Thwarted Access: Navigating a Way Towards Enhancing Collaboration Between Public Health and Primary Care Practitioners

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Abstract

Many of the most urgent public health difficulties cannot be addressed by single agency interventions (Procter, Brooks, Wilson, Crouchman, & Kendall, 2015; Rawaf et al., 2018; World Health Organization, 2008); instead requiring collaboration across public and private sectors. For the past two decades, the New Zealand Ministry of Health (MoH) (2001, 2011, 2016) and World Health Organization (WHO) (2008, 2014) have directed greater collaboration between primary care and public health. Collaboration strengthens combined skills to expand reach, enhance healthcare delivery, and reduce duplication. However, when this research commenced, there was limited evidence determining how primary care and public health practitioners were collaborating.

This research took a qualitative method using grounded theory/grounded action principles and processes to examine how public health and primary care practitioners collaborate, determining what practitioners do to manage any concerns arising, with view to developing an actionable plan to resolve such issues. Phase one explored findings from twenty-one interviews with three general practitioners (GPs), six practice nurses, ten public health nurses and one public health officer, using grounded theory methods of constant comparative analysis, theoretical sampling, theoretical coding and theoretical sensitivity.

"Thwarted access" was identified as the main concern, whereby practitioners had difficulty in both gaining access to the other practitioner, and in achieving understanding on ways of working together on client care. "Thwarted access" was mediated by integrating codes of time and geography, knowledge and roles, and power and responsibility. The core category "Clearing the way" represented the way practitioners managed these issues, as practitioners sought to make collaboration work using solution focused methods to try to resolve or move around barriers to collaboration. The category "controlling workflow" portrayed ways practitioners gain access and transmit information, by moving between "managing bombardment", "channelling information" and "selective knowing". The category "navigating responsibility" was concerned with what happens once practitioners are collaborating around care, using one of three sub-categories: "assuming responsibility", "shifting responsibility" or "balancing responsibility".

Phase two involved developing actionable opportunities from the identified concerns and existing resolutions. Due to time constraints presented by the professional doctorate process, the usual final stage of implementing action cycles was omitted from this research. Four actionable categories of "accessing", "promoting", "informing" and "collaborating on care" provided resolution for the concerns expressed and formed the basis for the developed action plan.

One of the main impediments to collaboration was a lack of knowledge about roles and functions, combined with limited understanding around best ways of working together. There was no collaboration on identifying population issues. Practitioners worked by resolving immediate concerns without considering how more permanence could be developed, with minimal resultant gain in understanding of roles and functions. Significant issues impacting on developing working relationships included structural funding issues and relational power issues between doctors and nurses. Whilst local action may be taken to influence change, implementing national changes encouraging some joint education between doctors and nurses, and changing the pay structure of primary care practices would have a wider impact on collaboration.

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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.

Signature:

Hilary McCluskey: 3/7/2019

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Completing a thesis of this nature builds on the support, help and belief of many communities of people. For me, the journey began many years ago with my grandfather fostering a sense of the importance of inquiry and challenge. He did not have the chance to pursue his educational dream formally yet encouraged and promoted learning throughout his life. His belief in me, and in possibility, lit my interest in education and progression, and fired my passion for continuing to strive for change. My mother fought adversity with courage and determination, modelling and encouraging the persistence and resolution needed to complete this programme.

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Perhaps my young granddaughter most succinctly expressed the dichotomy presented in undertaking a research journey, when talking with me and her mother on skype. "Why has Nana gone back to school to do all this writing? Oh well, perhaps she just has to do it." A question I have pondered many times. The purpose of this journey has been to discover what needs to change so that change can happen; I am sure I join with many researchers in saying we just keep going, until it is done.

Chapter One: Introduction

Initial interest

My first experience with public health nursing towards the end of my student nursing years transformed my outlook on health and nursing, my career and my personal world. Journeying towards promoting well-being and ill-health prevention made sense of the nurse education I had completed and added resonance to the adage "prevention is better than cure".

My experience as a public health nurse and manager endorses the need for collaborative practice between public health and primary care teams, whilst also recognising that there are significant challenges to collaboration. Moving from public health nursing positions in the United Kingdom to New Zealand, I was struck by the health disparities in the communities I worked in, and by differences in ways of working between agencies. One such difference was in the inter-relationships between primary care and public health nurses, which appeared to be more problematic in New Zealand, even though public health nursing in both countries pre-dates the existence of the respective current health services. I became curious from my own experience and those I was hearing from others, regarding what issues are impacting on collaboration, and considering how this affects practice. In this study, I endeavoured to determine what the main concerns are for public health and primary care practitioners collaborating at practice level, and how they resolve these, with view to developing an action plan to enhance collaboration.

Whilst public health and primary care roles differ, they share some common purpose; both agencies work in communities in New Zealand to secure health and encourage equity in accessing primary healthcare. Working more collaboratively can strengthen primary care functions of improving health access, providing universal coverage, and improving health outcomes (S. Lovell & Neuwelt, 2011; Martin-Misener et al., 2012; Neuwelt et al., 2009; Valaitis, O'Mara, et al., 2018). Public health nurses have greater reach into homes and schools and can link families with primary care practices, other agencies and their communities. In this thesis, the term public health practitioner has generally been used to represent any practitioner working within the public health

team. However, sometimes assertions are made specifically about public health nurses, where the activity is exclusively carried out by the nurses and is unlikely to be undertaken by public health medical officers or others.

Introducing primary care and public health collaboration

The WHO advised that global health for all needs to be achieved by moving beyond disease management of individuals, to promoting population or public health (WHO, 1978). Public health focuses on the prevention of disease and promotion of health; including health protection, health promotion and health education alongside surveillance and monitoring preparedness for response (WHO, 2002). "*The declaration of Alma-Ata*" (WHO, 1978) promotes primary healthcare as the principle means of driving public health.

There is a dichotomy on what is understood by primary care and primary healthcare (Shoultz & Hatcher, 1997). Primary healthcare embraces using universally available health systems to achieve individual and community (population) health goals through fully participative healthcare, in a way that is socially and economically viable for the country (WHO, 1978). Whilst primary care is the point of entry to health services, in the New Zealand context primary care has traditionally focused on personal (individual) health outcomes rather than disease prevention or searching for population health needs (S. Lovell & Neuwelt, 2011). The point of difference between the two definitions is around the breadth of health provision, and the range of agencies engaging in public health. However, the New Zealand MoH used the term primary healthcare to refer to health provision within general practice, creating further confusion:

> Primary healthcare relates to the professional healthcare provided in the community, usually from a GP, practice nurse, nurse practitioner, pharmacist or other health professional working within a general practice. (MoH, 2019c, p. 1, accessed 3.6.2019)

To avoid confusion, this thesis used the term "primary care" to refer to healthcare managed in general practices, and "primary healthcare" to refer to all healthcare provided in community settings. Reflecting their emphasis on managing disease, primary care practitioners generally use the term "patients" for their customers. In contrast, public health practitioners are working primarily with prevention and early

intervention, referring to their customers as "clients". Given that the term "clients" can encompass those that are well and ill, this term has been used universally throughout this thesis, excepting where the discussion is centred solely around GP activities or in participant quotes.

Many academics and agencies advocate that public health needs multi-agency intervention to be effective (Kvarnstrom, 2008; Monsen et al., 2014; Procter et al., 2015; Rawaf et al., 2018; World Health Organization, 2008). Significant examples of the need for co-operative working between agencies include working to prevent avoidable hospitalisations in New Zealand, on health issues such as reducing rheumatic fever, skin infections, avoidable respiratory conditions and obesity. In line with WHO recommendations, New Zealand health strategies (MoH, 2001, 2011, 2014b, 2016) call for integrated service provision between primary and secondary health services, and between primary care and public health, to address continuing inequalities in health outcomes between different ethnic and socio-economic population groups. Primary care is a place where public health tasks can be built and strengthened by promoting greater collaboration between primary care and public health, thereby using complementary skills from each service for mutual benefit to achieve efficiency (Rawaf et al., 2018).

While both WHO and New Zealand MoH clearly indicate the importance of collaboration, (MoH, 2001, 2016; WHO, 1978, 2008, 2014), it is not as clear from existing evidence how much collaboration is actually occurring between public health and primary care practitioners in New Zealand. Certainly, there is research indicating there are difficulties between primary care and public health practitioners in other countries:

> Although public health and primary care share the goal of promoting health and well-being of the public, the two health sectors find it difficult to develop mutually integrated plans and to collaborate with each other. (Storm, van Gestel, van de Goor, & van Oers, 2015, p. 1)

This study investigated how primary care and public health practitioners collaborated and sought to provide information on what was happening locally. Determining what practitioners were doing to resolve or manage any issues arising from collaborative

attempts provided additional information, which contributed towards the development of an action plan, designed to facilitate collaboration between primary care and public health practitioners.

The following sections explore the nature of collaboration initially, before considering public health and primary care in the New Zealand context. This includes a brief exploration of some health disparities highlighting the need for improvements in public and community health working in New Zealand. The following section outlines the political framework supporting collaboration between public health and primary care.

The final sections provide rationale for selecting the research methodology, before outlining the structure of the thesis.

Collaboration

Collaboration between two or more services has the potential to bring positive attributes of each service to healthcare delivery, enhancing service delivery and eradicating duplication of effort that may occur when services work alone (Kvarnstrom, 2008; Monsen et al., 2014; Rawaf et al., 2018). In everyday terms, collaboration may refer to anything from simple communicating around a shared aim or health concern, through to developing complex shared care plans, or joint programmes with identified individual roles and responsibilities for each of the practitioners involved:

> The term collaboration conveys the idea of sharing and implies collective action oriented toward a common goal, in a spirit of harmony and trust, particularly in the context of health professionals. (D'Amour, Ferrada-Vidella, San Martin Rodriguez, & Beaulieu, 2005, p. 116).

Using professional expertise from each of the involved services, collaboration achieves more than could be achieved by individual services (Kvarnstrom, 2008); bringing benefits of sharing processes in larger groups, combining knowledge and roles, and gaining validation (Monsen et al., 2014).

