement. Three-quarters of the survey respondents indicated they undertook research to answer a question they felt professionally compelled to answer. This was reflected in the locality documentation where there was consistent evidence of consideration given to the research question and the method to answer it. There was some variation in the level of that consideration however, with some projects registered at a concept stage with the investigator having requested support with project design and development. At the other end of the spectrum were the locality applications submitted for fully developed and ethically approved projects ready to begin.

Further consideration to engagement in and with research was given in relation to collaboration to funding and to the alignment of research. These areas deserved individual attention given the pragmatic and financially constrained environment health researchers in DHBs must negotiate.

5.2.2.1 Collaboration as an indication of engagement in research

The opportunity provided by collaboration was considered as a measure of research engagement in this study. Most respondents (75%) from Survey 1 indicated they had consulted with others in formulating and designing their research. However, it was not always readily evident from the list of co-investigators that they had discussed the analysis plan with an appropriate expert in the methodology proposed. This is not an uncommon finding. Altman (1994) commented in his landmark commentary on the scandal of poor research that “much poor research arises because researchers feel compelled for career reasons to carry out research that they are ill-equipped to perform, and nobody stops them” (p. 283). Two decades later, Ioannidis et al. (2014) similarly commented that while clinicians “must pass rigorous examinations to practice..., they can practice medical research with nearly no training...” (p. 170). Enabling greater opportunities for DHB researchers to collaborate in their research may provide a solution. Greenhalgh et al. (2016) and Kothari and Wathen (2017), discussed the benefits of clinicians collaborating with academic researchers. They concluded such synergies potentiate research undertaken by academics to be more clinically and contextually relevant, while clinician researchers are enabled to deliver more robust findings supported by the academics’ research proficiency. Green and Johnson (2015) considered collaboration in research was more likely to evoke change in health services delivery and health outcomes for the community because of the multiple professions involved all have interests in disseminating and translating the findings.

Notably, this study found that almost 80% of the interventional and observational research projects hosted by Waitematā DHB in the three-year period 2013 to 2015 were conducted in collaboration with external groups. This fitted well with the subsequent directive from this

DHB's Research Strategy 2020, which stated collaborative relationships were encouraged between research groups, tertiary partners (regional, national and international), and the community (Waitemata DHB Research Governance Group, 2016). Moreover, the ensuing NZ Health Research Strategy (Ministry of Business Innovation & Employment and Ministry of Health, 2017) also refers to the imperative for collaboration in research as one of its four guiding principles. However, some of the research programmes advanced in the collaborative frame appear to be weighted in favour of the external researchers who were just seeking a DHB collaborator to enable access to the DHB population for their research. In this instance the value of collaboration can be of limited value to the DHB or the potential to promote research engagement.

Where true collaboration occurs Green and Johnson (2015) refer to it drawing together the knowledge of otherwise disparate professions and collectives, empowering more outside the box thinking, and providing a way for organisations, institutions and professions to achieve more than they can individually. However, they along with others (Helena Teede & Hans Meij, 2017; S. Rajaram, 2018) acknowledge the complexity of negotiation among multiple collaborative partners may increase the time to complete the research activity. Interview participants in this study discussed research collaboration positively and enthusiastically, while cautioning from their experience the greatest impediment to overcome was the engagement of a historically siloed healthcare profession. Interviewees also acknowledged the demands of collaboration on time-poor DHB clinician researchers with demanding clinical loads was significant. Not surprisingly, therefore, in the period 2013 to 2015, the DHB was most frequently listed as a sub-site in locality applications for collaborative research. This phenomenon was further evidenced in the HRC publication of funding recipients in the same period where relatively few of the successful applications were led by DHB investigators (Health Research Council, 2018). Interviewees also considered collaboration in large multi-site research projects was beneficial for the future of research in the DHB because access to partnerships and mentorships with a wide range of research skills helps to engage and develop

local DHB research capability. As well, local DHB capacity to engage in research can be enhanced where the collaboration comes with research funding.

5.2.2.2 Funding of DHB research

The Ministry of Health allocates funds to DHBs who use this funding to plan, purchase and provide health services within their district (Ministry of Health, 2016a). The DHB allocation does not describe the funding of research. However, research happens in DHBs, and the costs associated with its activity are beyond the costs associated with standard patient care or business as usual practices. The actual costs associated with non-contractual research were not able to be quantified in this study because at the time the DHB did not have a policy requiring presentation of a research budget as part of the locality approval process. The locality application form did though ask a question related to funding to establish whether a legal review would be required for a forthcoming contract. Interestingly, 60% of the locality applications for non-industry sponsored research indicated that funding was being sought. Whether a financial contribution toward the DHB's costs of hosting the research did eventuate could not be established. Nevertheless, given that less than a quarter of the non-industry sponsored research projects in this period had a linked contractual agreement recorded in the research management database suggests the DHB more likely indirectly funded these types of research activity.

Realisation by the DHB that it was unable to quantify the costs of research has seen the creation of a new finance role to support researchers to identify and present their research costs as part of the locality approval process. Cost identification is now required for interventional and observational research even where there may be no exchange of funds. As well, an organisational overhead on funded research has been instigated. While Waitematā DHB was not out of step with other NZ DHBs in requiring research to be costed and an overhead to be applied, the communication of the policy was not well managed. Interview participants in this study said it caused quite a bit of controversy and was considered another hurdle for those engaging in research in the DHB.

The DHBs research strategy document indicates the recovery of the indirect costs of hosting research should enable the DHB to support research capacity and capability (Waitemata DHB Research Governance Group, 2016) with the provision of an annual competitive research grant round for staff. Interviewees concurred funding of a competitive research grant was an opportunity for the DHB to be seen to invest in and engage with research by “*supporting researchers to get track records*” (interviewee 3) needed to apply successfully for HRC and similar award types. It should also provide the DHB executive with the opportunity to gauge the alignment of the local research with the NZ government health targets.

5.2.2.3 Alignment of research

In the period 2013 to 2015, the New Zealand government had set health targets that focused on shorter stays in emergency departments, improved access to elective surgery, faster cancer treatment, increased immunisation, better help for smokers to quit, and more heart and diabetes checks (Ministry of Health, 2015). Given the DHB is tasked with responding to the government’s health targets, it would have been expected that the topics of research in this period would have focused on issues related to those targets. However, only a third of the 119 research projects reviewed were broadly focussed on a government health target. Moreover, in the subsequent survey of researchers, only one of the 24 participants indicated their research was purposefully prioritised to a government health target. While this does not mean the outcomes from other research did not help to inform a government health target, it does suggest that clinician researchers were more likely invested in answering questions related to the immediacy of their practice and care for their patients. Such prioritisation would not be unexpected in health professionals.

Interviewees from this study saw an opportunity for the DHB business leaders to proactively engage with staff in the setting and funding of an organisational research agenda that addresses the big health target issues while still enabling staff to address questions important to local practice. They considered the DHB could use their staff research resource a lot more effectively, “*there’s plenty of interest from clinicians [in research] ... if they had a bit of brain*

space and a bit of kind of protected time” (interviewee 3). Chalmers et al. (2014) referred to the potential for defined research agendas to concentrate effort and avoid research waste that may otherwise occur where the research needs of the users of the research findings are not considered. The NZ Health Research Strategy 2017-2027 (Ministry of Business Innovation & Employment and Ministry of Health, 2017) while not articulating DHBs should have set research agenda; it does appear to recognise the opportunity by stating the stewardship role of the New Zealand Ministry of Health should frame expectations, address barriers and create opportunities for the DHB healthcare staff to engage more in research (p. 17).

5.2.3 Summary

A direct relationship between Waitematā DHB staff’s engagement in and with research and improved healthcare performance is complicated.

In general, there are pockets of good research engagement in the DHB. However, the research tends to be focused on questions relevant to the individual researcher’s delivery of care, and not deliberately prioritised or aligned to the NZ government’s health targets the DHB is tasked with meeting. Funding and time to research were frequently cited as hindering engagement in and with research. Research funding has become a focus for the DHB business leaders faced with spiraling health costs and a shrinking (per capita) annual budget. Much of interventional and observational research hosted by the DHB in this period had an element of external collaboration which potentially should have overcome some of the funding barriers. However, some of the collaborative research alliances were in place to facilitate external researchers access to the DHB population, and it is not clear whether the DHB was always able to recover its hosting costs. Moreover, the local research collaborator’s engagement in these instances may have been limited and the outcomes may not have been reported to the DHB. There is opportunity for greater engagement in and with research, to ensure the potential for research effort to support the DHB’s promise of best care for everyone.

5.3 Knowledge for a healthy difference

For research to help inform the DHB's purpose, then the activity of research and its ensuing outcomes should be integrated into what is done every day, in this DHB, to make a difference to the care that is delivered. However, there were confounders to the knowledge acquired from research to make a healthy difference. In particular, time from the knowledge acquisition to its translation to practice, ubiquitously described as the know-do gap, and the inherent conservatism of health practitioners toward change.

5.3.1 Knowledge transfer takes time

To close the gap between what is known to work based on research evidence, and what is actually translated to practice and policy is imperative (Andermann et al., 2016; Lander et al., 2010). However, the process from research-produced knowledge to its translation into practice or policy is slow and dependent upon researcher dissemination, and the health sector's awareness, agreement, adoption, and adherence to a change (Glasziou & Haynes, 2005).

This study has found more than three-quarters of the interventional and observational research given locality approval by the DHB in the period 2008 and 2015 had been completed. However, at this time, only 40% had reported disseminating the outcomes. Notably, this compares to the publication rates between 32% and 53% reported by with Begum and Kolstoe (2015); Chan et al. (2014); Scherer et al. (2007). The focused survey of researchers in the years 2013 and 2015 did indicate many were still to complete the analysis and write up of their research or had a publication pending a journal's approval.

Potentially, in the fray to publish findings in peer-reviewed journals, and to present at prestigious symposia, the reporting of the outcomes of research to the DHB may be missed, and the opportunity for knowledge transfer lost. Andermann et al. (2016) noted that "even the highest quality evidence will have little impact unless it is incorporated into decision-making for health" (p. 1). The responsibility to ensure the timely transfer of knowledge gained from research must be shared between the researchers and the DHB knowledge users.

Researchers need to ensure the evidence they produce is contextually pertinent, and to purposefully disseminate this to receptive users of the knowledge. Likewise, the knowledge users must be amenable to receiving the evidence and be resourced to appraise its suitability for translation to policy and practice (Oliver & Boaz, 2019). Within the context of a public health organisation this must also occur within the timeframes of the government funder.

To enable knowledge transfer, interviewees from this study suggested the DHB needs to more overtly communicate the research strategy's expectation that the outcomes from research should inform the DHB's purpose. As well, the DHB needs to create more opportunities for its staff to showcase their research findings, opening up occasion for discussion, and celebrating where translation occurs.

The time to the transfer of knowledge gathered from research can take time. It is dependent upon appropriate interaction between the knowledge producer and the knowledge user.

5.3.2 Inherent conservatism restrains knowledge translation

Even where an organisation proactively creates a climate conducive to sharing the outcomes of research, the implementation of the knowledge to practice can still be constrained by staff conservatism.

In this study, change, and its associated uncertainty was recognised to have a negative effect on staff engagement with knowledge translation. A change in practice, regardless of the level of research evidence in support of it, is dependent upon staff being convinced to implement and more importantly to sustain the change (Jones & Van de Ven, 2016). Greenhalgh and Papoutsis (2019) refer to change being expensive, disruptive of routine and “deeply held cultural or professional norms” (p. 1). Interviewees in this study similarly concurred that clinicians like to keep doing things the way they have always done because “*everyone understands their role*”. Research challenges the status quo, and the outcomes of research can require staff to take additional time to figure out and integrate new knowledge into their practice. Already busy staff need to be convinced that the effort will make their work lives easier, as well as improve

their patient outcomes and experience of care. Moreover, business process in the “*DHB doesn’t make translation easy*” (Interviewee 6), even where a research programme was developed in house, trialled with DHB staff, and DHB decision makers were involved and informed all the way through. The know-do gap created by slow or no translation was described by interviewees in this study as massive, and one that potentially challenges the worth of research effort in the DHB.

An organisation’s executive management are key to the way in which a knowledge-based culture can be enabled (Dobbins, Traynor, Workentine, Yousefi-Nooraie, & Yost, 2018). In this DHB, the executive management are the sponsors of the organisations values and promise of best care for everyone. Staff questioned in this study considered clear and consistent executive communication promoting a research agenda, that aligns to the DHB’s purpose and priorities and the NZ government’s health targets, was key to overcoming staff conservatism and integrating research in their practice.