Different terms are used in the literature to examine inter-relationships between professionals, ranging from integration through to collaboration. These terms can be confusing as the same term may be used interchangeably or may be used to refer to something different. Integration often refers to professionals working from the same

premises, or in the same organisation, or it may be used to describe professionals incorporating principles and practice more frequently encountered in another discipline (Rawaf et al., 2018). Where integration is taken to mean shared principles rather than shared employers or premises, there is overlap with collaboration when following the definition above (D'Amour et al., 2005). The context of public health and primary care is discussed in more detail in the following section. However, they usually work in separate organisational structures in New Zealand, linking through shared health objectives for clients. In this thesis, the term collaboration represented all intra-professional interactions between practitioners from brief information seeking or information giving through to more actively working together, reflecting and encompassing participants' expressed concerns.

An example of the inter-relationship between primary care and public health is when public health nurses facilitate and promote uptake of primary care services for those who are not registered with general practice, or who are registered but have not accessed primary care. In the New Zealand context, some Maori and Pacific people have more difficulty accessing primary care (Matheson, Reidy, Tan, & Carr, 2015) for a number of reasons, including cost (Jatrana, Crampton, & Richardson, 2011; Loh & Dovey, 2015; Matheson et al., 2015). As these population groups have a greater relative morbidity across many chronic diseases and some infections, ways of achieving greater access to healthcare remain important.

Context of public health and primary care in New Zealand

Health systems differ globally, with financial, political and structural differences in primary care impacting on population health and individual health outcomes. There are also significant global differences in ways public health is organised and structured. Given that public health responds to the needs of local populations, different disease burdens between nations influence public health work undertaken. Moreover, organisational constraints and complexities impacting on professionals may also affect collaboration (D'Amour et al., 2005).

For the purposes of this study, it is necessary to consider the New Zealand context surrounding public health and primary care. Public health teams are usually multi-

disciplinary, comprising of a range of professionals which may include medical officers, public health nurses, screening technicians and others. Public health roles overlap with practice nursing roles and sometimes GPs, so there is opportunity for co-working between these professionals (Tenbensel, Cumming, Ashton, & Barnett, 2008). Location and role specificity of public health nurses vary across New Zealand. In one locality, public health nurses are situated in both primary care practices and in the District Health Board (DHB), with each having different functions. In one region the communicable disease aspect of public health nursing is separated into a regional specialist public health team, whilst local public health teams in each of the three DHBs in this region prioritise reducing health inequity, promoting health and well-being, immunisation in schools, and reducing avoidable hospitalisation in children and families. Elsewhere, public health nurses fulfil a range of functions from managing communicable disease, immunising and linking with schools, supporting population health or community initiatives, through to responding to individual health needs.

Unlike some countries, there is currently no mandated education for public health nurses in New Zealand, with some nurses entering public health nursing as their first graduate role. Public health training and education is therefore dependent on what individual organisations and local nurse educators provide, rather than being a coordinated education approach offering universal principles and practices with centrally established aims.

In most areas, public health nurses are situated in DHBs, rather than primary health organisations (PHOs), although their role does not align with the secondary care model of healthcare normally ascribed to DHBs (Hansen, Carryer, & Budge, 2007). Secondary services provided by DHBs are free to residents and citizens of New Zealand. They generally use a medical model of care, focusing around specific diagnoses made by medical or nurse specialists. Links between public health and secondary acute care are limited to preventing hospital admissions and providing specific programmes such as managing prophylactic administration of antibiotics to children who have been discharged from hospital after rheumatic fever. In contrast to this, public health nurses outreach into the community to search for health needs, and receive referrals from a range of settings including schools, GPs, parents, other agencies or non-government

organisations. Work is informed by underlying principles of prevention and early intervention, with a fundamental philosophy of facilitating whanau/family to access primary care facilities, and of reducing avoidable hospitalisation. Models of care align more readily with models of health incorporating family or whanau understanding such as "*Te whare tapa wha*" and "*Te pae mahutonga*" (Durie, 1994, 1999) (Appendix K, p.254). Despite the seemingly philosophical differences between core work of public health nurses and their colleagues in the DHBs, research undertaken by Hansen et al. (2007) indicated that public health nurses preferred to remain within DHBs, rather than being sited within PHOs or general practices. Advantages were perceived to be a capacity to practice autonomously and being located within supportive child health teams providing a qualitative structure. There was some concern that moving to PHOs might limit nursing innovation and community working, as doctors would direct their work. In the practice-business environment of primary care practices, public health nurses thought they would lose the ability to plan and implement preventive work. Public health nurses perceived that they were more able to collaborate effectively with primary care providers when not controlled by them. The participants expressed concerns around funding allocation, which favours acute care in the DHBs, expressing some anxiety around less established relationships between public health nurses and practice nurses.

PHOs are coalitions of health providers in the community, including general practices (MoH, 2001). General practice budgets are comprised of government-funded capitation budgets (allocated by the PHOs based on the number of patients registered), alongside practices' own fee-setting structures. Funding is paid by the ministry to DHBs, with set amounts allocated to PHOs, who in turn fund primary care practices. The DHBs are therefore both providers and funders of care. Primary care capitation fees are adjusted according to age distribution, gender, ethnicity and deprivation quintile. There are additional financial incentives supporting current health initiatives (Finlayson, Sheridan, Cumming, & Fowler, 2012). Children under fourteen can receive free general practice services, but all other clients pay charges, although practices may subsidise costs for those on benefits (Matheson et al., 2015). General practices operate as independent businesses, and there is some tension between the efficiency and accountability functions of PHOs and general practices, with PHOs having limited authority to act

against practices that do not conform to accountability expectations. Nevertheless, there is an expectation that PHOs and primary care practices will search for local health needs and provide population health response; this expectation is funded through the DHBs (Ministry of Health, 2001, 2011, 2016; Neuwelt et al., 2009).

In principle, public health and general practice have much in common (Storm et al., 2015), and the shared purpose of reducing the ill-health burden in local populations could provide an underpinning philosophy for collaboration (MoH, 2001; Rawaf et al., 2018). However, as already described, general practices are partially funded through a business model, partially dependent on revenue from patients/clients which is paid when GPs or practice nurses treat illness rather than providing preventive services. Similarly, the need to secure revenue prejudices time allocated for GPs and practice nurses to train and develop skills to work with new approaches (Bradley & McKelvey, 2005). Practice nursing roles are determined by employer GPs, with only partial recognition of possible extended roles (Finlayson et al., 2012; Gardner, Chang, & Duffield, 2007; K. Hughes, 2015). Although Finlayson et al (2012) observed that globally, nurses conduct 80% of primary care, and are well-equipped to provide innovative solutions to population health challenges alongside their public health colleagues, there are relatively few nurse leaders and nurse practitioners in primary care settings in New Zealand (Carryer, 2017):

> Fundamentally, the new arrangements have continued the juxtaposition of public funded PHOs and private enterprise general practice. For many practices, GPs' incomes are still dependent on their number of patient visits. The changes to the funding of PHC services, therefore, have not gone far enough. (Finlayson et al., 2012, p. 127)

Whilst some general practices are progressively seeking to focus more closely on PHO aims to seek ways of working with other services in DHBs, others resist outside links or connections (Neuwelt et al., 2009). Pressure on GPs to achieve government targets can provide some incentive towards enlisting general practices in collaborating to achieve a healthier population model.

Collaboration between primary care and public health offers a more holistic approach to identifying and responding to the wide range of population issues affecting health inequalities in local communities in New Zealand. Unhealthy lifestyle choices and

chronic disease prevalence amongst Maori and Pacific populations, and amongst those living in lower socio-economic areas, is higher than for those living in the least socio-economically deprived areas. For example, 15.7% of all adults smoke tobacco in New Zealand, whilst 34% of Maori adults and 23% of Pacific adults smoke (MoH, 2019a; 2019b).

Population health issues for children reflecting those health inequalities which may result in avoidable hospitalisations include rheumatic fever, skin infections and cellulitis, ear infections, and respiratory conditions including uncontrolled asthma. Such health conditions result in loss of social, economic and emotional capital to affected families, alongside significant financial outlay by the health services. Overcrowding and damp housing can exacerbate these health issues. Obesity and overweight are acknowledged as one of the biggest health crises of our times in New Zealand and the wider OECD (MoH, 2019a; Monsen et al., 2014). In 2017-2018, 32% of all adults and 12.4% of children in New Zealand were obese, but children living in the most socio-economically deprived neighbourhoods were 2.5 times as likely to be obese as children living in the least deprived neighbourhoods, when adjustments were made for age, gender and ethnicity (MoH, 2019a). Addressing obesity requires collective input across primary, secondary and public health, education, food industries, town planners, transport agencies and government policy and law (Kelly & Swinburn, 2015; Theodore, McLean, & Te Morenga, 2015; Vandevijvere & Swinburn, 2015).

Collaborative working on these health issues and others could improve health outcomes for children and reduce potential inefficiency where several agencies are working with the same issues (Neuwelt et al., 2009). Public health nurses work with families and can assess any adverse conditions in homes that may impact on health and apply measures to rectify such issues, as well as making practices aware of such risks affecting their clients. Aside from being able to provide health education and support in schools and with the family at home, public health nurses have links with other community agencies and non-government organisations that primary care may not have time to acquire and can act as a bridging agency to ensure clients and families get the ongoing support they need. Public health therefore offers primary care an opportunity to take health changes beyond the confines of primary care practices and

into the lives of families (Rawaf et al., 2018). Potentially, practice nurses or GPs may develop plans of care, with public health nurses supporting families to implement those plans in their day to day lives. Conversely, primary care may be the first point of entry into healthcare systems and offers responsiveness, access to early surveillance and the capacity to collect and analyse data to determine population need (Levesque et al., 2013). From a communicable disease perspective, public health offers primary care a specialist advisory service, often contact tracing or advising on the same, and isolating individuals and families who require treatment. Primary care contributes detection of initial disease through rigorous testing, and notifying public health of health risk (Levesque et al., 2013).

Whilst this section has considered how primary care and public health are organised in the New Zealand context, including the importance of working together to reduce health inequalities, the two health sectors are subject to political directives and strategies. National policies directly influence public health and primary care aims and activities, advising better integration and/or collaboration. The following section details such influences.

Political Perspectives on Collaboration

New Zealand health service directives and foundation principles embrace notions of universal access without barriers, equal access to the same standards of treatment, improving population health with a preventive focus, and integrating services between primary and secondary care. These same principles have been endorsed by the WHO (2014), urging health reform to enable affordable access to quality healthcare services, with emphasis on addressing disparities in health outcomes through preventive measures. For example:

> …[*the New Zealand Health Strategy*] puts greater emphasis on maintaining health, health literacy and illness prevention to reduce future demands and allow New Zealanders to live well, stay well and get well. (MoH, 2016 p.11).

Several of the five key strategies (MoH, 2016) are relevant to focusing on population health and health prevention, and on improving collaboration between primary care and public health. "People powered" (p.15, MoH, 2016) includes people being able to navigate through the health system and improving health literacy – both areas that

have been traditionally undertaken by public health nurses (Wood, 2008). It also discusses reducing access difficulties to address inequalities. "Closer to home" advises on integrating health services, with better connections to the wider public, and promoting wellness through population-based health and targeted approaches to personal health. "One team" discusses strengthening professional roles, and working together with clients, and family/whanau at the core of care (MoH, 2016, p. 15).

Both DHBs and PHOs are accountable for searching for health needs (MoH, 2000, 2001, 2011, 2014a, 2014c) , and for involving communities in collaboration to design appropriate, culturally sensitive healthcare approaches (Ashton, Mays, & Devlin, 2005; Baggot, 2011; Gauld, 2013; MoH, 2006, 2011; Tenbensel et al., 2008). "*Better, Sooner, More Convenient Healthcare in the Community*" (MoH, 2011) addresses the lack of connection and collaboration between primary and secondary care, by encouraging innovation, and emphasising principles of responding to local health needs using community participation. There is an expectation of seamless continuity of care between primary and secondary care (MoH, 2001, 2011), and on improving population health outcomes.

Although government provides clear directives and expectations, it is individual organisations and practitioners who hold responsibility for creating and organising systems and care interventions. Whilst this may stimulate innovation, there are also risks; DHBs and PHOs are working on achieving the same targets for their populations, but there is often little discourse or awareness of what has already been tried and found to be effective or ineffective. Moreover, initiatives may be dependent on particular practitioners, and when they move on, projects/initiatives flounder (Lovelock, Martin, Cumming, & Gauld, 2014). Finally, in practice, the health service budget continues to be spent mainly on acute or chronic individual care, rather than primary care or prevention (Gauld, 2013; Lovelock et al., 2014; Tenbensel et al., 2008), although arguably population health has more potential for improving health outcomes (Tenbensel et al., 2008).

Significance of study

Primary care and public health share some common aims situated around public health principles of improving health outcomes and preventing disease, and providing universal health cover, health protection and health promotion. Each group of practitioners have skills which would add benefit to the others' work in improving health outcomes (Levesque et al., 2013; S. Lovell & Neuwelt, 2011; Martin-Misener et al., 2012; Neuwelt et al., 2009; Rawaf et al., 2018; Valaitis, O'Mara, et al., 2018). In addition, global and national directives advocate collaborative practice between public health and primary care practitioners to achieve these aims (MoH, 2001, 2011, 2016; WHO, 1978, 2002, 2008, 2014)   .

Collaboration between professionals serves to combine skills and reduce work repetition (D'Amour et al., 2005; Monsen et al., 2014); and collaboration between primary care and public health practitioners would increase scope and breadth of practice as it combines responding to illness occurring within general practice with the wider reach of the public health teams within community settings (Neuwelt et al., 2009; Rawaf et al., 2018; Storm et al., 2015). A further benefit is that public health practitioners facilitate sectors of the population with poor determinants of health to access primary care and prevent hospitalisation.

However, initial indications from extant literature at the time of commencing the study suggested that from an international perspective, collaboration was often created for the purposes of specific research projects and was not common practice (Levesque et al., 2013; Monsen et al., 2014; Silva, Cashman, Kunte, & Candib, 2012). International research found that it may be difficult for primary care and public health practitioners to work together (Storm et al., 2015). Furthermore, there is no research focusing specifically on collaboration between public health and primary care undertaken in the New Zealand setting, and so there is limited information currently on what collaboration is occurring, or how practitioners are resolving any concerns that present when collaborating.

This study explored collaboration in the context of a large city within New Zealand. The resulting findings provided information on how primary care and public health

practitioners are collaborating and how they manage presenting barriers. Grounded action procedures were used to develop an actionable plan with broad conjoint resolutions, after first determining practitioner concerns with their current responses. Some of the challenges reflect structural tensions within the health service; these cannot be resolved by the development of a local actionable plan, posing questions on whether collaboration can be fully achieved within the current funding structure in New Zealand.

Research in context of the DHSc programme

Research is one element of leadership in context framing the DHSc programme, which is a professional doctorate where the project undertaken will contribute to developing change within the student's work or workplace. Three papers preceded the research component of the programme, and each of these considered elements of leadership in the context of the student's workplace alongside reading and assignments preparing for the research undertaken. Practice and Philosophy offered students an opportunity to consider philosophy supporting methodology the student may use, alongside a literature review exploring the intended project or area of research; health systems analysis expanded the student's knowledge of the project or research topic in differing contexts and considers political frameworks supporting the topic, whilst the third paper supported the proposal for application to undertake the research. The overall focus of the DHSc is that it is integrated and embedded in the professional work the student is undertaking, rather than being separate.

As I had recently been appointed into an acting management position when I commenced the DHSc programme, I had initially intended to research leadership in public health. However, as there was already extensive literature on leadership, I returned to the concerns frequently expressed by public health nurses on difficulties they had in collaborating with primary care. The wider public health nursing team was already reviewing working with children and their families and working with schools. We developed a four-year plan incorporating different stages. The first stage reviewed collaboration in schools; questionnaires were sent out to schools using an on-line survey method asking principals and deputy principals for their feedback on their understanding of the different services provided. This was completed relatively quickly

and enabled some changes where improvements were needed to facilitate co-working. The second stage was more difficult and involved obtaining simple feedback from children and their families, relating to specific public health nursing activities. An initial report was compiled, with a literature search, but work to develop an ongoing feedback process for children and their carers to use is continuing. This research informed the third stage, relating to collaboration between public health and primary care.

Combining concerns gathered from practitioners' stories with national and international calls to improve collaboration, I determined that change may be needed to enhance collaboration between public health and primary care practitioners. However, a preliminary literature search revealed that there was little current information on collaboration between primary care and public health practitioners, and almost no specific research on this conducted in the New Zealand setting. The roles and functions of public health practitioners vary significantly between nations, which means that research from one country or principality may not be generalisable to other countries. Further information was needed on collaboration between public health and primary care practitioners, in the New Zealand context, before any action plan could be considered. Participative action research alone would not be appropriate as it did not afford the opportunity to first determine what was currently happening between primary care and public health practitioners in New Zealand, and there was insufficient information to construct initial action plans. It was also likely that recruiting co-collaborators from primary care (and possibly public health) would be challenging, as it was not clear that primary care practitioners were aware of any need for collaboration. This would present difficulties in an action research context, as participants need to be partners in the development of the action plan, potentially requiring significant amount time to procure engagement and gain trust, with possibility of non-achievement over time available.

Furthermore, I hold line responsibility for my public health nursing team and there would be ethical considerations around undertaking participative research with them when I continue to manage their work output. In this context, it might be difficult to manage action cycles. Alternative approaches were considered, and the selected research design is outlined in the following section.

Research methodology and design

The initial purpose and interest in developing the research was to facilitate change in practice. The research aimed to establish how primary care and public health were collaborating, including what practitioners were doing to manage or resolve issues currently, before developing an actionable plan to inform a planned change project. Given the challenges of putting potential preconceptions to one side arising from my significant personal experience in public health prior to undertaking the research (Glaser & Strauss, 1967; Simmons & Gregory, 2003), alongside the use of a participant information sheet which may have 'set up' a focus on specific concerns (Appendix B, p.237), a qualitative study using grounded action principles and processes based on the model proposed by Simmons and Gregory (2003) was selected.

While a detailed explanation of the methodology is provided in the methodology chapter, in short, the selection of a qualitative methodology using grounded action principles and processes is underpinned by grounded theory. Grounded theory uses an iterative process to establish what is happening in a given social situation, and develops explanatory theory based on the findings (Glaser, 1978; Glaser & Strauss, 1967). Grounded action processes and principles are built on grounded theory, using the theory to ground the action plan, alongside further collections of information which may inform the wider picture such as what local policies need to be applied, or how structural context may impact on the developing theory. Grounded action applies systems theory to grounded theory methodology, taking a systematic approach to uncover variables in micro and macro-contexts (Simmons & Gregory, 2003). Ordinarily, once the operational theory is established, an action plan is applied to practice, and action cycles are evaluated through whatever outcome measures have been pre-determined. However, given that this was a qualitative study, the outcome from the research was the development of an actionable plan, with implementation to take place outside of this thesis.

Within the context of a qualitative study using grounded action processes, the design of the project included participants from primary care practices and public health teams. Data collection and analysis used grounded theory processes initially, and an actionable plan was then formulated from the findings, using methods proposed by Simmons and

Gregory (2003). A principal aim in grounded theory is to identify the main concern of participants. As with grounded theory, the interviews in this study used an initial open question broadly around the theme of "Can you tell me about your day to day work". Further questions within the interview followed the practitioners' statements and stories, which related to collaboration. Although collaboration was not specifically asked about initially, it was a topic area that many of the practitioners focused on. It may be argued that the participant information sheet had pre-determined the topics of discussion which the practitioners presented, as this did provide information on the intention to explore collaboration. Information sheets are a prerequisite for ethical approval, and any predetermination may therefore have been unavoidable, necessitating the need for qualitative descriptive research using grounded theory/grounded action principles and processes.

Thesis Structure

The thesis is presented in nine chapters.

Chapter One explores the beginning interest leading into an introduction of concepts of public health and primary care. Strengthening collaboration between public health and primary care practitioners is introduced as a way of identifying and meeting public health needs in New Zealand communities. Structural, social and political contexts provide some background to the need for such research. The rationale for the chosen research methodology is then expounded. A brief section is provided on the structure of this thesis.