5.3.3 Summary

The outcomes from research frequently stumble in the knowledge transfer and translation space leading to the findings from research to remain professionally siloed. For research to inform the DHB’s purpose not only must the outcomes be communicated and discussed. As well, future research proposals should be required to purposefully demonstrate alignment with the DHB’s purpose.

Chapter 6. Conclusion

Introduction

The original question asked does research help inform a healthcare organisation's purpose? This study has utilised mixed method research in its endeavour to provide the answer. This final chapter provides a brief overview of the findings, and acknowledgment of the strengths and limitations. It concludes with recommendations for future action to support research and researchers in a publicly funded DHB and where further research into the support of healthcare research is needed.

6.1 Summary of Findings

This is the first study that has looked at whether the DHB research process has helped to inform its purpose to prevent, ameliorate and cure ill health, promote wellness, and relieve suffering. The question arose in 2015 during preliminary discussions to establish the DHB's inaugural research strategy. Waitematā DHB had invested in research with the provision of the Research and Knowledge Centre to facilitate research-active staff, and more recently with the Institute for Innovation and Improvement to support quality improvement and innovative technologies.

The results of the 4-part study have indicated a broad variation in the type of research method, the level of planning, and funding given to it. Research in Waitematā DHB has grown up in a business structure not funded to conduct research, and siloed specialties and enthusiastic individuals who are self-motivated to conduct research. The findings from this study found the completion rate, dissemination of findings, and translation to practice from the research activity was not consistent. Moreover, the clinical leaders and managers surveyed were diffident about the DHB's ability to utilise the knowledge gained to the local DHB context. Most considered the DHB was not able to communicate research outcomes in a user-friendly way. The subsequent qualitative interview phase delved further into the perceptions of some of the DHB's most senior and respected clinician researchers. These individuals, who have influence

at all levels in the organisation, articulated a level of frustration they had experienced in moving a research agenda forward in the organisation. They suggested the issues they had experienced emanated from staff conservatism and resistance to change, and from the constraints of daily frontline busy-ness. As well, there was a perception that the DHB's business leaders were disengaged from research, and that business processes do not easily align to research methods. This leads to the potential for research conduct in the DHB to fall short of its anticipated impact in support of the DHB's purpose. However, while the research activity may not always meet its objective there was benefit in capability development for the DHB whereby its staff learn the discipline of robust and ethical questioning that comes with research practice. Moreover, the DHB potentially benefits from additional capacity and capability where collaborative research partnerships are formed.

This study has provided an initial portrait of research in one New Zealand DHB. Research in this organisation has been generally inhibited by insufficient provision of the key enablers staff need to undertake a robust end to end research process. The findings suggest research should not be an additional activity to business as usual. Research should be everyone's responsibility and should be integrated into what is done every day to make a difference to the care that is delivered. Research should provide the local contextual evidence for the DHB's business and policy decisions. A better framework of systems is needed to support research in this DHB and to enable the transfer and translation of the knowledge gained to ensure the research effort that should, can indeed help to inform the DHBs purpose.

The structure of the public health care in NZ, means it is likely other DHBs have a comparable experience to that described. However, it is unlikely that many DHBs will have access to the extensive database record of research available to Waitematā DHB. This research has provided a unique insight to a question that all NZ DHB's must consider.

6.2 Limitations and Opportunities

This section discusses potential limitations of this study, and where they offer opportunities for further exploration.

6.2.1 Communicating with busy people

The primary researcher's recognised role in research and knowledge management within the DHB was recognised as ethically challenging for the engagement of survey participants. To manage this an independent administrator managed the survey process to avoid the potential for those invited to feel obligated to respond because of the primary researcher's role in the organisation. This may have created a limitation because busy people filtering through their busy email inbox may have been less likely to open an email from a name they did not recognise. This may have impacted the response rate to the surveys.

As well, while potential participants to the surveys were invited using direct email to participate in the anonymous surveys, respondents self-selected whether to respond. The lowish response rates (30%) could have potentiated a source of bias whereby those who replied were more energised by the research question than those who chose not to respond.

The opportunity for future research could be to explore perspectives through open conversations within focused groups in a facilitated face to face consultation or in an online chat group.

6.2.2 More interviews

Those interviewed were purposefully chosen for their seniority in the organisation, the volume of research they had conducted, their history of collaboration in their research that would ensure their active insight into the research question. A potential limitation exists given the interviewees were all senior medical staff. Interviews with a wider group of stakeholders (nurses, allied health and managers) and less experienced researchers may have allowed for greater transferability.

Opportunity for future research will be to engage in conversations with the wider group of professional stakeholders.

6.2.3 Partial review of audit and evaluation research

To answer the research question “does research help to inform the DHB purpose?”, this study primarily focused on interventional and observational research. However, the interrogation of the research and knowledge management database for the period 2008 to 2015 showed more than half of the 1200 projects were defined as audit and evaluation. While an explanation for the preponderance of this type of research was offered further determination did not fit the scope of the current study. The opportunity for future research could involve more in-depth exploration into the value of audit and evaluation research to the DHB.

6.2.4 Awareness of insider perspective

The primary researcher’s intrinsic and tacit familiarity with the topic gained from her personal role experience within the organisation is recognised as both a strength and limitation. In particular, appreciative knowledge about the complex contextual issues allowed for less ambiguity in interpretation, and more nuanced integration of the results.

6.2.5 Passage of time in the context of the study

Data for Part 1 of the study reflected researcher activity undertaken in the period 2008-2015. Data for Part 2 and Survey 1 reflected a shorter time span of 2013 to 2015. However, Survey 2 and the interviews reflected the participants’ experience up to the time of the survey in 2017 and interview in 2018. The rhetoric around the importance of supporting health care research has evolved rapidly in the latter period, both within the context of Waitematā DHB and nationally. In particular, the government’s release of the NZ Health Research Strategy 2017-2027, with its implication for the direction and funding of research moving forward, includes research conducted in DHBs (Ministry of Business Innovation & Employment and Ministry of Health, 2017).

6.2.6 Transferability of results

This study provides only one DHB's view, however, given the similar organisational structures and pressures in which NZ DHBs function, it does offer a template other DHBs could use to determine the impact of their research support initiatives. Publication and dissemination of this study's outcomes should nurture cross DHB conversations at the research management level. The opportunity for future research lies within the collaborative space between DHBs.

6.3 Recommendations

Many of the identified limitations of this study can also be considered guides to areas for further research. Importantly, the outcomes from the study provide the DHB with a number of recommended actions.

The findings from this study indicate evidence from robust and scientifically sound local research should inform this DHB's purpose. To achieve this the DHB needs to invest in a stronger research culture.

6.3.1 Actively communicate that research is part of the DHB's core business.

Executive-led recognition of the integral value of research and research activities will encourage staff to consider engagement in and with research to be part of, rather than an exception to, their practice. This can occur at a number of levels by;

- Including research outcomes in departmental key performance indicators to ensure there is active discussion at departmental meetings of proposed research, encouragement of new research ideas, and identification of ways to translate the research outcomes.
- Incorporating research as a core component of role descriptions with an allocation of time. As well, discussion of engagement with research should be raised as part of annual appraisals.
- Regular and consistent communication of research outcomes in various organisational forums utilising the DHBs existing staff communication channels, disciplinary grand rounds and local research symposiums. Similarly, celebration of research effort should

occur in the form of newsletters highlighting recent research publications by staff and recognition of research excellence at the DHB's annual health excellence awards.

6.3.2 Overt messaging that the DHB engages in research to deliver best care.

Provide obvious messaging for patients and their whānau that the DHB does conduct research to support its purpose to deliver best care. To date patient admission information has been silent to research. It is important that patients and their whanau are informed that they may be asked, where it is appropriate, to participate in a research activity as part of their treatment. As well, they need to know that in the process of delivering their care the DHB collects their health information to undertake research to monitor and improve the delivery of services.

6.3.3 Focus DHB research to the DHB's and Government's health targets.

Regular discussion about the knowledge gaps at the discipline and service level will identify focused areas for local research prioritisation to inform national initiatives. Such focus will support sustainable and well-planned programmes of research. In turn, this should reduce the number of one-off isolated audits with have little opportunity for the transfer or translation of the knowledge gained.

6.3.4 Enable staff with allocation of time and resource, and mentoring programmes.

In the busy-ness of the daily grind staff are unable to prioritise research, and thus research effort is frequently undertaken by enthusiasts in their own time. The DHB should enable staff through the provision of largely "in kind" support for approved programmes of research. This should be in the form of;

- establishment high-value collaborative research alliances and partnerships to develop mutually beneficial research programmes and the sharing of resources, ideas and expertise these can bring.
- collaborative facilitation of research seminars and education programmes with local academic centres to increase capability and to mentor future research leaders.
- more patient and public involvement in programmes or pathways of research that genuinely take account of their access to, experience of, and outcomes from healthcare.

- setting aside a deliberate research budget to fund small research projects where seeking external funding would not be resource effective or to be used as seed funding to develop successful grant applications with funders such as HRC.

6.3.5 Research translation requires supported navigation of business process

Promoting the integration of research with clinical and business practice may normalise the expectation of translation. However, the business side of translation requires an additional level of business expertise that clinician researchers are unfamiliar with. To enable translation, clinician researchers' must be supported to navigate business processes. The ease of access to such support is integral to implementing the outcomes from research into practice that makes a difference.

Some of these recommendations had been identified in the DHB's research strategy (endorsed in 2016), however, because the DHB executive leadership has not overtly driven this strategy many of the outcomes have yet to be realised. The subsequent NZ Health Research Strategy 2017-2027 provides the challenge to the Waitematā DHB executive leadership to set a research agenda that is overtly supported, connects the current research silos, and enacts the infrastructure to make research collaboration, knowledge transfer, and translation to practice more likely.

References

- Altman, D. (1994). The scandal of poor medical research *British Medical Journal*, 308, 283-284. doi:<http://dx.doi.org/10.1136/bmj.308.6924.283> (Published 29 January 1994)
- Andermann, A., Pang, T., Newton, J. N., Davis, A., & Panisset, U. (2016). Evidence for Health II: Overcoming barriers to using evidence in policy and practice. *Health Res Policy Syst*, 14, 17. doi:10.1186/s12961-016-0086-3
- Associate Minister of Health. (2016). *Healthy Ageing Strategy*. Wellington, NZ. Retrieved from https://www.health.govt.nz/system/files/documents/publications/healthy-ageing-strategy_june_2017.pdf
- Association of Salaried Medical Specialist. (2014). Reality check: The myth of unsustainable health funding and what treasury figures actually show. *Health Dialogue*(9).
- Association of Salaried Medical Specialists. (2017). *Multi Employer Collective Agreement for Association of Salaried Medical Specialists members employed by NZ District Health Boards*. Retrieved 24/02/2019, from www.asms.org.nz
- Auckland Region District Health Boards/Public Service Association. (2018). *Allied, Public Health & Technical Multi Employer Collective Agreement*. Retrieved 24/02/2019, from www.psa.org.nz
- AUT. (2018). *Applying for Ethics Approval: Guidelines and Procedures*. Retrieved July, 2018, from <https://www.aut.ac.nz/research/researchethics/guidelines-and-procedures>
- Awhina Waitemata DHB Research Innovation and Knowledge Centre. (2015). *Interventional & Observational Research-Audit & Related Projects Policy Documents*: Waitemata DHB.
- Banzi, R., Moja, L., Pistotti, V., Facchini, A., & Liberati, A. (2011). Conceptual frameworks and empirical approaches used to assess the impact of health research: an overview of reviews. *Health Research Policy and Systems* 2011, 9:26, 9(26).
- Begum, R., & Kolstoe, S. (2015). Can UK NHS research ethics committees effectively monitor publication and outcome reporting bias? *BMC Med Ethics*, 16, 51. doi:10.1186/s12910-015-0042-8
- Black, A. T., Balneaves, L. G., Garossino, C., Puyat, J. H., & Qian, H. (2015). Promoting evidence-based practice through a research training program for point-of-care clinicians. *J Nurs Adm*, 45(1), 14-20. doi:10.1097/NNA.0000000000000151
- Bland, J., Khan, H., Loder, J., Symons, T., & Westlake, S. (2015). The NHS in 2030: A vision of a people-powered knowledge-powered health system. Retrieved from www.nesta.org.uk
- Blank, R., & Burau, V. (2014). *Comparative Health Policy* (4th ed.). Hampshire, UK: Palgrave MacMillan.
- Boaz, A., Hanney, S., Jones, T., & Soper, B. (2015). Does the engagement of clinicians and organisations in research improve healthcare performance: a three-stage review. *BMJ Open*, 5(12), e009415. doi:10.1136/bmjopen-2015-009415
- Borkowski, D., McKinstry, C., Cotchett, M., Williams, C., & Haines, T. (2016). Research culture in allied health: a systematic review. *Aust J Prim Health*, 22(4), 294-303. doi:10.1071/PY15122
- Bowden, J. A., Sargent, N., Wesselingh, S., Size, L., Donovan, C., & Miller, C. L. (2018). Measuring research impact: a large cancer research funding programme in Australia. *Health Res Policy Syst*, 16(1), 39. doi:10.1186/s12961-018-0311-3
- Boyko, J. A., Lavis, J. N., Dobbins, M., & Souza, N. M. (2011). Reliability of a tool for measuring theory of planned behaviour constructs for use in evaluating research use in policymaking. *Health Research Policy and Systems* 2011, 9:29, 9(29).
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi:10.1191/1478088706qp063oa

- Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2018). Thematic Analysis. In Liamputtong P. (Ed.), *Handbook of Research Methods in Health Social Sciences* (pp. 1-18). Singapore: Springer,. doi:10.1007/978-981-10-2779-6_103-1
- Braveman, P., & Gottlieb, L. (2014). The social determinants of health: it's time to consider the causes of the causes. *Public Health Rep*, 129 Suppl 2, 19-31. doi:10.1177/00333549141291S206
- Brennan, S. E., McKenzie, J. E., Turner, T., Redman, S., Makkar, S., Williamson, A., . . . Green, S. E. (2017). Development and validation of SEER (Seeking, Engaging with and Evaluating Research): a measure of policymakers' capacity to engage with and use research. *Health Res Policy Syst*, 15(1), 1. doi:10.1186/s12961-016-0162-8
- Brook, R. (2015). *Redefining health care systems 2015*. Santa Monica, Ca: RAND Corporation, . Retrieved from www.rand.org/t/cp788
- Buxton M, & Hanney S. (1996). How can payback from health services research be assessed? *Journal of Health Services Research and Policy*, 1(1), 35-43.
- Canadian Academy of Health Science. (2009). *Making and impact: A preferred framework and indicators to measure returns on investment in health research*. Retrieved from <http://www.cahs-acss.ca/e/assessments/completedprojects.php>
- Canadian Foundation for Healthcare Improvement. (2014). Is research working for you? A self-assessment tool and discussion guide for health services management and policy organizations. Retrieved from <http://www.cfhi-fcass.ca/PublicationsAndResources/ResourcesAndTools/SelfAssessmentTool.aspx>
- Canadian Institutes of Health Research. (2011). *Canada's strategy for patient-orientated research: Improving health outcomes through evidence-informed care*. Ottawa, Canada. Retrieved from www.cihr-irsc.gc.ca
- Canadian Institutes of Health Research. (2014). *Health research roadmap II: Capturing innovation to produce better health and health care for Canadians*. Ottawa, Canada. Retrieved from www.cihr-irsc.gc.ca
- Catallo, C., & Sidani, S. (2014). Capacity Instrument for Evidence-Informed Health Policy: Preliminary Reliability and Validity of an Instrument. *Worldviews on Evidence-Based Nursing*, 11(1), 35-45.
- Chalmers, I., Bracken, M. B., Djulbegovic, B., Garattini, S., Grant, J., Gülmezoglu, A. M., . . . Oliver, S. (2014). How to increase value and reduce waste when research priorities are set. *The Lancet*, 383(9912), 156-165. doi:10.1016/s0140-6736(13)62229-1
- Chalmers, I., & Glasziou, P. (2009). Avoidable waste in the production and reporting of research evidence. *Lancet*, 374(9683), 86-89. doi:10.1016/s01406736(09)60329-9
- Chan, A.-W., Song, F., Vickers, A., Jefferson, T., Dickersin, K., Gøtzsche, P. C., . . . van der Worp, H. B. (2014). Increasing value and reducing waste: addressing inaccessible research. *The Lancet*, 383(9913), 257-266. doi:10.1016/s0140-6736(13)62296-5
- Choo, T. L., Muninathan, P., Pung, C. M., & Ramanathan, G. R. L. (2017). Attitudes, barriers and facilitators to the conduct of research in government hospitals: a cross-sectional study among specialists in government hospitals, northern states of Malaysia. *Medical Journal of Malaysia*, 72(1), 26-31.
- Clarke, M., & Loudon, K. (2011). Effects on patients of their healthcare practitioner's or institution's participation in clinical trials: a systematic review. *Trials*, 12, 16. doi:10.1186/1745-6215-12-16
- Cohen, G., Schroeder, J., Newson, R., King, L., Rychetnik, L., Milat, A. J., . . . Chapman, S. (2014). Does health intervention research have real world policy and practice impacts? Testing a new impact assessment tool. *Health Research Policy and Systems*, 13(3).
- Cooksey, D. (2006). *A review of health research funding* London, UK: HM Treasury. Retrieved from <https://www.gov.uk>

- Davies, D. S. (2011). Clinical research and healthcare outcomes. *Ann Oncol*, 22 Suppl 7, vii1. doi:10.1093/annonc/mdr417
- Dobbins, M., Traynor, R. L., Workentine, S., Yousefi-Nooraie, R., & Yost, J. (2018). Impact of an organization-wide knowledge translation strategy to support evidence-informed public health decision making. *BMC Public Health*, 18(1), 1412. doi:10.1186/s12889-018-6317-5
- Durie, M. (1998). *Whaiora: Māori health development*. Auckland, NZ
- Oxford University Press.
- Dye, C., Boerma, T., Evans, D., Harries, A., Lienhardt, C., McManus, J., . . . Zachariah, R. (2013). *Research for universal health coverage*. Geneva, Switzerland: World Health Organization Retrieved from <http://www.who.int/whr/2013/report/en/>
- Evans, G., Duggan, R., & Boldy, D. (2014). An exploration of nursing research perceptions of registered nurses engaging in research activities at a metropolitan hospital in Western Australia. *Collegian*, 21(3), 225-232. doi:10.1016/j.colegn.2013.04.006
- Gagliardi, A. R., Berta, W., Kothari, A., Boyko, J., & Urquhart, R. (2016). Integrated knowledge translation (IKT) in health care: a scoping review. *Implement Sci*, 11, 38. doi:10.1186/s13012-016-0399-1
- Gholami, J., Majdzadeh, R., Nedjat, S., Nedjat, S., Maleki, K., Ashoorkhani, M., & Yazdizadeh, B. (2011). How should we assess knowledge translation in research organizations; designing a knowledge translation self-assessment tool for research institutes (SATORI). *Health Research Policy and Systems*, 9(10).
- Glasziou, P., & Haynes, B. (2005). The paths from research to improved health outcomes. *Evidence Based Medicine*, 10(February), 4-7.
- Golenko, X., Pager, S., & Holden, L. (2012). A thematic analysis of the role of the organisation in building allied health research capacity. A senior managers' perspective. *BMC Health Services Research*, 12(276).
- Green, B. N., & Johnson, C. D. (2015). Interprofessional collaboration in research, education, and clinical practice: working together for a better future. *J Chiropr Educ*, 29(1), 1-10. doi:10.7899/JCE-14-36
- Greenhalgh, T., Jackson, C., Shaw, S. E., & Janamian, T. (2016). Achieving Research Impact Through Co-creation in Community-Based Health Services: Literature Review and Case Study. *The Milbank Quarterly*, 94(2), 392-429.
- Greenhalgh, T., Ovseiko, P. V., Fahy, N., Shaw, S., Kerr, P., Rushforth, A. D., . . . Kiparoglou, V. (2017). Maximising value from a United Kingdom Biomedical Research Centre: study protocol. *Health Res Policy Syst*, 15(1), 70. doi:10.1186/s12961-017-0237-1
- Greenhalgh, T., & Papoutsis, C. (2019). Spreading and scaling up innovation and improvement. *Bmj*, 365, l2068. doi:10.1136/bmj.l2068
- Greenhalgh, T., Thorne, S., & Malterud, K. (2018). Time to challenge the spurious hierarchy of systematic over narrative reviews? *Eur J Clin Invest*, 48(6), e12931. doi:10.1111/eci.12931
- Guthrie, S., Wamae, W., Diepeveen, S., Wooding, S., & Grant, J. (2013). Measuring research. A guide to research evaluation frameworks and tools. Retrieved from <http://www.rand.org/>
- Hanney S, Castle-Clarke S, Grant J, Guthrie S, Henshall C, Mestre-Ferrandiz J, . . . Wooding S. (2015). How long does biomedical research take? Studying the time taken between biomedical and health research and its translation into products, policy, and practice. *Health Research Policy and Systems*, 13(1).
- Hanney, S., Boaz, A., Jones, T., & Soper, B. (2013). *Engagement in research: an innovative three-stage review of the benefits for health-care performance* (25642550). Southampton (UK). Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/25642550>. doi:10.3310/hsdr01080

- Hanney, S. R., & Gonzalez-Block, M. A. (2016). Building health research systems: WHO is generating global perspectives, and who's celebrating national successes? *Health Res Policy Syst*, 14(1), 90. doi:10.1186/s12961-016-0160-x
- Harding, K., Lynch, L., Porter, J., & Taylor, N. F. (2017). Organisational benefits of a strong research culture in a health service: a systematic review. *Aust Health Rev*, 41(1), 45-53. doi:10.1071/AH15180
- Health Research Council. (2018). *Funding recipients* [Web Page]. Retrieved 25 May, 2018, from <http://www.hrc.govt.nz/funding-opportunities/recipients>
- Health Research Council of New Zealand. (2014). *Statement of intent 2014 - 2018*. Retrieved from www.hrc.govt.nz
- Helena Teede, & Hans Meij. (2017, May 24, 2017). Health benefits from collaborative centres. *The Australian*. Retrieved from <https://www.theaustralian.com.au/higher-education/health-benefits-from-collaborative-centres/news-story/e599d224380d39fea53d6609ee3d28ae>
- Holden, L., Pager, S., Golenko, X., & Ware, R. S. (2012). Validation of the research capacity and culture (RCC) tool: measuring RCC at individual, team and organisation levels. *Aust J Prim Health*, 18(1), 62-67. doi:10.1071/PY10081
- Hopewell, S., Clarke, M., Stewart, L., & Tierney, J. (2007). Time to publication for results of clinical trials. *Cochrane Database Syst Rev*(2), MR000011. doi:10.1002/14651858.MR000011.pub2
- Huckel Schneider, C., Campbell, D., Milat, A., Haynes, A., & Quinn, E. (2014). What are the key organisational capabilities that facilitate research use in public health policy? *Public Health Res Pract*, 25(1). doi:10.17061/phrp2511406
- Huckel Schneider, C., Milat, A. J., & Moore, G. (2016). Barriers and facilitators to evaluation of health policies and programs: Policymaker and researcher perspectives. *Eval Program Plann*, 58, 208-215. doi:10.1016/j.evalprogplan.2016.06.011
- Hudson, M., Milne, M., Reynolds, P., Russell, K., & Smith, B. (2010). *Te Ara Tika Guidelines for Māori Research Ethics. A framework for researchers and ethics committee members* Health Research Council of New Zealand.
- Institute of Medicine. (2001a). In *Crossing the Quality Chasm: A New Health System for the 21st Century* (25057539). Washington (DC). Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/25057539>. doi:10.17226/10027
- Institute of Medicine. (2001b). *Crossing the quality chasm: a new health system for the 21st century*. Washington, DC: Institute of Medicine,.
- International Bioethics Committee (IBC). (2017). *Report of the IBC on Big Data and Health*. Paris, FR: United Nations Educational, Scientific and Cultural Organisation (UNESCO). Retrieved from <http://unesdoc.unesco.org/images/0024/002487/248724e.pdf>
- Ioannidis, J. P. A., Greenland, S., Hlatky, M. A., Khoury, M. J., Macleod, M. R., Moher, D., . . . Tibshirani, R. (2014). Increasing value and reducing waste in research design, conduct, and analysis. *The Lancet*, 383(9912), 166-175. doi:10.1016/s0140-6736(13)62227-8
- Jones, S. L., & Van de Ven, A. H. (2016). The Changing Nature of Change Resistance. *The Journal of Applied Behavioral Science*, 52(4), 482-506. doi:10.1177/0021886316671409
- Kessler, R., & Glasgow, R. E. (2011). A proposal to speed translation of healthcare research into practice: dramatic change is needed. *Am J Prev Med*, 40(6), 637-644. doi:10.1016/j.amepre.2011.02.023
- Kothari A, MacLean L, Edwards N, & A., H. (2011). Indicators at the interface managing policymaker researcher collaboration. *Knowledge Management Research Practice*, 9, 203-214. doi:10.1057/kmrp.2011.16