Chapter Two provides an explanation of the need to limit the literature search in grounded theory studies to a brief initial consideration of research interest. This is followed by analysis of research examining what public health is being undertaken by primary care practitioners, followed by literature using collaboration between primary care and public health, in global contexts. The chapter proposes that global research may not be transferable to the New Zealand context, before considering the limited research available on collaboration between primary care and public health in the New Zealand context.

Chapter Three presents the methodology selected for the study, as a means of determining actionable problems from which an action plan could be developed. The chapter briefly explains qualitative research, as a background for developing a qualitative study informed by principles and procedures of grounded theory/ grounded action. Philosophical roots of grounded action describe the relationship with systems theory, followed by the emergence of grounded theory as a historical moment, with subsequent evolutions of grounded theory over time. Core elements of grounded theory are summarised before considering how rigour is maintained. Additional steps undertaken in grounded action consider how the explanatory theory developed by classic grounded theory is moved into an operational theory using the same grounded processes, which is then translated into action to be tested through further grounded research. Finally, ethical considerations are considered.

Chapter Four presents the methods used, beginning with obtaining ethics approval, procuring locality agreements, and recruiting participants. This chapter then demonstrates memoing and coding processes to analyse interview data. Dilemmas on identifying the main concern are discussed, before examining the process of categorising the emerging concepts and ordering these into actionable problems and opportunities. Interplay between coding, memoing, developing concepts and examining and re-examining data was illustrated in this process, as was the need for further theoretical sampling. Finally, the chapter discusses determining an actionable plan from the actionable problems and opportunities. Re-engagement with practitioners facilitated checking of the findings and the social and geographical construct within which practitioners worked so that the emergent action plan could be grounded within parameters of the practitioners' working environments and structures.

Chapter Five demonstrates concerns emerging and focuses on the main concern, "thwarted action". The core category, "clearing the way", is also presented as the way practitioners arrange for their concerns to be managed.

Chapters Six and Seven demonstrate categories and sub-categories relating to "clearing the way" or how practitioners are currently managing their concerns, with chapter six focusing on the category "controlling workflow", which describes concerns practitioners have in trying to procure initial contact with their opposite practitioner. Detailed data

analysis relating to three sub-categories of "managing bombardment", "channelling information" and "selective knowing" is provided.

Chapter Seven focuses on the category "navigating responsibility", explaining how practitioners manage working together once they have made contact, through sub-categories of "assuming responsibility", "shifting responsibility" or "balancing responsibility". Examples of data relating to each of these sub-categories are provided.

Chapter Eight examines the development of the actionable plan, demonstrating how the actionable plan emerges from actionable problems and opportunities identified in the findings. Social and political challenges to meeting the desired outcomes are evaluated, before considering what action could be determined. Four emergent actionable opportunities/categories are developed and integrated – "promoting", "accessing", "informing", and "collaborating on care". A final section on moving forward considers where each change needs to be located and provides rationale for this.

Chapter Nine provides a discussion, considering findings in the context of published research. Findings were considered and compared with wider extant literature on mandating, power and authority, nursing roles and hierarchy, alongside recent literature on collaboration. Action challenges are presented, encompassing ideological and location tensions between practitioners. The final sections consider the limitations of the research, opportunities for further research, and discuss methodological considerations encountered, with implications to be considered beyond this research.

Glossary – assertions have been made earlier in this chapter on terminology used in this thesis, and further definitions of terms are located in the glossary section. One further assertion remains. Where pronouns are required, "they" is used and may indicate either singular or plural, that is it may replace "he" or "she" or may refer to multiple people. This is to maintain gender neutrality and reduce iteration of multiple terms.

Chapter Two: Literature Review

This qualitative study using principles and procedures of grounded theory and grounded action necessitated careful consideration of the appropriateness of conducting a literature search. This chapter initially explores the ideological position of literature review within the context of grounded theory before briefly surveying the literature on community health-focused collaboration. There has been extensive research on collaboration between health professionals, and particularly between doctors and nurses, in acute healthcare settings. In contrast, relatively little research explores relationships or collaboration specifically between public health practitioners and primary care practitioners. For brevity and relevance, the literature review has only drawn from research featuring collaborative relationships including public health and primary care practitioners, omitting collaboration in relation to acute care. Search terms included combinations of: "population health", "public health", "primary care", "primary healthcare", "community nursing" "primary care practice" "public health practice" and one of either "collaboration", "integration", "cooperation", "participation". Several search engines were used: Scopus, Ebsco Health, Google Scholar, Medline, and Cinahl.

As indicated in the introduction, the WHO (2008) advocated for primary care to be undertaking public health functions, and recognised that modern primary care emerged when global health inequalities became a global concern. One recent paper advised that in relation to public health, primary care has three main elements: providing primary care and public health functions as a core of integrated services; engaging in multi-sectorial policy and action; and empowering people and communities (Rawaf et al., 2018; WHO, 2008). Whilst this research focused on collaboration between primary care and public health, it is useful to explore what information can be gleaned from the literature on the extent to which primary care engages in public health activities and initiatives, embracing both population health and individual health prevention, health promotion and screening to provide early detection of disease. This will provide some information on activities which both primary care and public health are currently concerned with, providing a common purpose for collaboration.

Collaboration was then appraised internationally and in a New Zealand context. This integrated broader (generic) research examined collaboration between primary care and public health as the main focus, alongside research primarily identifying collaboration in the context of specific health conditions, such as overweight and obesity or asthma. The chapter concludes with a summary identifying gaps in existing knowledge.

Literature review in methodological context

Glaserian grounded theory principles, used to inform this qualitative descriptive study, were considered in this section. Glaserian grounded theory provides a theoretical underpinning of grounded action. This section will describe essential tenets of Glaserian grounded theory, and the link to grounded action principles will be assumed from hereon. As literature reviewing was not specifically mentioned in Simmons and Gregory's(2003) seminal paper on grounded action, their consideration of literature reviewing will be assumed to relate to that propounded by Glaser (1978, 1998). However, it is worth noting these authors highlighted the importance of suspending the action problem before conducting research, which complements considerations described in the following paragraphs.

Conducting a literature review prior to undertaking grounded theory has been a contentious issue since Glaser and Strauss (1967) first modelled grounded theory. Glaser (1978, 1998) emphatically stated that literature reviews should be conducted after data has been collected and sorted, and not prior to the start of research. Rationalisation for this included several elements. Firstly, conducting an initial literature search results in researchers becoming aware of received concepts which may influence their subsequent interpretation of the data. Interpretation then relates more to existing evidence than to emergent concepts revealed through data analysis (Glaser, 1978, 1998; Glaser & Strauss, 1967). Glaser (1998) argued that researchers need to be free from any notions of prior concepts, or it becomes confusing to know which concepts are relevant, fit and work. He debated that knowing what the previous literature has stated encourages assumptions around what may be found in the data, and interferes with allowing emergence to occur (Glaser, 1998). Researchers may also be disempowered by reading other research, "which detracts from one's own self

valuation as a creator of a theory" (Glaser, 1998, p. 68), and may inhibit the creative process involved in generating grounded theory. Secondly, the traditional purpose of a literature review is to condense gaps in knowledge, from which the research question will be developed. In grounded theory or grounded action, the research problem is identified by participants once the research is underway. This negates the need for a literature search, and furthermore, preconceived research problems may prevent the true problem experienced by participants from emerging (Gibson & Hartman, 2014b; Glaser, 1978, 1998). Thirdly, as the research problem is unknown, and the concepts arising from the research are also unknown, Glaser (1978, 1998) proposed that the researcher can only guess which areas to investigate prior to the research, and cannot know which literature will apply to the discovered substantive area before the research commences. Concerns may be generated which cannot be predicted beforehand and the literature search has then pursued the wrong topics. Potentially, exploring literature may therefore be a time-wasting exercise; and there may be invested interest in non-relevant topics being pursued, if abandoning the time commitment becomes too costly (Glaser, 1998).

Subsequent evolutions of grounded theory did not expound the same restrictions on conducting literature searches (Yarwood-Ross & Jack, 2015). Strauss and Corbin's (1990) grounded theory advised that the literature search should be conducted prior to the research, but should not be comprehensive, as continuous literature searching is instead progressed throughout all research stages . Constructivist grounded theory recognised that literature searching is frequently required by university boards (later acknowledged by Glaser (1998)), proposing that literature can be used initially without the researcher's creativity being compromised, so long as the researcher maintains critical reflexivity (Bryant & Charmaz, 2007b). Nevertheless, there is a need to read widely around the literature whilst conducting the research, to enable theoretical sensitivity so that the researcher has enough knowledge to develop concepts from emergent themes. Balancing an approach between acquiring enough information to capture and develop emergent themes, whilst at the same time having no prior knowledge of the substantive research area (Glaser, 1978, 1998), is difficult. Furthermore, researchers have frequently worked in the research area for several years and begin the research with existing knowledge and preconceptions, which need to be

contained using reflexive examination (Urquhart, 2013; Yarwood-Ross & Jack, 2015). The recommended response to this conundrum is for the researcher to make notes on their knowledge of the literature and of their practice, and to submit this as further data for analysis (Glaser, 1998). Each grounded theory perspective claims the importance of incorporating reviews of literature into the research at some stage, and of using literature to guide theoretical derivation as concepts develop (Yarwood-Ross & Jack, 2015). Constant comparative analysis ensures that theories from existing literature are only used if they earn relevance in the data analysis (Simmons, 2011; Urquhart, 2013; Yarwood-Ross & Jack, 2015).

Reading existing literature after concepts have emerged allows useful comparison which can confirm the research and be further used to ground the theory if relevant (Glaser, 1998). Placing the literature review at this later stage of research allows the literature to be sought specifically relating to emergent categories, and is then used to compare emerging categories with existing literature through constant comparative analysis (Glaser, 1978, 1998; Simmons, 2011).

As principles and procedures of grounded theory/ grounded action have been used in this qualitative study, suggested tenets around doing a limited literature search have been followed (Glaser, 1998). The literature review provided here gives a general overview of the proposed area of study rather than a detailed analysis of existing literature and arising concepts. This initial brief literature review was conducted prior to undertaking the research. A second literature review, relating to emergent categories, was conducted after findings and determining actionable problems, which is described more fully in the discussion section of this thesis.

Collaboration in Community Health

Collaboration between primary care and public health results in a range of documented benefits. Public health makes contributions to primary care including aiding with screening and immunisations, conducting health surveys and identifying unmet needs from surveys and data collection, conducting health education campaigns in community settings, and assisting marginalised groups to access primary care (Bradley & McKelvey, 2005; Levesque et al., 2013). Similarly, primary care has the potential to aid public

health by the health promotion undertaken in clinical settings, through chronic disease prevention and management, and contributions made to data collection (Bradley & McKelvey, 2005; Levesque et al., 2013). For example, primary care can identify risk factors and intervene early to mitigate illness and reduce hospitalisation rates – and this has been a key public policy focus in both the UK and New Zealand (Gosling, Davies, & Hussey, 2016; Ministry of Health, 2001, 2011, 2016). Primary care and public health are both involved in health advocacy. Nevertheless, Bradley & McKelvey (2005) comment on the differences in philosophy and argue that this may have an impact on any potential collaboration. Although there are some shared principles of improving population health and reducing health inequalities, public health practitioners operate from a humanistic perspective where health is put in a family and social context, whereas primary care practitioners operate from biomedical models of health based on anticipatory care and rectifying the medical problem.

The following section explores what public health initiatives are currently being undertaken within a primary care setting before considering studies looking at collaboration between primary care and public health practitioners.

Public Health undertaken by primary care practitioners

Whilst it is not realistic to anticipate that all public health functions can be undertaken by primary care practitioners in practice settings, Rawaf et al. (2018) identified five core activities which may dovetail with primary practice settings – surveillance, monitoring preparedness for response, health protection, health promotion and disease prevention. Currently, however, many practices retain a primary focus of disease management rather than prevention, and there may be little pro-active seeking of information on prevalent disease, searching for health needs, or pro-activity to discourage known unhealthy lifestyles such as smoking cessation (Rawaf et al., 2018). Population health tends to be limited to government-led initiatives rather than local response to identified health need, such as immunising to achieve government targets (Kuo, Etzel, Chilton, Watson, & Gorski, 2012). There is more evidence relating to the use of health promotion measures in general practice than on considering response to assessment of local population in a primary care setting (Bhuyan et al., 2015; Gosling et al., 2016; Peckham, Hann, & Boyce, 2011).

Population health in primary care

The WHO (2008, 2014) has repeatedly advised consideration of determinants of health to provide a broader approach to prevention and care intervention (Whitehead & Dahlgren, 1991). Although primary care practices may collect significant information on the health profile of local communities (Rawaf et al., 2018), there were limited examples that this influenced practice available in the literature.

One example where population health measures were used to identify health needs resulted in a primary care practice adopting an innovative approach to addressing unhealthy weights. Silva et al. (2012) adopted a case study approach in the USA when using local knowledge to improve lifestyles by increasing exercise. This general practice considered environmental and socio-economic factors when working with their low-income patients. Having identified income as a barrier to exercising, they united with a neighbouring YMCA to provide free patient access to swimming and exercise facilities over a two-year period, hence actively addressing some of the socio-economic and environmental barriers that their patients faced. Significantly, a small charge was introduced two years later (co-pay), so that the first month was free for patients and then they would be charged a nominal sum, and a further two years' data was collected. 25% of patients used the exercise facility, averaging two to three visits per month, and almost two thirds of these were women. Fewer men engaged, but those that did used the facility more frequently. After co-pay was introduced, less than 20% of the original users continued at the exercise facility, but those who did continue became more frequent users. The initiative was successful in facilitating exercise development for a significant number of low-income patients who would not otherwise have been able to afford gym use and demonstrated potential for collaboration between organisations to overcome barriers in patients being able to adopt lifestyle advice. The researchers claimed that the reduction in use once lower charges were introduced to the patients demonstrated the economic influence on patients' health activities. However, it could equally be argued that the initiative could have encouraged other less expensive forms of exercise with more long-term transformative power and with less dependence on external finance. Such projects require significant financial outlay for individual practices, which is impractical in the longer term and is unlikely to be viable in a New Zealand setting. An alternative approach could be for healthcare to partner

with local government; for example, costs to municipal leisure and exercise facilities could be lowered for those on lower incomes whilst primary care practices could lead initiatives to encourage clients to use at reduced costs. Whilst this would lessen cost in pecuniary terms, it does still require time to conduct searches and identify clients needing to increase their exercise. At present, GPs are more likely to invest their time with clients who have identified illness requiring lifestyle changes, rather than identified risk of developing chronic illness (Neuwelt et al., 2009; Peckham et al., 2011; A. E. Powell & Davies, 2012; Rawaf et al., 2018).

Although in New Zealand some of the larger PHOs claimed examples of innovative primary care models being adopted to try to address social determinants of health (Downs, 2017), one of the largest issues facing public health continues to be healthcare access and equity between different cultural and socio-economic groups. Maori and Pacific Island populations do not access healthcare as regularly as New Zealand European or Asian population groups do, with a tendency for secondary care facilities to be used in place of accessing primary care before health issues exacerbate (Matheson et al., 2015). Downs (2017) acknowledged some of the work undertaken to address inequity in primary care, arguing that it is dependent on local leaders, rather than responding to policy:

> Rather, most initiatives are driven by local leaders who are inspired to change the way healthcare is delivered. Some of these leaders have observed primary care systems in other countries and were motivated to implement delivery system reforms in their local New Zealand communities. The challenge for New Zealand policy makers is to create policy settings that encourage innovation whereby innovation is scaled nationally and not dependent on local leaders. (Downs, 2017, p. 43)

The difficulties are three-fold; firstly, the change may not be embedded by the time the leader moves to the next project or leaves the organisation, and the initiative cannot be sustained. Secondly, locally driven change may have funding restrictions which might be addressed if changes were part of national policy initiatives. Thirdly, similar local changes may be happening across the country, but as data is not collected centrally, information is not available on what has been tried and tested, or on what is effective (Lovelock et al., 2014).

Primary care practices collect health surveillance information, which may contribute to mapping out local population health needs, or to developing health plans. (Levesque et al., 2013; Rawaf et al., 2018). Electronic health records inform primary care practices so that they can prioritise health needs and align health priorities, and also can act as a two-way process, informing public health departments on both communicable diseases and chronic disease, through automated data reporting (Calman, Hauser, Lurio, Wu, & Pichardo, 2012; Klompas et al., 2012). One research study focused on a locality in New York, extracting information from available electronic health data to identify overweight adults at risk of obesity (Wilson et al., 2010). GPs gave patients a choice of three interventions which were concurrently examined for effectiveness. Changes were demonstrated over a short time period, but implementation of the project needed to continue for longer to establish efficacy. Nevertheless, this is one example where electronic collection of information by primary care practitioners was useful in both identifying the population health issue and in evaluating results of the intervention.

Primary care practice in New Zealand now uses a two-way process for data collection, regulated by health authorities, PHOs and regional health services. GPs are required to collect some health information and notify the central collecting agency on certain notifiable diseases, such as measles or tuberculosis, and on other health statistics such as immunisation rates, and teenage pregnancy rates. This information may be used by primary care practice, DHBs, government agencies and may feed into WHO information data bases. However, although limited information is available, primary care practices may not be using such collected information (Downs, 2017). Furthermore, in a recent report on primary care generated from a New Zealand fellowship in public policy, Downs (2017) was critical of the approach taken to collect general data, propounding that it may be more efficient to first identify why data should be collected so that there is clarity on what needs to be collected, before generic data systems are developed. She rationalised that whilst the MoH is generally permissive over PHOs' activities, the freedom this produces results in a lack of coordination between PHOs, making it difficult to collate information nationally. Furthermore, relative to other nations, the limitations in data collection are notable:

> To an outsider, the lack of primary care data that is collected and synthesised in New Zealand is surprising. (Downs, 2017, p. 25)

The variance in data collection between PHOs means that it is difficult to estimate how well primary care is doing to meet the needs of local populations, or in addressing inequalities between different social and cultural groups. Recommendations included the ministry becoming more involved in requesting specific data and using a staged approach to developing and using appropriate software systems facilitating collection and analysis of universal information (Downs, 2017). Further to this, ministry involvement will increase awareness on how such data can be used to enhance local health provision and well-being of local populations. As surveillance is considered to be one of the five primary care functions contributing to public health (Rawaf et al., 2018), this finding relating to variable data collection between PHOs has implications for any potential opportunities for primary care and public health practitioners to prioritise health issues and develop public health initiatives together. If data collection on specific population health measures is not undertaken by PHOs, it will be harder for public health and primary care practitioners to reach understanding on mutual population health goals.

Individual health prevention and health promotion in primary care
Returning to the five functions of public health which may be undertaken in primary care settings (Rawaf et al., 2018), this sub-section focused on available evidence relating to health promotion, health protection and health prevention undertaken in primary care settings.

Practitioners in primary care arrange a variety of screening tests to detect early disease, reducing morbidity (Bradley & McKelvey, 2005; Levesque et al., 2013). In addition, primary care may engage in offering health advice on lifestyle changes, such as smoking cessation, reducing obesity or overweight, managing asthma and chronic obstructive pulmonary disease, and other complex issues (Bhuyan et al., 2015; Kuo et al., 2012; Levesque et al., 2013; Monsen et al., 2014; S. Powell, Towers, & Milne, 2008; Rawaf et al., 2018). Generally, the focus is on responding to existing disease, by preventing further deterioration (Peckham et al., 2011). There are apparently international differences in health promotion advice offered by GPs, for example Peckham et al. (2011) followed a literature survey with interviews of primary care staff to determine that British GPs were less involved in offering health promotion/health prevention

advice to their clients than their counterparts in Europe. They also determined that consultations where lifestyle changes are advocated result in longer consult times with fewer prescriptions written. Considering how primary care practitioners engage with public health initiatives, they commented:

> Surprisingly, there remains a lack of knowledge about what activities are being undertaken – despite the implementation over the past 20 years of incentives for health improvements. (Peckham et al., 2011, p. 321)

One of the findings of this research related to GPs' lack of confidence in giving health education advice, particularly on sensitive issues such as weight gain or smoking cessation. Other researchers determined similar reluctance with perceptions of lack of competence or skill (Bhuyan et al., 2015; Kuo et al., 2012; Lawlor, Keen, & Neal, 2000; Monsen et al., 2014), and advocate for improved educational experiences with more focus on public health training and skill acquisition to manage challenging conversations (Kuo et al., 2012; Lawlor et al., 2000; Laws et al., 2008; Peckham et al., 2011).