- Kothari, A., Edwards, N., Hamel, N., & Judd, M. (2009). Is research working for you? Validating a tool to examine the capacity of health organizations to use research. *Implement Sci*, 4, 46. doi:10.1186/1748-5908-4-46
- Kothari, A., & Wathen, C. N. (2017). Integrated knowledge translation: digging deeper, moving forward. *J Epidemiol Community Health*, 71(6), 619-623. doi:10.1136/jech-2016-208490
- Krzyzanowska, M. K., Kaplan, R., & Sullivan, R. (2011). How may clinical research improve healthcare outcomes? *Annals of Oncology*, 22(Suppl 7), vii10-vii15. doi:10.1093/annonc/mdr420
- Lander, B., Hanley, G. E., & Atkinson-Grosjean, J. (2010). Clinician-scientists in Canada: barriers to career entry and progress. *PLoS One*, 5(10). doi:10.1371/journal.pone.0013168
- Loke, J. C., Laurenson, M. C., & Lee, K. W. (2014). Embracing a culture in conducting research requires more than nurses' enthusiasm. *Nurse Educ Today*, 34(1), 132-137. doi:10.1016/j.nedt.2012.09.006
- Makkar, S. R., Haynes, A., Williamson, A., & Redman, S. (2018). Organisational capacity and its relationship to research use in six Australian health policy agencies. *PLoS One*, 13(3), e0192528. doi:10.1371/journal.pone.0192528
- Makkar, S. R., Turner, T., Williamson, A., Louviere, J., Redman, S., Haynes, A., . . . Brennan, S. (2016). The development of ORACLe: a measure of an organisation's capacity to engage in evidence-informed health policy. *Health Res Policy Syst*, 14, 4. doi:10.1186/s12961-015-0069-9
- McKeon, S. (2013). *Strategic Review of Health and Medical Research*. Canberra, Australia: Department of Health and Aging. Retrieved from http://www.mckeonreview.org.au/downloads/Strategic_Review_of_Health_and_Medical_Research_Feb_2013-Final_Report.pdf
- Mickan, S., Wenke, R. J., Weir, K., Bialocerkowski, A., & Noble, C. (2017). Strategies for research engagement of clinicians in allied health (STRETCH). A mixed methods research protocol. *BMJ Open*, 7(e014876). doi:10.1136/bmjopen-2016-014876
- Miles, W., & Anderson, E. (2004). *Draft Board Report for Development of a Knowledge Centre* (Available from the Waitemata DHB)
- Minister of Science and Innovation and Minister of Health. (2016). *\$97m boost to health research funding*. Retrieved from <http://www.hrc.govt.nz/news-and-media/media/new-97m-boost-health-research-funding>
- Ministry of Business Innovation & Employment and Ministry of Health. (2017). *NZ Health Research Strategy 2017-2027*. Wellington, NZ. Retrieved from <https://www.health.govt.nz/publication/new-zealand-health-research-strategy-2017-2027>
- Ministry of Business Innovation & Employment and the Ministry of Health. (2017). *New Zealand Health Research Strategy*. Wellington, NZ: Ministry of Business, Innovation and Employment and the Ministry of Health. Retrieved from <https://www.health.govt.nz/system/files/documents/publications/nz-health-research-strategy-jun17.pdf>
- Ministry of Business Innovation and Employment. (22 May 2018). *Vision Mātauranga* [Web Page]. Retrieved 25 May, 2018, from <http://www.mbie.govt.nz/info-services/science-innovation/agencies-policies-budget-initiatives/vision-matauranga-policy>
- Ministry of Health. (2011). *Inquiry into improving New Zealand's environment to support innovation through clinical trials - Report of the Health Committee*.
- Ministry of Health. (2014). *The Guide to He Korowai Oranga: Māori Health Strategy*. Wellington, NZ: Ministry of Health. Retrieved from <https://www.health.govt.nz/system/files/documents/publications/guide-to-he-korowai-oranga-Māori-health-strategy-jun14-v2.pdf>

- Ministry of Health. (2015). *New Zealand health system. Health targets*. Retrieved 16 April, 2016, from <http://www.health.govt.nz/new-zealand-health-system/health-targets/about-health-targets>
- Ministry of Health. (2016a). *The estimates of appropriations 2016/17 - Health sector*
- Ministry of Health. (2016b). *New Zealand health strategy. Future direction*. Wellington, NZ: Ministry of Health. Retrieved from www.health.govt.nz
- Ministry of Health. (2016c). *Private Health Insurance Coverage 2011–15: New Zealand Health Survey*. Wellington, NZ. Retrieved from <https://www.health.govt.nz/publication/private-health-insurance-coverage-2011-15-new-zealand-health-survey>
- Ministry of Health. (2017a). *Briefing to the Incoming Minister of Health, 2017: The New Zealand Health and Disability System: Organisation*. Wellington: NZ Government. Retrieved from https://www.health.govt.nz/system/files/documents/publications/briefing-to-the-incoming-minister-of-health-2017-the-new-zealand-health-and-disability-system-organisation_0.pdf
- Ministry of Health. (2017b). *He Korowai Oranga* [Web Page]. Retrieved 25 May, 2018, from <https://www.health.govt.nz/our-work/populations/Māori-health/he-korowai-oranga>
- Ministry of Health. (2017c). *New Zealand health and disability systems. Handbook of organisations and responsibilities*. Wellington, NZ: NZ Government. Retrieved from https://www.beehive.govt.nz/sites/default/files/2017-12/Health%20-%20Organisations%20and%20Responsibilities_0.pdf
- Ministry of Health. (2018). *District Health Boards*. Retrieved 2018, from <https://www.health.govt.nz/new-zealand-health-system/key-health-sector-organisations-and-people/district-health-boards>
- Ministry of Health and Ministry of Business Innovation and Employment. (2015). *Strategic refresh of the Health Research Council. Report to the Minister of Health and the Minister of Science and Innovation*. Wellington, NZ. Retrieved from <http://www.mbie.govt.nz/about/whats-happening/news/document-image-library/hrc-strategic-refresh-final-report.pdf>
- Mittra, J. (2016). *The new health bioeconomy. R&D policy and innovation for the twenty-first century*. doi:10.1057/9781137430526
- Morris, Z. S., Wooding, S., & Grant, J. (2011). The answer is 17 years, what is the question: understanding time lags in translational research. *J R Soc Med*, 104(12), 510-520. doi:10.1258/jrsm.2011.110180
- Moses, H., 3rd, Matheson, D. H., Cairns-Smith, S., George, B. P., Palisch, C., & Dorsey, E. R. (2015). The anatomy of medical research: US and international comparisons. *JAMA*, 313(2), 174-189. doi:10.1001/jama.2014.15939
- Mustafa, K., Murray, C. C., Nicklin, E., Glaser, A., & Andrews, J. (2018). Understanding barriers for research involvement among paediatric trainees: a mixed methods study. *BMC Med Educ*, 18(1), 165. doi:10.1186/s12909-018-1263-6
- National Ethics Advisory Committee. (2012). *Ethical guidelines for observational studies: Observational research, audits and related activities. Revised edition*. Wellington, NZ: Ministry of Health. Retrieved from <https://neac.health.govt.nz/publications-and-resources/neac-publications/streamlined-ethical-guidelines-health-and-disability>
- National Institute for Health Research. (2018). *INVOLVE* [Web Page]. Retrieved 4 June, 2018, from <http://www.invo.org.uk/>
- New K., & Bogossian F. (2012). Nurse led clinical research: neonatal nurses' perceptions and experiences. *Neonatal, Paediatric & Child Health Nursing*, 11(3), 13-18.
- New Zealand Health and Disability Ethics Committees. (2014). Standard operating procedures for health and disability ethics committees. 2. Retrieved from <http://www.ethics.health.govt.nz>

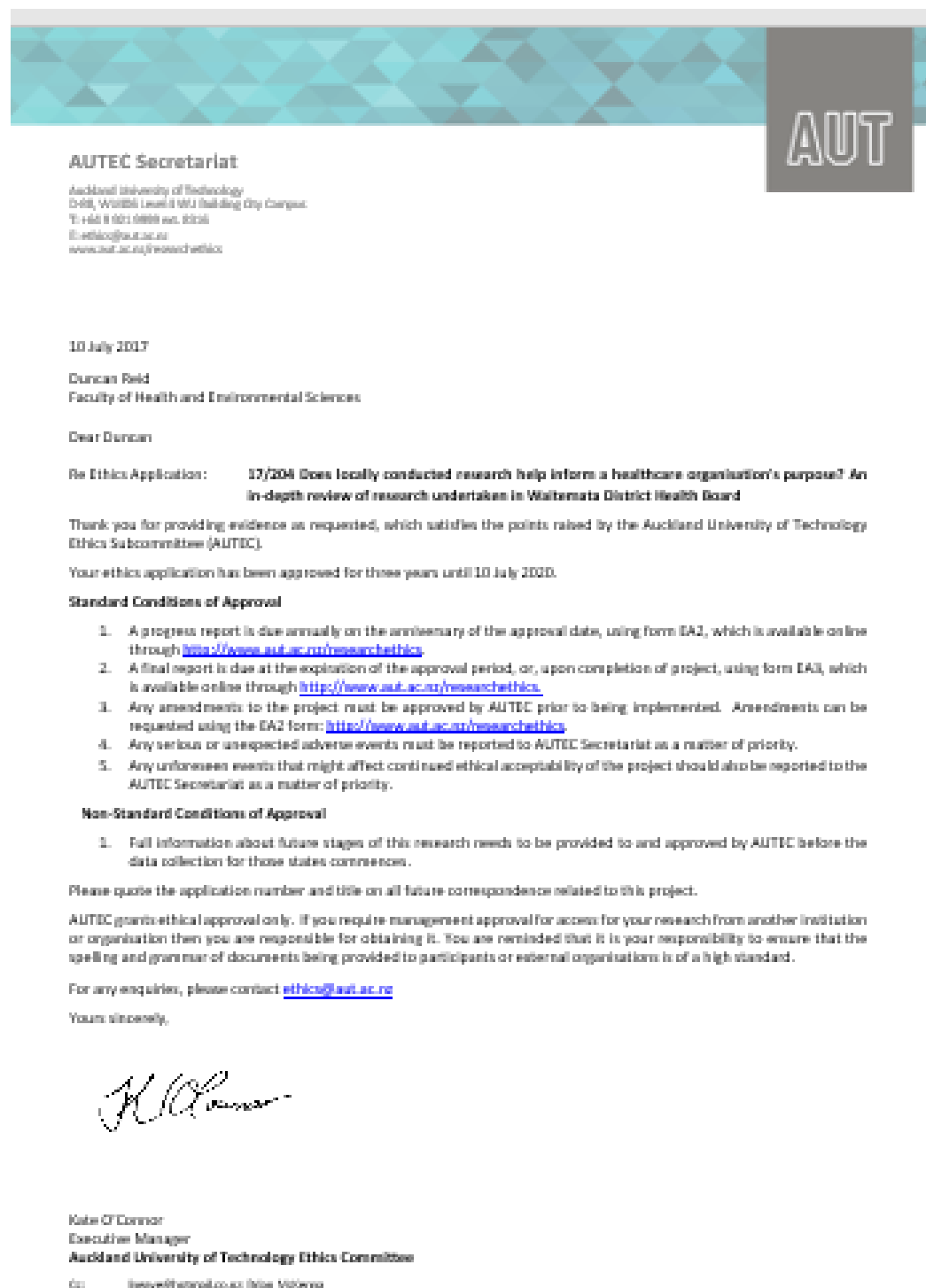
- New Zealand Treasury. (2017). *Health Expenditure*. Retrieved 04/11/2017, from <http://www.treasury.govt.nz/government/expenditure/health>
- Nystrom, M. E., Karlton, J., Keller, C., & Andersson Gare, B. (2018). Collaborative and partnership research for improvement of health and social services: researcher's experiences from 20 projects. *Health Res Policy Syst*, 16(1), 46. doi:10.1186/s12961-018-0322-0
- NZ Government. (2011). *Government response to the report of the health committee on its Inquiry into improving New Zealand's environment to support innovation through clinical trials*.
- NZ Nursing Organisation. (2018). *DHB / NZNO Nursing and Midwifery Multi-Employer Collective Agreement* Retrieved 24/02/2019, from <https://www.nzno.org.nz/>
- O'Byrne, L., & Smith, S. (2011). Models to enhance research capacity and capability in clinical nurses: a narrative review. *J Clin Nurs*, 20(9-10), 1365-1371. doi:10.1111/j.1365-2702.2010.03282.x
- Oliver, K., & Boaz, A. (2019). Transforming evidence for policy and practice: creating space for new conversations. *Palgrave Communications*, 5(1). doi:10.1057/s41599-019-0266-1
- Organisation for Economic Co-operation and Development. (2018). *OECD Health Statistics 2018*. Retrieved from <http://www.oecd.org/els/health-systems/health-data.htm>
- Pager, S., Holden, L., & Golenko, X. (2012). Motivators, enablers, and barriers to building allied health research capacity. *J Multidiscip Healthc*, 5, 53-59. doi:10.2147/JMDH.S27638
- Pater, J., Rochon, J., Parmar, M., & Selby, P. (2011). Future research and methodological approaches. *Annals of Oncology*, 22(Suppl 7), vii57-vii61. doi:10.1093/annonc/mdr428
- Raftery, J., Hanney, S., Greenhalgh, T., Glover, M., & Blatch-Jones, A. (2016). Models and applications for measuring the impact of health research: update of a systematic review for the Health Technology Assessment programme. *Health Technol Assess*, 20(76), 1-254. doi:10.3310/hta20760
- Rahman, S., Majumder, M. A., Shaban, S. F., Rahman, N., Ahmed, M., Abdulrahman, K. B., & D'Souza, U. J. (2011). Physician participation in clinical research and trials: issues and approaches. *Adv Med Educ Pract*, 2, 85-93. doi:10.2147/AMEP.S14103
- Rajaram, S. (2018). On collaborations - the challenges *Association for Psychological Science - Observer Magazine*, 31(4), 5-6.
- Rajaram, S. (2018). On Collaborations - The opportunities. *Association for Psychological Science - Observer Magazine*, 31(3), 5.
- Redman, S., Turner, T., Davies, H., Williamson, A., Haynes, A., Brennan, S., . . . Green, S. (2015). The SPIRIT Action Framework: A structured approach to selecting and testing strategies to increase the use of research in policy. *Soc Sci Med*, 136-137, 147-155. doi:10.1016/j.socscimed.2015.05.009
- Reid, I., Joyce, P., Fraser, J., & Crampton, P. (2014). Government funding of health research in New Zealand *New Zealand Medical Journal*, 127(1389), 25-30.
- Rodriguez, D. C., Hoe, C., Dale, E. M., Rahman, M. H., Akhter, S., Hafeez, A., . . . Peters, D. H. (2017). Assessing the capacity of ministries of health to use research in decision-making: conceptual framework and tool. *Health Res Policy Syst*, 15(1), 65. doi:10.1186/s12961-017-0227-3
- Royal College of Physicians. (2016). *Research for all. Building a research-active medical workforce*. London, UK. Retrieved from <https://www.rcplondon.ac.uk/projects/outputs/research-all>
- Saini, V., Garcia-Armesto, S., Klemperer, D., Paris, V., Elshaug, A. G., Brownlee, S., . . . Fisher, E. S. (2017). Drivers of poor medical care. *The Lancet*, 390(10090), 178-190. doi:10.1016/s0140-6736(16)30947-3
- Sarkies, M. N., Bowles, K. A., Skinner, E. H., Haas, R., Lane, H., & Haines, T. P. (2017). The effectiveness of research implementation strategies for promoting evidence-informed policy and management