Laws et al. (2008) illustrated that primary health practitioners' practice related to their beliefs and own personal lifestyle. They used questionnaires and interviews to determine that practitioners were more likely to adopt population health screening when they were confident offering lifestyle advice and perceived that it may be effective. This supports earlier findings where focus groups reported that many of the GP participants doubted their competence in health education and did not believe they could encourage positive health change (Lawlor et al., 2000). GPs were concerned with the impact such advice may have on the patient-doctor relationship, and at this time, perceived that secondary care (responding to illness) should be their main focus (Lawlor et al., 2000). Whilst this research was conducted nineteen years ago, more recent commentaries advocating a shift from responding to disease to searching for local population health needs suggests that change has been slow in the intervening years (Peckham et al., 2011; A. E. Powell & Davies, 2012; S. Powell et al., 2008).

Not all researchers advocate for providing enhanced education on public health to all GPs. Bradley and McKelvey (2005) identified barriers to GPs becoming more involved in public and population health, arguing that finding time for training and developing skills for a public health role is unrealistic with existing demands of keeping up with clinical

guidelines, paperwork, appraisals and clinical work with patients. They also asserted that there:

> …is the conflict in values and the models of health that underpin these values. (Bradley & McKelvey, 2005, p. 921).

The argument presented is that GPs use a biomedical model of care, focusing on rectifying a problem. Humanist or family perspectives of care are said to underpin health promotion and population health – where the illness is considered within the broader context of the patient or family/social perspectives and framework. Bradley and McKelvey (2005) suggested that special interest (public health) GPs are created, alongside improved collaboration and co-working between public health departments, public health nurses and primary care. Such specialist GPs are a situational answer to the dilemmas proposed, requiring government support and financial backing, and there is no indication that the initiative would be supported in the New Zealand primary care environment. However, the suggestion to enhance mechanisms to support greater collaboration with public health practitioners could be transferred to a New Zealand context.

Other research has explored the role of practice nursing and extended nursing roles in primary care, in offering health promotion, health education and population health interventions (F. Hughes, 2006; McKinlay, Mackie, Arcus, & Nelson, 2012; Walker, Clendon, & Nelson, 2015). Walker et al. (2015) used a case study approach to explore benefits and functions of nurses operating within primary care practice settings, finding that nurses were able to respond to local population need through pro-active establishment of long-term conditions clinics in response to local need, outreach work, and advanced nursing innovations offering holistic health promotion and health education to meet complex needs. One case study demonstrated extensive development of relationships with other local agencies including Whanau Ora (a non-government organisation), the justice system, education, social work and marae-based services, showcasing a capacity to respond to the cultural needs of the local population. Another case study revealed the practice nurses' foci on liaising with rest homes, hospitals and care coordination district nursing services in response to the needs of their high elderly population. In each case study, the primary care skill mix presented

successful approaches to developing interdisciplinary working. Practice nurses were able to provide repeat medication using standing orders, and to develop other care models including community outreach via mobile clinics, nurse visiting, with improved access to service for their high need populations. Patient flow improved, with GPs reporting that they had more time available for complex patient care. Referrals were passed appropriately between the professionals.

To summarise, although there are recommendations and suggestions focusing on improving understanding of public health and incorporating more public health activities into primary care, it appears that only some of the range of public health activities are routinely undertaken in practices, with limited consistency across practices . Reasons for this have been postulated from the known research, including lack of time and practitioner confidence, attitudinal difficulties, belief that the work should be undertaken elsewhere, and primary care practices maintaining their primary focus on disease resolution or management rather than prevention, or searching for population health needs. Nevertheless, there is some evidence of health surveillance, screening for early detection of disease and promoting healthy lifestyles to limit existing disease. There is also awareness of potential benefits to considering public health within primary care. Nurses may undertake more public health functions than GPs, including health promotion, health education and identifying local and population health needs (Lawlor et al., 2000; McKinlay et al., 2012; Nelson, Aspros, McKinlay, & Arcus, 2011; Walker et al., 2015). Increasing public health interventions in primary care presented significant time and educational challenges; leading to recognition that public health is multi-faceted, requiring the coming together of many different sectors of our societies (Shoultz & Hatcher, 1997; Silva et al., 2012; WHO, 2008).

Collaboration between public health and primary care practitioners is one facet of such a multi-sectorial approach. The following section presents a brief synopsis of the evidence base on what was known on how public health and primary care practitioners collaborate, prior to undertaking this research.

Collaboration - International Focus

Collaboration aids professionals in developing working relationships to resolve issues which are common to each of the professionals. The first part of this section explored the impact collaboration has on professionals, whilst the second part considered what is required to establish effective collaboration and what hinders collaboration. Following on from this, examples of collaborative action implemented between public health and primary care practitioners were detailed. Implications of these findings were considered in the context of this research. Much of the research explored collaboration between public health and primary care practitioners in the context of working to achieve a specific focus – such as reducing obesity or asthma (Hargreaves et al., 2013; Monsen et al., 2014; Serpas et al., 2013; Wynn & Moore, 2012), rather than considering generic collaboration occurring between the professionals. This gives collaboration a targeted purpose and therefore removes one of the difficulties reported by other research on collaboration, postulating that mutual purpose is important to achieve collaboration (Clancy & Svensson, 2009; Hargreaves et al., 2013).

Several studies examined the effects of collaboration on the professionals involved (Hargreaves et al., 2013; Monsen et al., 2014; Savage et al., 2006; Serpas et al., 2013; Westbrook & Schultz, 2000). There was recognition of the unique strengths of each participant, with increased interprofessional understanding used to achieve partnership synergy (Monsen et al., 2014; Savage et al., 2006). Alongside this, staff recognised that they had improved capacity to respond (increased professional competence), and a greater sense of personal achievement, moving from powerlessness to motivation. Self-respect was enhanced (Monsen et al., 2014). Professionals declared a sense of ownership of the health issue, using more creativity in their intervention responses (Monsen et al., 2014). Joint working on strategies developed individual learning (Serpas et al., 2013), whilst facilitating greater reach into the local community (Hargreaves et al., 2013).

Monsen et al. (2014) purposefully investigated the perceptions of administrators and clinicians involved in a 10-organisation collaborative which had been developed to implement obesity practice guidelines. The focus was on examining how the intervention influenced and changed participants' attitudes, knowledge and practice.

The collaboration included primary care and public health practitioners across private and publicly funded organisations, and a physical and occupational therapy clinic, including thirty-nine participants. The exact methodology for analysing the interviews was not defined in the article, although the four postulated principles were moving from powerlessness to positive motivation, heightened awareness with increased capacity to respond, personal ownership and use of creativity, and a sense of increased importance of interprofessional collaboration, as identified above. However, there was no indication of whether this increased positivity evolved further into collaboration in other areas, which would have been an important indication that the project would result in permanent change in day to day collaboration between professionals. Also, it is not clear whether the practice guidelines provided mechanisms to support change initiatives or provided guided methods for collaboration, or whether they were simple guidelines around clinical management of obesity. This has implications for the significance of these results – if the programme has incorporated a method for collaboration which has then achieved growth for the professionals involved, there is potential to expand this with other clinical issues relating to public health, but there is no clarity on this from the information available.

Further research critiqued what was required for collaboration to be effective (Ferrari & Rideout, 2005; Hillier-Brown et al., 2014; Sherwood et al., 2013). It was important to have a sense of mutual trust and shared vision (Hargreaves et al., 2013), with mutual understanding of the issues. Trust was easier to maintain when local population sizes were small (Clancy, Gressnes, & Svensson, 2012; Clancy & Svensson, 2009). Training was needed to ensure rigour and preserve confidentiality (Hargreaves et al., 2013; Savage et al., 2006). Agreement was established on what the health issues are, and on how data would be collected and disseminated (Clancy et al., 2012). One of the most challenging issues was the time taken to develop good relationships and shared understanding; this was found to be easier where there had been pre-existing relationships prior to the study (Clancy et al., 2012; Hargreaves et al., 2013). Teams who had the least interaction time also had the least effective collaborative success (Hargreaves et al., 2013). Lack of collaborative competence, disagreements in defining the issues, and a lack of meeting points all hindered good collaboration (Clancy et al., 2012). Kvarnstrom (2008) differentiated that there were collaborative difficulties when

professionals were not equally regarded or respected by team members, and when roles were not clearly defined or when professionals within the collaborative partnerships overstepped their role boundaries, although this research focused on interprofessional relationships in multi-disciplinary teams, and was not specific to collaboration between public health and primary care. Clancy et al. (2012) conducted an e-post questionnaire to public health nurses, doctors at clinics and school health services, child protection workers and midwives, with a return rate of between 16% (child protection workers) and 55% (clinic doctors). It is worth noting that whilst doctors had a higher return rate, the article does not identify whether these doctors come from primary care settings, although they do work in schools and clinics. They may have been based in primary care with special interest in community, or they may have been public health medical officers. The questionnaire was limited to investigating what participants thought were the factors needed for successful collaboration, by comparing collaboration now with five years previously. Clancy et al. (2012) acknowledged that there may be recall bias, and that causality cannot be determined from this method, recommending that more in-depth qualitative research is needed.