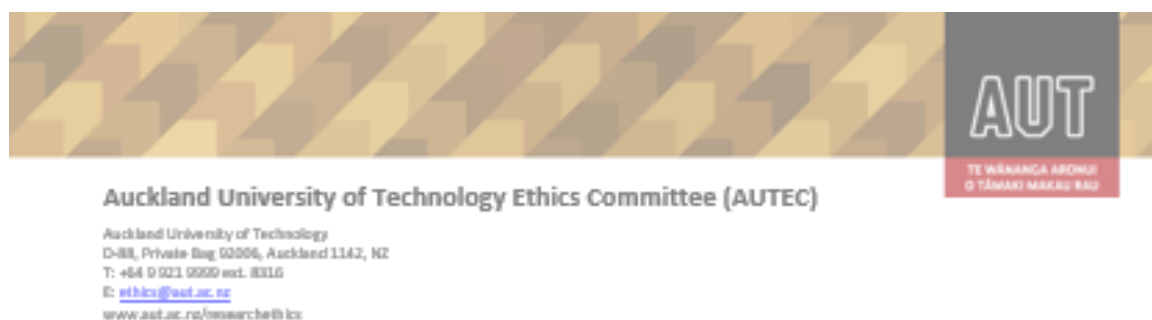
- decisions in healthcare: a systematic review. *Implement Sci*, 12(1), 132. doi:10.1186/s13012-017-0662-0
- Scherer, R. W., Langenberg, P., & von Elm, E. (2007). Full publication of results initially presented in abstracts. *Cochrane Database Syst Rev*(2), MR000005. doi:10.1002/14651858.MR000005.pub3
- Schwandt, T. A. (2017). Professionalization, Ethics, and Fidelity to an Evaluation Ethos. *American Journal of Evaluation*, 38(4), 546-553. doi:10.1177/1098214017728578
- Selby, P., & Autier, P. (2011). The impact of the process of clinical research on health service outcomes. *Ann Oncol*, 22 Suppl 7, vii5-vii9. doi:10.1093/annonc/mdr419
- Simera, I., Moher, D., Hirst, A., Hoey, J., Schulz, K., & Altman, D. (2010). Transparent and accurate reporting increases reliability, utility, and impact of your research. Reporting guidelines and the EQUATOR Network. *BMC Medicine*, 8(24).
- Sprunger, J. G. (2017). The benefits of engaging in collaborative research relationships. *Association for Psychological Science - Observer Magazine*, 30(10), 42-43.
- Stats New Zealand. (2016). *Cohort life expectancy – the best measure of average lifespan* [Web Page]. Retrieved 25 May, 2018, from http://archive.stats.govt.nz/browse_for_stats/health/life_expectancy/cohort-life-expectancy.aspx
- Stats New Zealand. (2018). *Migration drives high population growth*. Retrieved 5th October, 2018, from <https://www.stats.govt.nz/news/migration-drives-high-population-growth>
- Steinke, M. K., Rogers, M., Lehwaldt, D., & Lamarche, K. (2018). Conducting research through cross national collaboration. *Int J Nurs Pract*, 24(1). doi:10.1111/ijn.12607
- The James Lind Library. *Treatise of the Scurvy, James Lind, 1753*. Retrieved 29 April, 2018, from <http://www.jameslindlibrary.org/lind-j-1753/>
- The Treasury. (2017). *Financial Statements of the Government of New Zealand for the Year Ended 30 June 2017*. Retrieved May, 2018, from <https://treasury.govt.nz/publications/year-end/financial-statements-government-new-zealand-year-ended-30-june-2017-html#section-6>
- Thonon, F., Boukledid, R., Delory, T., Rousseau, S., Saghatchian, M., van Harten, W., . . . Alberti, C. (2015). Measuring the outcome of biomedical research: a systematic literature review. *PLoS One*, 10(4), e0122239. doi:10.1371/journal.pone.0122239
- Thornhill, J., Judd, M., & Clements, D. (2009). (Re)Introducing the self-assessment tool that is helping decision-makers assess their organization's capacity to use research. *Healthcare Quarterly*, 12(1).
- Thune, T., & Mina, A. (2016). Hospitals as innovators in the health-care system: A literature review and research agenda. *Research Policy*, 45(8), 1545-1557. doi:10.1016/j.respol.2016.03.010
- Viergever, R. F., & Hendriks, T. C. (2016). The 10 largest public and philanthropic funders of health research in the world: what they fund and how they distribute their funds. *Health Res Policy Syst*, 14, 12. doi:10.1186/s12961-015-0074-z
- Waitemata DHB. (2017). *Waitemata DHB Annual Plan 2017-2018*. Retrieved from <http://www.waitematadhb.govt.nz/assets/Documents/annual-plan/Waitemata-DHB-Annual-Plan-2017-2018.pdf>
- Waitemata DHB. (2018a). *Waitemata District Health Board Annual Report 2017/18*. Auckland, NZ. Retrieved from <https://www.waitematadhb.govt.nz/assets/Documents/annual-Reports/WDHB-Annual-Report-2017-18-FINAL.PDF>
- Waitemata DHB. (2018b). Your Health information (patient information pamphlet).
- Waitemata DHB. (2019). *Waitemata District Health Board Annual Plan 2018/2019*. Auckland, NZ.
- Waitemata DHB Research Governance Group. (2015). *Terms of Reference* Waitemata DHB.

- Waitemata DHB Research Governance Group. (2016). *Waitemata DHB Research Strategy 2020*: Waitemata District Health Board,.
- Waitemata District Health Board. (2016). *About Us*. Retrieved 1 April, 2016, from <http://www.waitematadhb.govt.nz/About-Us>
- Weiss, A. P. (2007). Measuring the impact of medical research. Moving from outputs to outcomes. *American Journal of Psychiatry*, 164, 206-214.
- Wilkes L, & D, J. (2013). Enabling research cultures in nursing: insights from a multidisciplinary group of experienced researchers. *Nurse Researcher*, 20(4), 28-34.
- Williamson, A., Barker, D., Green, S., D'Este, C., Davies, H. T. O., Jorm, L., . . . Redman, S. (2019). Increasing the capacity of policy agencies to use research findings: a stepped-wedge trial. *Health Res Policy Syst*, 17(1), 14. doi:10.1186/s12961-018-0408-8
- Williamson, A., Tait, H., El Jardali, F., Wolfenden, L., Thackway, S., Stewart, J., . . . Dixon, J. (2019). How are evidence generation partnerships between researchers and policy-makers enacted in practice? A qualitative interview study. *Health Res Policy Syst*, 17(1), 41. doi:10.1186/s12961-019-0441-2
- Wilson, P. M., Farley, K., Bickerdike, L., Booth, A., Chambers, D., Lambert, M., . . . Watt, I. S. (2017). Does access to a demand-led evidence briefing service improve uptake and use of research evidence by health service commissioners? A controlled before and after study. *Implement Sci*, 12(1), 20. doi:10.1186/s13012-017-0545-4
- Wilson, P. M., Farley, K., Thompson, C., Chambers, D., Bickerdike, L., Watt, I. S., . . . Turner, R. (2015). Effects of a demand-led evidence briefing service on the uptake and use of research evidence by commissioners of health services: protocol for a controlled before and after study. *Implement Sci*, 10, 7. doi:10.1186/s13012-014-0199-4
- World Health Organisation. (1946). *Preamble to the constitution of WHO as adopted by the International Health Conference*. Retrieved 2018, from <http://www.who.int/suggestions/faq/en/>
- World Health Organisation. (2012). *The WHO strategy on research for health*. Geneva, Switzerland: World Health Organization. Retrieved from www.who.int
- World Health Organisation. (2016). *Global strategy and action plan on ageing and health (2016-2020)*. Geneva, Switzerland. . Retrieved from <http://www.who.int/ageing/global-strategy/en/>

Appendices

Appendix A. AUT ethics approval 17/204 10/7/2017





Auckland University of Technology Ethics Committee (AUTC)

Auckland University of Technology
D-Bld, Private Bag 50006, Auckland 1142, NZ
T: +64 9 521 9999 ext. 8016
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

7 August 2018

Duncan Reid
Faculty of Health and Environmental Sciences

Dear Duncan

Re: Ethics Application: **17/204 Does locally conducted research help inform a healthcare organisation's purpose?**
An in-depth review of research undertaken in Waitemata District Health Board

Thank you for your request for approval of amendments to your ethics application.

The amendment for the addition of qualitative interviews with clinicians is approved.

I remind you of the **Standard Conditions of Approval**.

1. A progress report is due annually on the anniversary of the approval date, using form EA2, which is available online through <http://www.aut.ac.nz/research/researchethics>.
2. A final report is due at the expiration of the approval period, or, upon completion of project, using form EA3, which is available online through <http://www.aut.ac.nz/research/researchethics>.
3. Any amendments to the project must be approved by AUTC prior to being implemented. Amendments can be requested using the EA2 form: <http://www.aut.ac.nz/research/researchethics>.
4. Any serious or unexpected adverse events must be reported to AUTC Secretariat as a matter of priority.
5. Any unforeseen events that might affect continued ethical acceptability of the project should also be reported to the AUTC Secretariat as a matter of priority.

Please quote the application number and title on all future correspondence related to this project.

AUTC grants ethical approval only. If you require management approval for access for your research from another institution or organisation then you are responsible for obtaining it. If the research is undertaken outside New Zealand, you need to meet all locality legal and ethical obligations and requirements.

For any enquiries please contact ethics@aut.ac.nz

Yours sincerely,

Kate O'Connor
Executive Manager
Auckland University of Technology Ethics Committee

Cc: ineave@hotmail.co.nz; Brian McGenna

WDHB Approval of Research



Waitemata
District Health Board

Best Care for Everyone

RM13427 Does locally conducted research help inform a healthcare organisation's purpose? A review of the types of research undertaken in Waitemata District Health Board

WDHB Contact: Lorraine Neave

Department: Research & Knowledge

Title Abbreviation:

Project Type: Audit or Evaluation

External Reference:

Duration: 1/07/2016 - 31/12/2018

Description: Research question: Does locally conducted research help inform a healthcare organisation's purpose? Board
Aim: To analyse and critique the type of research undertaken and assess whether it aligns with the DHBs purpose.
Purpose: A greater awareness, appreciation and understanding of the type of research undertaken in Waitemata DHB may help elevate this activity in the DHB from a relatively adjunct status to one that can be more fully appreciated, knowingly resourced and strategically valued.
Method: The study will be in three parts. Firstly, a focused enquiry utilising the DHBs research and knowledge management database resource to quantitatively analyse the type of research questions asked by DHB researchers. Secondly a survey of a cohort of DHB researchers will be conducted to establish the outcomes from their locality approved research. Thirdly, qualitative interviews with a small number of departmental managers and clinical leaders will be undertaken to gain their perspective on the research process and utilisation of outcomes.
Research projects that received Waitemata DHB locality approval to commence in the years 2013, 2014 and 2015 will provide the key cohort of projects to inform the thesis question.

Locality Review

The undersigned agree to the following:

- The study protocol and methodology has merit.
- The local lead investigator is suitably qualified, experienced, registered and indemnified.
- Resources, facilities and staff are available to conduct this study, including access to interpreters if requested.
- Cultural consultations have occurred or will be undertaken as appropriate.
- Appropriate confidentiality provisions have been planned for.
- Appropriate arrangements are in place to notify other relevant local health or social care staff about the study, and for making available any extra support that might be required by participants.
- Conducting this study will have no adverse effect on the provision of publicly funded healthcare.
- There is a stated intent that the results of this study will be disseminated and where practical and appropriate the findings of the study will be translated into evidence based care.

Awhina Research & Knowledge can assist in the determination of ethics approval requirements, budgets, contracts, funding applications and statistical consultations. Enquires to research@waitematadhb.govt.nz

Dept/Org	Role	Name (Print Clearly)	Signature	Date
Human Resources	Director	Fiona McCarthy		13/6/2016
Waitemata District Health Board	Chief Medical Officer	Andrew Brant		13/6/16

Please return completed form to Awhina Research & Knowledge Centre
Alternatively, emails received from approvers are acceptable as electronic sign-off.

RM 13427- Does locally conducted research help inform a healthcare organisation's purpose? A review of the types of research undertaken in Waitemata DHB

Amendment to Waitemata DHB locality approval sought.

Change in method of data collection – addition of second survey for clinical leaders and managers (see point (b) below). This has been reviewed and given AUT ethics committee approval 10 July 2017.

Aim: To analyse and critique the type of research undertaken and assess whether it aligns with and informs the DHBs purpose.

Purpose: This will be the first focused review of research conducted in the DHB and will attempt to understand the type of research being done, and the perceptions of those doing the research, and those giving locality approval for its conduct. This will provide a baseline for future measures. The findings will be available through reports, publications and presentations to the DHB and its community, other DHBs and the ministry of health.

Method: A retrospective audit of the DHBs research and knowledge management database has been completed and the findings inform the focus of this application that will incorporate two surveys:


(a) The first will survey a selected cohort of researchers who registered an interventional or observational research project in the calendar years 2013 to 2015 to gain their perspective of the type of research undertaken, their motivation, barriers they encountered, and whether in their view the research was aligned to and/or has informed the DHB purpose.

Broad questions that will be reflected on in the process will be;

- Are the research questions aligned with the DHBs purpose?
- Are the research questions asked, actually answered?
- Are the outcomes of research disseminated?
- Has practice changed (if it should be) in light of research outcomes?
- Are those changes sustained?

(b) The second will survey clinical leaders and managers who give locality approval for the conduct of research in their departments, to gain their perception of the DHB's access to and use of research findings. It will utilise the 2014 Canadian Foundation for Healthcare Improvement tool entitled "Is research working for you? A self-assessment tool and discussion guide for health services management and policy organisations" that looks at organisational, not individual capacity to use research (Canadian Foundation for Healthcare Improvement, 2014).

Approval


..... (Date: 29/7/17.)
Fiona McCarthy
(Director of HR)


..... (Date: 24/7/17)
Andrew Brant
(Chief Medical Officer)

RM 13427- Does locally conducted research help inform a healthcare organisation's purpose? A review of the types of research undertaken in Waitemata DHB.

Purpose: This is the first focused review of research conducted in the DHB and attempts to understand the type of research being done, and the perceptions of those doing the research, and those giving locality approval for its conduct. This will provide a baseline for future measures. The findings will be available through reports, publications and presentations to the DHB and its community, other DHBs and the ministry of health.

Request:

I seek locality approval for this final data collection of an already Waitemata DHB approved Doctor of Health Science thesis (RM13427).

The focus of this additional component was signalled in the approved research proposal and sees the addition of a small number of interviews (approximately five) with Waitemata DHB senior clinicians who are also senior research leaders. It will allow for a deeper exploration from their pragmatic perspective with regard to the facilitators and barriers to conducting research in a DHB and importantly what is needed to encourage translation of the outcomes to local practice. The interview question guide (see below) has been informed from the outcomes of the previous phases of the research that included (a) a retrospective audit of the DHBs knowledge management database and (b) the findings from two surveys designed to gain the perspective of a selected cohort of DHB researchers, and clinical leaders and managers who give locality approval for the conduct of research in their services.

AUT ethics committee approval has been given for the addition of the qualitative interviews on 7 August 2018.

Interview Guide:

Globally, health research accounts for a third to half of the improvements in health outcomes experienced over the 20th century and the 2016 New Zealand Health Strategy and the 2017 NZ Health Research Strategy 2017-2027 both acknowledge healthcare systems grow best practice through research.

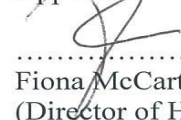
From your experience...


- **Do you think locally conducted research does help to inform the DHBs purpose?**
- **What has worked well for you with regard to the DHBs facilitation of research?**
- **Have you encountered any barriers?**

Even where the highest quality of research evidence is available there remains a "know-do" gap between what is known to work based on research evidence and what is actually done in practice.

- **What is your experience of translating the findings of your research to practice?**

Approval


..... (Date 14/5/2018)
Fiona McCarthy
(Director of HR)


..... (Date 15/8/18)
Andrew Brant
(Chief Medical Officer)



Email Invitation

An Invitation

Hello, my name is Lorraine Neave. I am Manager of Research, Innovation and Knowledge for Waitematā DHB and a Doctoral Candidate at AUT. I invite you to participate in an anonymous online survey which forms a part of my doctoral thesis research.

Your participation is voluntary (you choose to participate or not) and your responses will be anonymous. The survey will take about 15mins to complete. It will be open for 4 weeks.

What is the purpose of this research?

This will be the first focused review of research registered with and given locality approval by Waitematā DHB and will attempt to understand the types of research, the perceptions of those doing the research and of those giving locality approval for its conduct. The findings will provide a baseline for future measures.

Health and medical research is recognised worldwide as being integral to quality health care systems and it is essential for organisations to make the best use of an ever-growing body of information. Waitematā DHB, as you will know is the largest and fastest growing DHB in the country. It is currently undertaking a major strategic programme (Waitematā 2025), which is looking at people, services and facilities requirements for the next 10 years. Research should be an integral part of this future, and to this end a research governance strategy framework was endorsed by the Waitematā District Health Board in 2016. As part of this process a key question was identified “Does research overall help to inform the DHBs purpose?” This is the focus of my doctoral thesis work.

How were you identified and why are you being invited to participate in this research?

You are being invited to participate in this survey because in the calendar years 2013, 2014 or 2015 you registered RM##### *Title of research* with the Waitematā DHB Research & Knowledge Centre and received Waitematā DHB locality approval.

You have been individually sent this email invitation along with a Survey Monkey™ link to complete an anonymous online survey about the research project identified above. Should you choose to participate please keep your project in mind as you answer the questions. Note your answers will not be linked to you or to the research project identified in this email.

How do you agree to participate in this research?

To participate in my research please click on the link provided, read the additional participant information, complete the survey and click submit. No data will be saved or available to me until you click the submit button.

Thank you for taking the time to consider participating!

Participant Information Sheet

Thank you for your interest

My research question “**Does locally conducted research help inform a healthcare organisation’s purpose? An in-depth review of research undertaken in Waitematā District Health Board**” has received Waitematā DHB Locality Approval RM13427 and AUT Ethics Approval 17/204)

What will happen in this research?

Please answer the survey questions keeping in mind the **research project identified in the email**. Note your answers will be anonymous. I will be unable to identify you or your research project from the responses you provide.

It is anticipated that you may spend around 15 minutes answering the questions.

This online survey is one part of a multi-part enquiry. Parts 1&2 have retrospectively reviewed data from the DHBs research and knowledge management database resource to generally describe the professional make-up of researchers and the type of research questions. Part 3 will incorporate two surveys, **this one that will survey a cohort of DHB researchers about their locality approved research**; the second survey will look at organisational capacity to use research by inviting senior DHB staff to participate in a survey to gain their perspective on the DHBs use of research.

What are the benefits?

Benefits to you

You may not individually benefit from the research however this survey gives you the opportunity to describe your experience. The outcomes from this programme will potentially benefit research capacity and capability support by the DHB moving forward.

Benefits to the primary researcher

I am aiming to answer the question “Does research overall help to inform the DHBs purpose?” to inform the Waitematā DHB Research Strategy 2020. The research will also inform my candidacy for the qualification of Doctor of Health Science and associated publications authored by me that may emanate from this.

Benefits to the organisation

Waitematā DHB has two priorities: i) to improve health outcomes and ii) to improve patient experience. The outcomes will help to inform the DHB of the value of research effort and provide insight for the DHB to plan greater strategic investment in research capacity and capability moving forward.

How will your privacy be protected?

The questionnaire is anonymous. You will not be asked to provide your name or the title of your research in the survey. In addition, the information you provide will be reported in aggregate.

To thank you for your time you will be invited to provide your name and email should you wish to enter for one of 5 spot prizes. The random selection of recipients for the spot prizes will be managed separately to the survey by the Research and Knowledge Centre administrator and I will NOT be involved in selection of or notifications to spot prize winners or sent any identifying information related to this.

What feedback will you receive on the results of this research?

The final summary findings of the research thesis will be disseminated within the DHB to relevant forums and be available on StaffNet. The findings will be presented at relevant conferences and meetings and will also be published in the thesis and subsequent peer reviewed journals.

What do you do if you have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Professor Duncan Reid, School of Clinical Sciences, Faculty of Health and Environmental Sciences, AUT. Duncan.reid@aut.ac.nz , 921 9999 ext. 7806

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTECH, Kate O'Connor, ethics@aut.ac.nz , 921 9999 ext. 6038.

Whom do I contact for further information about this research?

Lorraine Neave, lorraine.neave@waitematadhb.govt.nz, + 64 21 495800 (Researcher)

Professor Duncan Reid, Duncan.reid@aut.ac.nz , 921 9999 ext. 7806 (Primary Supervisor)

Professor Brian McKenna. Brian.Mckenna@aut.ac.nz , 921 9999 ext.7507 (Second Supervisor)

Approved by the Auckland University of Technology Ethics Committee on 10/7/2017, AUTECH Reference 17/204



Email Invitation

An Invitation

Hello, my name is Lorraine Neave. I am Manager of Research, Innovation and Knowledge for Waitematā DHB and a Doctoral Candidate at AUT. I invite you to participate in an anonymous online survey which forms a part of my doctoral thesis research.

Your participation is voluntary (you choose to participate or not) and your responses will be anonymous. The survey will take about 15mins to complete. It will be open for 4 weeks.

What is the purpose of this research?

This will be the first focused review of research registered with and given locality approval by Waitematā DHB and will attempt to understand the types of research, the perceptions of those doing the research and of those giving locality approval for its conduct. The findings will provide a baseline for future measures.

Health and medical research is recognised worldwide as being integral to quality health care systems and it is essential for organisations to make the best use of an ever-growing body of information. Waitematā DHB, as you will know is the largest and fastest growing DHB in the country. It is currently undertaking a major strategic programme (Waitematā 2025), which is looking at people, services and facilities requirements for the next 10 years. Research should be an integral part of this future, and to this end a research governance strategy framework was endorsed by the Waitematā District Health Board in 2016. As part of this process a key question was identified “Does research overall help to inform the DHBs purpose?” This is the focus of my doctoral thesis work.