As in the research outlined above conducted by Monsen et al. (2014), Hargreaves et al. (2013) examined the progress of stage one of a federally supported healthy weight collaborative between primary care, public health and community partners, initiated in the USA. This evaluation was concerned with considering which practices facilitated collaboration, alongside strategies used. Those who did not have existing collaborative relationships prior to the start of the project identified that the change package facilitated organising and structuring the work and provided purpose for collaboration. Some of the teams concluded that they did not have enough financial or time resources to effect the change required in the collaboration, although the teams did recognise benefits leading to change. All of the teams planned, resourced and effected plans relating to each of the six strategies included in the federal initiative, and the teams universally identified that their sense of common purpose improved as they co-developed plans to conform to these strategies. The evaluation concluded that there needed to be more diverse leadership of the teams, better education on developing packages, coaching to build collaborative capacity for some of the teams, and support for using the package's outcome measures. Whilst this research has provided insight

into some of the positive benefits of the project including conditions needed to enhance collaboration in these circumstances, some questions remained around whether the findings would be the same without the structured approach to this collaboration. The research did not include discussion on whether the benefits of collaboration extended beyond the obesity initiative – for example, were the professionals considering collaboration for other health reasons? It seems that the use of a federally supported change package, allowing local adaptation and development, gave the collaboration structure and purpose, with motivation to pursue constructing collaboration when it was more difficult. This posed the question around what happens when collaboration is not supported by such measures? Given the relatively smaller available resources for public health in New Zealand per capita, it is unlikely that any similar programme would be resourced in this country.

Although most of the above studies used an identified health focus to explore issues, there were some studies evaluating collaboration between public health and primary care in a wider context, using identification of local health profiles to determine health priorities. Storm et al. (2015) used a multiple case design approach to investigate collaboration between primary care and public health across several districts in the Netherlands, using development of local district plans generated from local health profiles. Creation of policy dialogue formed an essential element of the process. Steps included getting to know the neighbourhood (including determining which local GPs and public health departments are supportive), assembling a workgroup using existing workgroups and teams and appointing a supervisor, analysing the neighbourhood (looking at which players will be involved and what data is available), gathering information to develop a district health profile, preparing a policy dialogue by making sure meetings are well organised and inviting relevant actors including GPs and community resident representatives, and embedding plans and collaboration. It was easier to start the approach where there was already some collaboration, and where the primary care providers and public health workers were positive. Roles were difficult to establish where there had been little joint working prior to the initiative, and it was clear that the study duration time of one year was insufficient to evaluate implementation of the district plans. Collaboration between primary care support structures (rather than GPs themselves) and public health organisations did improve,

and Storm et al. (2015) concluded this was likely to be because these organisations were involved in the instigation of the process and in the development of the district plans, whereas GPs or residents did not have the same initial investment.

Incorporating structural changes offers an alternative collaborative approach to population health, so that primary care and public health are working from the same premises with an integrated approach to the work development. One USA nurse-led managed health centre achieved successful collaboration between primary care nurse practitioners and public health nurses by focusing on enabling health access in an area of high deprivation to improve health outcomes (Ferrari & Rideout, 2005). The health centre offered surveillance and well health checks for adults and children, family planning and sexually transmitted disease prevention and management, and management of chronic health issues. Public health nurses gained client/family trust, identified need and referred clients, and provided health education support individually and in groups. Primary care nurse practitioners provided primary prevention services to the population and identified individuals in need of further intervention. This demonstrated active collaboration achieving positive changes in health with reduction in health disparity in the local community. Difficulties in applying such a model in New Zealand include identifying that there are few nurse-led centres. Those that have been developed tend to be either in rural areas responding to broad issues including accident and emergency treatment, or focused around specific health issues, rather than on searching for population health needs and developing responsive interventions (Loh & Dovey, 2015). Nevertheless, the fundamental principle of linking between primary care and public health remains, particularly as public health nurses in New Zealand maintain principal roles of increasing health access to primary care and mediating between family and primary care. The proximal nature of being co-located with nurses actively working with each other remains a challenge.

Most of the research on community or primary care/public health collaboration has either utilised adult populations or there is no reference to age. There are three exceptions to this in studies referenced above (Hargreaves et al., 2013; Kuo et al., 2012; Savage et al., 2006). Working with children and families requires the use of specific skills and considerations around, for example, use of age-appropriate language, sensitivity to

parenting styles, parental consent and vulnerability of children. It might be that similar approaches can be used without compromising the success of collaborative initiatives, but this does not appear to have been tested. This study had an initial focus on collaboration between public health and primary care practitioners to improve health outcomes for children at practice level. However, as in many of the reported research studies, the findings in this study were not specific to children as practitioners expressed generic concerns and were not specifically concerned with children; the focus of the study later adjusted to match the practitioners' concerns (Glaser & Strauss, 1967).

One multi-sectorial collaboration, focusing on reducing obesity in young children, aimed to promote healthy eating and active play across the organisations involved – health, local government, university, leisure services, local media and early childhood centres (de Silva-Sanigorski et al., 2010). Environmental changes were made within the organisations to consolidate active play and health messages. Although the study did not comment on the collaboration, it identified significant changes in behaviour, dietary improvements and reductions in weight and therefore demonstrated that the collaborative approach was effective. However, the programme was high intensity, short term and high cost, requiring commitment across a significant number of different agencies, alongside political support and funding, and would therefore be difficult and expensive to translate to other settings. Longer-term benefits were not measured.

There are several difficulties in generalising the findings from these studies and applying them to the New Zealand context. Firstly, as identified in the introduction, public health practitioners and departments have differing roles in different countries; whilst retaining similar principles, the exact practice varies considerably depending on the priorities and needs of government as well as local health priorities. Other factors impacting on collaboration would include how funding is established for public health and primary care, and the relationship between primary and secondary care. Secondly, some of the larger studies in this literature review relate to government-led changes and may be supported by mandates. Whilst there are varying documents exhorting better integrative practices and more collaboration between primary and secondary care, where public health is generally located, these are not supported with either

targets, mandates or allocated funding in New Zealand (MoH, 2000, 2001, 2011, 2014b, 2016). The rhetoric implies that there is an expectation that primary and secondary care providers will adopt more integrative approaches or collaborative practices, but whilst this is not matched with resource allocation or detailed approaches on changing practice, it is possible that resources and energy developing new projects will continue to prioritise acute care (Carryer, 2016). The emphasis continues to be on responding to illness rather than promoting wellness (Finlayson et al., 2012; Matheson et al., 2015; S. Shaw, White, & Deed, 2013; Tenbensel et al., 2008).

There is also uncertainty in the research included in this literature review on whether long-term collaborative change is achieved. There are few studies with a main purpose of examining the collaboration between primary care and public health, with most articles tending to be discursive rather than research based (Levesque et al., 2013; Martin-Misener et al., 2012). Many of the studies are context specific and would only work in that setting or with that collaborative arrangement; these are unlikely to be translated or repeated in the New Zealand setting. In New Zealand, most public health nurses work in local DHB or PHO communities and have traditionally undertaken work to ensure health access for population groups and individual families who have difficulty in accessing primary healthcare. Some of the above community participatory studies have originated from government-driven policy changes or initiatives (Storm et al., 2015), including development of a national strategy and research programme to address obesity (Monsen et al., 2014), and include the use of researchers or remote public health practitioners to coordinate programmes and provide educative in-put. There are no comparable overarching organisations in New Zealand to provide similar guidance or influence on community participatory research programmes or action research; it is unclear how much this guidance influenced findings.

The next section will therefore examine research on collaboration that has been conducted within New Zealand. Given the lack of research information specifically focusing on collaboration between primary care and public health, a wider view has been taken looking at any community health collaboration within New Zealand.

New Zealand Perspectives

It is difficult to find research in New Zealand pertaining to collaboration specifically between public health and primary care at practice level. The following paragraphs explore some of the challenges faced by primary care in New Zealand when attempting to apply population health measures and portray two initiatives to develop collaboration at some level in the primary care/public health arena, although both involve practitioners beyond these two professional groups.

As previous analysis has indicated, New Zealand health policies over the last twenty years have advocated for a wellness focus, with primary care becoming more involved in population approaches, alongside greater collaboration (MoH, 2001, 2011, 2014c, 2016). Lovell and Neuwelt (2011) examined health promoters', funders' and their managers' views on the challenges posed by New Zealand's Primary Healthcare Strategy (MoH, 2001). Participants described their frustration with a lack of funding leading to limited capacity to expand population health measures. The perception was that smaller PHOs had less opportunity to deliver population health programmes over large areas. Variable resources were used to redirect GP practices towards health promotion activities, and the responses of the practices also varied. This variation in practice is reflected throughout New Zealand and there has been wider critique that whilst the lack of coordinated approach allows flexibility, it also engenders repetition and initiatives which do not carry momentum because they are applied on a small scale (Downs, 2017).

In an analysis of the restructuring of primary care in New Zealand at the turn of the twenty first century, S. Lovell and Neuwelt (2011) determined that PHOs applied public health funding inconsistently, with projects given insufficient funding or capacity. Smaller PHOs had more issues in allocating funding to health promotion initiatives. They concluded that this outcome was directly related to non-engagement of the public health workforce when the primary health care strategy was developed, exacerbating ideological divisions between PHOs and public health units, leaving public health workers in NGOs feeling vulnerable, and fostering independent initiatives rather than collaboration. These perceptions seem to be at odds with the ministry's intentions, whereby introducing PHOs would involve local communities in governance, fund health

promotion and facilitate application of population health principles (Neuwelt et al., 2009). Nevertheless, there continue to be opportunities for developing population approaches within primary care, and for encouraging public health and primary care practitioners to work together to achieve purposeful shared aims to improve access and strengthen equity (Neuwelt et al., 2009).

Across Auckland, there have been attempts to try to integrate healthcare between secondary and primary health services, aiming to provide seamless healthcare with coordinated health pathways and improved communication. However, frequently different agendas of individual DHBs or PHOs become a hindrance to establishing agreed approaches to move initiatives forward. A regional alliance established in 2010, Greater Auckland Integrated Health Network (GAIHN), combined three DHBs with a number of PHOs and some non-government agencies such as St. John Ambulance Service, to improve health across the region (Tibby, 2011). They reported on work streams demonstrating integrated work, such as the development of information sheets (health point pathways) for priority conditions, including sore throat/rheumatic fever, skin infection, and lower respiratory tract infection (frequent causes of avoidable hospitalisations) (Tibby, 2011). Alliance with St. John Ambulance Service facilitated the development of screening tools for first responders, resulting in a significant number of patients being redirected to primary care. The largest gains appear to have been across informatics – providing pathway sheets accessed by primary care and secondary care – although sites use different computer software which created an impediment to any further improvements in information sharing between DHBs and primary care, and even between departments in DHBs. Ultimately, the fragmentation of information technology systems hindered further development, although there are now a wide range of clinical pathways established and shared across sectors. Nevertheless, without pursuing education on using such pathways, there is recognition that their impact may be limited (Tracey & Bramley, 2003).