How were you identified and why are you being invited to participate in this research?

You are being invited to participate in this survey because you are a manager or clinical leader who has approved interventional research or observational research projects registered with the Waitematā DHB Research and Knowledge Centre.

You have been individually sent this email invitation along with a Survey Monkey™ link to complete an anonymous online survey.

How do you agree to participate in this research?

To participate in my research please click on the link provided, read the additional participant information, complete the survey and click submit. No data will be saved or available to me until you click the submit button.

Thank you for taking the time to consider participating!

Participant Information Sheet

Thank you for your interest

My research question **“Does locally conducted research help inform a healthcare organisation’s purpose? An in-depth review of research undertaken in Waitematā District Health Board”** has received Waitematā DHB Locality Approval RM13427 and AUT Ethics Approval 17/204)

What will happen in this research?

Please answer the survey questions. Note your answers will be anonymous. I will be unable to identify you from the responses you provide.

It is anticipated that you may spend around 15 minutes answering the questions.

This online survey is one part of a multi-part enquiry. Parts 1&2 have retrospectively reviewed data from the DHBs research and knowledge management database resource to generally describe the professional make-up of researchers and the type of research questions. Part 3 will incorporate two surveys, **this one that will look at organisational capacity to use research from the perspective of clinical leaders and managers**. The other survey will ask a cohort of DHB researchers about their locality approved research.

What are the benefits?

Benefits to you

You may not individually benefit from the research however this survey gives you the opportunity to describe your experience. The outcomes from this programme will potentially benefit research capacity and capability support by the DHB moving forward.

Benefits to the primary researcher

I am aiming to answer the question “Does research overall help to inform the DHBs purpose?” to inform the Waitematā DHB Research Strategy 2020. The research will also inform my candidacy for the qualification of Doctor of Health Science and associated publications authored by me that may emanate from this.

Benefits to the organisation

Waitematā DHB has two priorities: i) to improve health outcomes and ii) to improve patient experience. The outcomes will help to inform the DHB of the value of research effort and provide insight for the DHB to plan greater strategic investment in research capacity and capability moving forward.

How will your privacy be protected?

The questionnaire is anonymous. You will not be asked to provide your name or title in the survey. In addition, the information you provide will be reported in aggregate.

To thank you for your time you will be invited to provide your name and email should you wish to enter for one of 5 spot prizes. The random selection of recipients for the spot prizes will be managed separately to the survey by the Research and Knowledge Centre administrator and I will NOT be involved in selection of or notifications to spot prize winners or sent any identifying information related to this.

What feedback will you receive on the results of this research?

The final summary findings of the research thesis will be disseminated within the DHB to relevant forums and be available on StaffNet. The outcomes will be presented at relevant conferences and meetings and will also be published in the thesis and subsequent peer reviewed journals.

What do you do if you have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Professor Duncan Reid, School of Clinical Sciences, Faculty of Health and Environmental Sciences, AUT. Duncan.reid@aut.ac.nz , 921 9999 ext. 7806

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTECH, Kate O'Connor, ethics@aut.ac.nz , 921 9999 ext. 6038.

Whom do I contact for further information about this research?

Lorraine Neave, lorraine.neave@waitematadhb.govt.nz, + 64 21 495800 (Researcher)

Professor Duncan Reid, Duncan.reid@aut.ac.nz , 921 9999 ext. 7806 (Primary Supervisor)

Professor Brian McKenna. Brian.Mckenna@aut.ac.nz , 921 9999 ext.7507 (Second Supervisor)

Approved by the Auckland University of Technology Ethics Committee on 01/7/2017, AUTECH Reference number 17/204

Appendix H. Questions Survey 1

Keeping in mind your research project identified in the preceding email

1. Are you a Waitematā DHB staff member?

- ☐ Yes ☐ No
☐ Other (please specify)

2. Which of the following best describes your current work role and/or academic status? (you may select more than one answer)

- ☐ Clinician (eg. doctor, nurse, midwife, allied health)
- ☐ Health professional (non-clinical)
- ☐ Management
- ☐ Non-clinical support
- ☐ Academic
- ☐ Educator
- ☐ Researcher
- ☐ Postgraduate student
- ☐ Undergraduate student
- ☐ Other (please specify)

3. Which of the following best describes your research project referred to in the email invitation?

- ☐ Interventional research ☐ Observational research

4. Did/does your research project target a specific ethnicity?

- ☐ Yes ☐ No

If you answered yes, please list ethnicity

5. Did/does your research involve Māori as participants and/or investigators?

- ☐ Yes ☐ No

6. If you answered “yes” to Question 5, in what capacity?
(you may select more than one option)

- ☐ Investigator/co-investigator(s) are/were Māori
- ☐ Māori may be participant(s)
- ☐ Governance ie. Māori are/were represented on a governance or oversight committee specifically set up for the research
- ☐ Other (please specify)

7. Did/does your research project address a government health target?

☐ Yes ☐ No

8. If you answered Yes to Q 7, Please identify which health targets your research project addresses

- ☐ Improved access to elective surgery
- ☐ Shorter stays in emergency departments
- ☐ Faster cancer treatment
- ☐ Better help for smokers to quit
- ☐ Increased immunisation
- ☐ Raising healthy kids

9. Overall what was your main motivation to conduct your research? (you may check 2 only)

- ☐ Employed to do research
- ☐ To answer a question/interest that I felt professionally compelled to investigate
- ☐ Professional development (eg. CASP, Nursing portfolio, Medical council requirement)
- ☐ Educational requirement for undergraduate/post graduate qualification
- ☐ Performance based funding requirement (applicable to academic roles)
- ☐ Collaborative research opportunity
- Other (please specify)

10. Did you primarily decide the research question and the research design?

☐ Yes ☐ No others were involved

11. If No, was the research question and research design decided by

- ☐ collaborative research group decision
- ☐ external sponsor decision
- Other (please specify)

12. Did the research project receive funding (full or part) from a source external to Waitematā DHB?

☐ Yes ☐ No

13. If you answered Yes to Question 12, which of the following best describes the external funding type

- ☐ I self-funded the research
- ☐ Grant/award eg. Health Research Council (HRC), philanthropic organisation or similar
- ☐ Scholarship eg. Health Workforce NZ; University or other academic scholarship
- ☐ Industry sponsorship eg. pharmaceutical or device industry or similar
- Other (please specify)

14. Have you or a research collaborator published or presented methods or interim results?

☐ Yes ☐ No

15. If yes, in which forums/publication type? (you may select more than one)

- ☐ Waitematā DHB governance groups eg. Clinical Governance Board or similar
- ☐ Department, inter-professional team meeting or similar
- ☐ Grand round/faculty presentation
- ☐ Waitematā Health Excellence Awards (poster or oral format)
- ☐ New Zealand conference/seminar
- ☐ International conference/seminar
- ☐ Poster
- ☐ Journal
- ☐ Thesis
- ☐ Organisational report

16. Has the research project completed?

- ☐ Yes
- ☐ Still Active - please Skip to Q 22 SUBMIT button
- ☐ Did not proceed/Discontinued - please Skip to Q 22 SUBMIT button

17. Have you or a research collaborator had the opportunity to present the research outcomes?

- ☐ No please answer Q 18
- ☐ Yes Please answer Q 19

18. If you have not had the opportunity to present the outcomes, is this because you are

- ☐ Still analysing
- ☐ Still writing up
- ☐ Publication/presentation pending

Other (please specify

19. If you answered Yes to Q17, in which forums/publication type? (you may check more than one)

- ☐ Waitematā DHB governance groups eg. Clinical Governance Board or similar
- ☐ Department, inter-professional team meeting or similar
- ☐ Grand round/faculty presentation
- ☐ Waitematā Health Excellence Awards (poster or oral format)
- ☐ New Zealand conference/seminar
- ☐ International conference/seminar
- ☐ Poster
- ☐ Journal
- ☐ Thesis
- ☐ Organisational report

20. Do you consider the project outcomes answered /can answer the research question?

Very unlikely	Certainly
<input type="radio"/>	

21. Finally, if change was recommended has this been translated to practice (ie has it been or is it being implemented)

- ☐ Yes
- ☐ No

If No, please describe why the recommended change has not/may not occur?

RATING

1 = Strongly disagree 2 = Disagree 3 = Neither agree nor disagree 4 = Agree 5 = Strongly agree

Q1. ARE WE ABLE TO ACQUIRE RESEARCH?

- We have skilled staff for research. 1 2 3 4 5
- Our staff has enough time for research. 1 2 3 4 5
- Our staff has the incentive to do research (it is used in our decision-making). 1 2 3 4 5
- Our staff has the resources to do research. 1 2 3 4 5
- We have arrangements with external experts who search for research, monitor research, or do research for us. 1 2 3 4 5

Q2. CAN WE TELL IF THE RESEARCH IS VALID AND OF HIGH QUALITY?

- Staff in our organization has critical appraisal skills and tools for evaluating the quality of methodology used in research. 1 2 3 4 5
- Staff in our organization has the critical appraisal skills to evaluate the reliability of specific research by identifying related evidence and comparing methods and results. 1 2 3 4 5
- Our organization has arrangements with external experts who use critical appraisal skills and tools to assess methodology and evidence reliability, and to compare methods and results. 1 2 3 4 5

Q3. CAN WE TELL IF THE RESEARCH IS RELEVANT AND APPLICABLE?

- Our staff can relate our research to our organization and point out similarities and differences. 1 2 3 4 5
- Our organization has arrangements with external experts to identify the relevant similarities and differences between what we do and what the research says. 1 2 3 4 5

Q4. CAN WE SUMMARIZE RESULTS IN A USER-FRIENDLY WAY?

- We have enough skilled staff with time, incentives, and resources who use research communication skills to present research results concisely, and in accessible language. 1 2 3 4 5
- We have enough skilled staff with time, incentives, and resources who use research communication skills to synthesize in one document all relevant research, along with information and analyses from other sources. 1 2 3 4 5
- We have enough skilled staff with time, incentives, and resources who use research communication skills to link research results to key issues facing our decision makers. 1 2 3 4 5
- We have enough skilled staff with time, incentives, and resources who use research communication skills to provide recommended actions to our decision makers. 1 2 3 4 5

Q5. DO WE LEAD BY EXAMPLE AND SHOW HOW WE VALUE RESEARCH USE?

- Using research is a priority in our organization. 1 2 3 4 5
- We have committed resources to ensure research is accessed, adapted, and applied in making decisions. 1 2 3 4 5
- We ensure staff is involved in discussions on how research evidence relates to our main goals. 1 2 3 4 5
- Management has clearly communicated our strategy and priorities so that those creating or monitoring research know what is needed in support of our goals. 1 2 3 4 5
- We communicate internally in a way that ensures there is information exchanged across the entire organization. 1 2 3 4 5
- Our corporate culture values and rewards flexibility, change, and continuous quality improvement with resources to support these values. 1 2 3 4 5



Email Invitation

Dear

As a senior clinician and researcher, I would like to invite you to participate in an individual interview to explore from your perspective what the facilitators and barriers to conducting research in a DHB may be, and what is needed to support translation of the outcomes to local practice.

Waitematā DHB, as the largest and fastest growing DHB in the country recognised the importance of strategically supporting research in 2015 with the establishment of a Research Governance Group to develop a Waitematā DHB strategy, and in 2016 with the Board endorsement of the Waitematā DHB Research Strategy 2020.

In the process of the strategy development, a key question arose, “Does research overall help to inform the DHBs purpose?”. The answer to this question is important for the iterative direction of the research strategy and to enhance the DHBs ongoing planning to support research capacity and capability.

My doctoral thesis attempts to address the question posed. In the process I have audited the Research and Knowledge Centre’s knowledge management database to describe the type and style of research conducted in the DHB. I have additionally conducted two surveys; the first surveyed a cohort of DHB researchers to establish the outcomes from their locality approved research; the second survey invited senior DHB staff to look at the organisation’s capacity to use research. The outcomes from the two surveys have highlighted areas that will benefit from more in-depth discussion.

For more information I have attached an information sheet. Your participation is entirely voluntary and you will not be individually identified in the report of findings. The interview can be at a time and place that fits best with your schedule. I would be grateful if you would respond to me with a “yes” or a “no”. If yes, I will then liaise with you to set up a suitable time.

Should you have further questions please email Lorraine.neave@waitematadhb.govt.nz or you may call me on my mobile 021495800.

Participant Information Sheet

Project Title

Does locally conducted research help inform a healthcare organisation's purpose? An in-depth review of research undertaken in Waitematā District Health Board. Part 4 - interviews

An Invitation

Hello, my name is Lorraine Neave. I am Manager of Research and Knowledge Centre at Waitematā DHB and a Doctor of Health Science candidate at Auckland University of Technology. I invite you as an experienced clinician researcher to take part in a face-to-face interview for my research study investigating whether research does help inform the DHBs purpose.

Your participation is entirely voluntary and whether you choose to participate or not will neither advantage nor disadvantage you. Additionally, if you agree to participate and then later decide to withdraw you are free to do so without having to give any explanation.

What is the purpose of this research?

Health and medical research is recognised worldwide as being integral to quality health care systems. In the 2016 the NZ government announced a funding boost for the Health Research Council (HRC) research grants, and in 2017 released the first ever NZ Health Research Strategy 2017-2027.

Waitematā DHB, as the largest and fastest growing DHB in the country had recognised the importance of strategically supporting research in 2015 with the establishment of a Research Governance Group to develop a Waitematā DHB strategy. In 2016, the Board endorsed the Waitematā DHB Research Strategy 2020. In the process of the strategy development, a key question arose, “Does research overall help to inform the DHBs purpose?”. The answer to this question is important for the iterative direction of the research strategy and to enhance the DHBs ongoing planning to support research capacity and capability. My doctoral thesis attempts to address the question posed.

Waitematā DHBs investment in managing its locality responsibilities in the past decade has allowed for an established repository of data (Research and Knowledge Centre’s knowledge management database) which I have thematically analysed to describe the type and style of research conducted in the DHB. I have additionally conducted two surveys; the first surveyed a cohort of DHB researchers to establish the outcomes from their locality approved research; the second survey invited senior DHB staff to look at the organisations capacity to use research. The outcomes from the two surveys have highlighted areas that will benefit from more in-depth discussion

The final outcome from this work will be presented as a report to the DHB Research Governance Group. Additionally, it will inform my qualification for Doctor of Health Science and provide the subject matter for journal publications and future research.

How was I identified and why am I being invited to participate in this research?

Selection of potential participants has been purposefully considered in discussion with colleagues in the Research and Knowledge Centre and my AUT doctoral supervisors. You have been identified as a potential participant because you are a Waitematā DHB staff member who is also a well-recognised researcher with the knowledge and experience to contribute to the discussion.

How do I agree to participate in this research?

If you wish to participate in this research you will be asked to sign a consent form, which will be provided to you before the interview commences. You will have the opportunity to ask any questions about the study before you sign it.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

If you agree to participate you will be asked to sign a consent form. The interview will take in the vicinity of **1 hour** depending on your available time, how the interview is proceeding, and whether the questions have been sufficiently covered. Interviews will be recorded and subsequently transcribed. I may also take notes during the interview.

You will be sent a copy of your interview transcript to review, with the options to correct or retract any parts or withdraw it from the study in totality. Use of the data from the interview will only be for the purposes for which it has been collected. For reporting purposes, the data will be aggregated and from this time removal of your data may not be possible.

Interviews will be held at a place convenient to you, this may be your office, or a meeting room.

What are the discomforts and risks?

It is unlikely that you will experience discomfort or embarrassment. You do not have to answer a question if you do not want to, and if you choose to discontinue the interview and/or retract information you may do this at any time up to 2 weeks after the interview transcription has been provided to you for review.

What are the benefits?

Benefits to you

You may not individually benefit from the research however the interview gives you the opportunity to describe your experience. The outcomes from this programme will potentially benefit research capacity and capability planning and support by the DHB moving forward.

Benefits to the primary researcher

I aim to answer the question “Does research overall help to inform the DHBs purpose?” that in turn will inform the Waitematā DHB Research Strategy 2020. The research will also inform my candidacy for the qualification of Doctor of Health Science and associated publications authored by me that may emanate from this.

Benefits to the organisation

Waitematā DHB has two priorities: i) to improve outcomes and ii) to improve patient experience. The findings from this research aim to help inform the DHB of the value of research effort and provide insight for the DHB to plan future strategic investment in research capacity and capability moving forward.

How will my privacy be protected?

The name of the organisation you work for will be named in the thesis, associated publications and reports. The information that you provide during the interview will be stored using pseudonyms (made up names) in place of your real name. I will be the only person who can match the pseudonyms to names. The reporting will be framed as much as possible to maintain your privacy however because of your research role in the organisation there remains a potential that your comments may identify you to others in the organisation and because of this your anonymity cannot be totally guaranteed.

What are the costs of participating in this research?

The interview will take more or less 1 hour of your time and your review of the transcribed interview will take an small additional amount of your time.

What opportunity do I have to consider this invitation?

I would be grateful if you would respond to me with a “yes” or a “no” within two weeks of receiving my invitation to interview. You can do this by email to Lorraine.neave@waitematadhb.govt.nz or by phone 021495800

Will I receive feedback on the results of this research?

The findings will inform my doctoral thesis for submission in 2019. A summary of the findings will be made available to you subsequent to this, and the outcomes will also be disseminated at relevant DHB forums, conferences and in journal publications.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Professor Duncan Reid, duncan.reid@aut.ac.nz, 9-9219999 x.7806.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTECH, Kate O'Connor, ethics@aut.ac.nz, 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Ms Lorraine Neave, lorraine.neave@waitematadhb.govt.nz, Phone 094868920 ext. 42112 or Mobile 021495800.

Project Supervisor Contact Details:

Professor Duncan Reid, duncan.reid@aut.ac.nz, 9-9219999 x.7806

Professor Brian McKenna, brian.mckenna@aut.ac.nz, 9-9219999 x.7507

Approved by the Auckland University of Technology Ethics Committee on 7/8/2018, AUTECH Reference number 17/204.



Consent Form

Project title: Does locally conducted research help inform a healthcare organisation's purpose? An in-depth review of research undertaken in Waitematā District Health Board. Part 4 Interviews

Project Supervisor: Professor Duncan Reid and Professor Brian McKenna

Researcher: Lorraine Neave

- ☐ I have read and understood the information provided about this research project in the Information Sheet dated 20/07/2018.
- ☐ I have had an opportunity to ask questions and to have them answered.
- ☐ I understand that notes will be taken during the interviews and that it will also be audio-taped and transcribed.
- ☐ I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- ☐ I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- ☐ I agree to take part in this research.
- ☐ I wish to receive a summary of the research findings (please tick one): Yes ☐ No ☐

Participant signature :

Participant name :

Date :

Approved by the Auckland University of Technology Ethics Committee on 7/8/2018 AUTEK Reference number 17/204

Introduction: Globally, health research accounts for a third to half of the improvements in health outcomes experienced over the 20th century and the 2016 New Zealand Health Strategy and the 2017 NZ Health Research Strategy 2017-2027 both acknowledge healthcare systems grow best practice through research.

From your experience...

1. Do you think locally conducted research does help to inform the DHBs purpose?
2. What has worked well for you with regard to the DHBs facilitation of research?
3. Have you encountered any barriers?
4. Even where the highest quality of research evidence is available there remains a “know-do” gap between what is known to work based on research evidence and what is actually done in practice.

What is your experience of translating the findings of your research to practice?

Appendix M. Confidentiality agreement - survey administration



AUT
TE WĀNANGA ARONUI
O TĀMAKI MAKĀU RAU

Confidentiality Agreement

Project title:

Does locally conducted research help inform a healthcare organisation's purpose? An in-depth review of research undertaken in Waitemata District Health Board.


Project Supervisor: **Professor Duncan Reid**

Researcher: **Lorraine Neave**

☐ I understand that all the material I will be asked to send is confidential.

☐ I understand that the emails I receive from survey respondents in relation to spot prizes will be managed confidentially and not discussed with the primary researcher.

☐ I will not keep any copies of the responder emails once the spot prizes have been distributed nor allow third parties access to them.

Survey Administrator signature : 

Survey Administrator name : Marie Arellano

Date: 21 Aug 2017

Project Supervisor's Contact Details:

Professor Duncan Reid, email duncan.reid@aut.ac.nz ; +64 9 9219999 ext. 7806

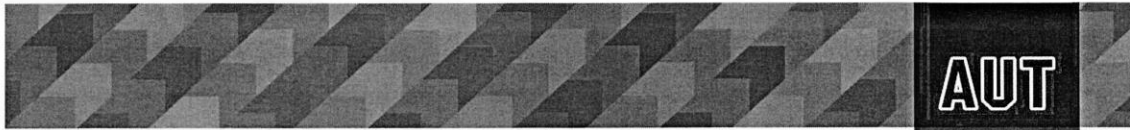
Waitemata DHB Locality Approval Reg no. RM13427 Does research overall help to inform the DHBs purpose?

Approved by the Auckland University of Technology Ethics Committee on 10 July 2017 AUTEK Ref no. 17/204

21 August 2017

page 1 of 1

This version was edited in July 2016



Confidentiality Agreement

For someone transcribing data, e.g. audio-tapes of interviews.

Project title: Does locally conducted research help inform a healthcare organisation's purpose? An in-depth review of research undertaken in Waitemata District Health Board

Project Supervisor: **Professor Duncan Reid and Professor Brian McKenna**

Researcher: **Lorraine Neave**

- ☒ I understand that all the material I will be asked to transcribe is confidential.
- ☒ I understand that the contents of the tapes or recordings can only be discussed with the researchers.
- ☒ I will not keep any copies of the transcripts nor allow third parties access to them.

Transcriber's signature: EB

Transcriber's name: Enka Hajdoo

Transcriber's Contact Details (if appropriate):

021 236 1408
enka@nztranscriptions.com
79 Riverstream Dr. RD2
Korokoro

Date: 3/9/18

Researcher Contact Details:

Ms Lorraine Neave, lorraine.neave@waitematadhb.govt.nz, Phone 094868920 ext. 42112 or Mobile 021495800

Project Supervisor Contact Details:

Professor Duncan Reid, duncan.reid@aut.ac.nz, 9-9219999 x.7806

Professor Brian McKenna, brian.mckenna@aut.ac.nz, 9-9219999 x.7507

Approved by the Auckland University of Technology Ethics Committee on 07/08/2018 AUTEK Reference number 17/204

Note: The Transcriber should retain a copy of this form.

**2013-2015 Interventional Research/Observational Research registered with Waitematā DHB
[NOT Commercial Industry Sponsored]**

RM number

Section A. Information provided from Locality Application Form;

1. Was a question/hypothesis/aim articulated? Yes/No
2. Was a research methodology described? Yes/No/Concept
3. Was a study proposal/protocol/ethics application attached with registration? Yes/No
4. Were the following evident from the information provided at the time of registration (including attachments)?
 - Literature was reviewed Yes/ No
 - Purpose Yes/No
 - Health disparities were considered Yes/ No
 - Method of data collection Yes/No
 - Type of analysis considered Yes/No
(may include a request for biostatistical advice)
5. If not available at time of registration was a study proposal/protocol/HDEC or IEC application subsequently available? Yes/No
6. If yes, were the following now evident?
 - Literature was reviewed Yes/No
 - Purpose Yes/No
 - Health disparities were considered Yes/No
 - Method of data collection Yes/No
 - Type of analysis considered Yes/No

Section B. Information gathered from online registration and/or the subsequent information request.

7. Is the Coordinating Investigator (CI) from; (where CI indicates lead site)
 - Waitematā DHB
 - Auckland Regional DHB
 - National DHB
 - Academic
 - NGO/Community
 - International collaborator eg. CRG
 - Research Institute
 - Industry partner (not commercial research sponsor)
8. Would I describe the CI as an experienced researcher? Yes/No /Not sure
9. Does the CI have a research coordinator to project manage the research? Yes/No /Not sure

10. Was an ethics committee review sought? Yes/No
- If yes,
- HDEC – Full pathway
 - HDEC – Expedited pathway
 - IEC – (name university)
11. Was funding sought? Yes/No/Not Stated
- If yes, was the type of funding described? Yes/No
- Funder type/name
12. Date of project registration
13. Date of HDEC/IEC approval
14. Date of management approval completed
15. Date of local resource approval completed
16. Date of Waitematā DHB locality approval
17. Date of provisional end date
18. Has a locality extension been required? Yes/No
19. Has an HDEC amendment been requested? Yes/No
- If yes, what was the reason given?
20. Has the project completed? Yes/No/Not known
- If No, what is the provisional end date listed in RM database?
- If Not known, what was the last contact date with researcher?
21. If completed, have the outcomes been disseminated? Yes/ No/ Not known
- If Yes, has this information been provided for record in RM publications module? Yes/No
- If No, is there a stated intention from the researcher to disseminate the outcomes? Yes/No
- If Not known what was the date of the last communication with researcher.