One nursing collaborative worked closely with an identified school with high health needs, linking with several non-government organisations (NGOs) and with local communities to identify health need and improve health outcomes (Nelson et al., 2011). The Wellington South Nursing Initiative (WSNI) constituted a public health nurse

from the local DHB and a plunket nurse (Plunket are a non-government organisation working with mothers and young children from birth to 5 years), with main foci on networking and project work. Networking was used to determine availability of services and to link agencies and organisations together to enhance collaborative working. Project working included using community identified need to develop distinct projects involving children, families and communities. Such initiatives included developing a breakfast food co-operative at school, a garden project with obtained funding for provision of raised beds, plants and equipment to teach students sustainability through growing own food. WSNI determined that relational practice was important at a community level,

> Relational practice when applied to a community requires the nurse to become familiar with the community from many angles and to recognise and value all perspectives. (Nelson et al., 2011, p. 97)

The nurses were able to contribute to facilitating and embedding change where need had been identified by the communities and were successful in linking agencies and organisations together to achieve this change. There were some acknowledged findings alongside this including the importance of starting small and not attempting too many projects at one time, sometimes the school involved felt overwhelmed by the intensity of the project work, and the nurses also identified that having champions to work alongside them was important. Furthermore, attracting funding for initiatives involved being able to demonstrate successful outcomes, which could be problematic when using a population health approach. In relation to this thesis, nurses were working collaboratively together with other agencies to achieve population health change but this did not directly involve GPs or practice nurses. Nevertheless, the project did showcase the important role nurses have in facilitating communities to achieve positive health outcomes, using a combination of community development and public health approaches.

Victory Village (Families Commission: Komihana a Whanau/Innovative Practice Fund, 2010), was another example of joint working. This collaboration provided community partnership between health and education, centred on the development of a community health hub at the school. The initiative was successful in facilitating better access to services, with enhanced health and well-being, reported stronger community

connections between families, and greater involvement in education. Although education outcomes could not be empirically attributed to the Victory Village project, outcomes did improve for both educational attainment and on health measures, suggesting benefits of such initiatives can have a wider positive impact. Health and education providers also reported more satisfaction, with closer connections. The project was community led, with professional collaboration responding to community-identified need. There was significant collaboration between education services, community health services, and community development. Although both primary care and public health were involved in the collaboration, the study focused on the dual aspects of improvement in health and in education outcomes/attainments, rather than exploring the collaboration between primary care and public health practitioners (Families Commission: Komihana a Whanau/Innovative Practice Fund, 2010). This project demonstrated several achievements in terms of collaborating to improve population health. Firstly, public health and primary care responded to community health need, determining roles and shared frameworks as the project developed. Secondly, the operational commitment to improving health and education access resulted in reduced inequity and improved health outcomes. Thirdly, it could be argued that the project improved health literacy and gave the community a voice to express and address their concerns. Such achievements are in line with WHO (2008) directives, and fulfil projections for improving population health in primary care through greater understanding and application of community health and strengthening collaboration between public health and primary care, as outlined by Neuwelt et al. (2009). However, as the collaboration in this instance included both the community and education, the achievements do not provide a direct parallel to the research considered in this thesis, and the impact of primary care and public health practitioners can only be considered as participants in the initiative. Nevertheless, the case study does provide an illustration that it is possible to improve population health by working together, even if the context is different.

Summary of literature:

There is limited evidence to suggest that the full range of public health functions occurs consistently in primary care practices: health assessment and collecting health

surveillance information, public health capacity development or monitoring preparedness for response, health promotion, health protection, and health prevention (Rawaf et al., 2018). World-wide research indicates that primary care successfully collects data around health need and may provide such data to public health departments (Calman et al., 2012; Levesque et al., 2013), although requirements around data collection on specific need are relatively less regulated in New Zealand with variance occurring between PHOs (Downs, 2017).

Much of the research around health promotion, health protection and health prevention in primary care suggests that it is largely undertaken by practice nurses and nurse practitioners, rather than GPs (Bhuyan et al., 2015; Kuo et al., 2012; Lawlor et al., 2000; Monsen et al., 2014; Walker et al., 2015). Nevertheless, advice is offered on reducing impact or preventing chronic disease, including screening where there is identified risk (Bhuyan et al., 2015; Downs, 2017; Kuo et al., 2012; Levesque et al., 2013; Monsen et al., 2014; S. Powell et al., 2008; Rawaf et al., 2018). GPs may have difficulty in delivering public health measures in primary care practices, for a range of reasons from difference in perception and models of care, through to lack of knowledge and understanding, public health competence, and lack of time.

Developing and enhancing collaboration between primary care and public health would provide benefits to both public health practitioners and primary care practitioners, in that it would give primary care practitioners improved reach into the community, as well as strengthening shared aims to reduce health inequalities and increase health access for certain population groups (Levesque et al., 2013; S. Lovell & Neuwelt, 2011; S. A. Lovell, Kearns, & Rosenberg, 2011; Neuwelt et al., 2009; Savage et al., 2006). Most of the research on collaboration focuses on benefits to individual health, responding to specific health issues (Hargreaves et al., 2013; Monsen et al., 2014; Savage et al., 2006; Serpas et al., 2013; Wynn & Moore, 2012), and it appears there is less apparent successful collaboration to foster population health initiatives (Levesque et al., 2013). Two international studies focused on collaborative inter-professional groups comprising of primary care and public health and others, where local population health needs were identified and community need was targeted (Ferrari & Rideout, 2005; Storm et al., 2015).

Similarly, there was limited identified research in the New Zealand context on collaborative initiatives specifically between public health and primary care, although there was evidence of research considering collaboration between multiple agencies involving public health initiatives (Families Commission: Komihana a Whanau/Innovative Practice Fund, 2010; S. Lovell & Neuwelt, 2011; Nelson et al., 2011; Tibby, 2011), with some of the research using a community development approach, building on health concerns identified by local communities (Families Commission: Komihana a Whanau/Innovative Practice Fund, 2010; Nelson et al., 2011). Whilst broader collaboration may be a positive move, there is also recognition that the most effective collaborations are developed where there is a shared purpose, and where there have been pre-existing relationships or partnerships before commencement of the studies (Clancy & Svensson, 2009; Hargreaves et al., 2013; Monsen et al., 2014; Nelson et al., 2011; Storm et al., 2015). There is some evidence demonstrating positive effects of collaboration including benefits for practitioners themselves, as well as providing greater reach into the community for the health benefit of local individuals. The overview suggests collaboration results in short-term gains – with changes in lifestyle habits for individuals – although longer-term gains have not been assessed. Some of the studies are context specific and would not transfer to a different setting.

Although there is a range of evidence provided above around public health undertaken in primary care, and the way primary care practitioners and public health practitioners inter-relate, it is not possible to determine whether such international research would be generalisable to a New Zealand setting. The specific structure of health services in New Zealand, with its individual variation between districts and separation of public health practitioners into specialist units within DHBs and NGOs, provides its own challenge to collaboration (S. Lovell & Neuwelt, 2011; Neuwelt et al., 2009). Further research is needed to provide more specific information on collaboration between primary care and public health practitioners in New Zealand.

Chapter Three: Methodology

Introduction

This is a qualitative study using principles and procedures of grounded theory/grounded action. The chapter initially considers common factors relating qualitative descriptive research processes alongside purpose and rationale for selecting this method. This leads into general consideration of grounded action and grounded theory, including evolution and history, principles and methods. Grounded action involves developing an action plan from operational theory, which in turn has emerged by applying seminal grounded theory (Simmons & Gregory, 2003). This two-stage process is both systematic and emergent; the initial theory is grounded from information obtained from the participants, and the subsequent action plan is grounded from theory and any further information needed to place the action in the context of the participants. This chapter briefly compares grounded action with other forms of action research noting similarities and differences. Philosophical debates and theoretical influences are considered alongside the historical context of grounded theory and subsequent use of grounded theory and grounded action processes in this qualitative study.

Qualitative Description

Qualitative descriptive research is methodologically appropriate where considered exploration of problems is being undertaken, particularly where there is a need to increase understanding of complex issues (Colorafi & Evans, 2016; Kim, Sefcik, & Bradway, 2017; Sandelowski, 2000):

> Qualitative research is well suited for '*why'*, '*how'* and '*what'* questions about human behaviour, motives, views and barriers. (Neergaard, Oleson, Anderson, & Sondegaard, 2009, p. 2)

 Sandelowski (2000) presented qualitative descriptive research as a "*basic"* or "*fundamental qualitative description"* (p. 335) method to differentiate it from other forms of qualitative methodologies such as phenomenology or grounded theory, although she was also clear that she was not suggesting that using qualitative description confers an easier or less significant research method (Sandelowski, 2000, 2010). It is an inductive research method portraying aspects of events within particular

contexts, and is low inference in as much as it does not further develop the data into theory to be applied to other situations (Kim et al., 2017; Neergaard et al., 2009; Sandelowski, 2000). The emphasis placed on what is reported may vary between researchers, but regardless of this variance there is likely to be agreement on reported findings and participant meanings (Neergaard et al., 2009; Sandelowski, 2000, 2010). The significance of the research rests in being able to accurately represent meanings the participants give to the examples they describe (Sandelowski, 2000), allowing greater flexibility in selecting a research framework (Kim et al., 2017; Neergaard et al., 2009; Sandelowski, 2000). General tenets of naturalistic inquiry may be applied whereby something is studied as it is (Kim et al., 2017; Sandelowski, 2000). Different techniques may be used to assist this process (Sandelowski, 2000), including the grounded theory and grounded action principals and procedures, as applied in this qualitative descriptive study. For example, frequently techniques such as constant comparative analysis are used to interpret the findings; but the findings remain descriptive rather than moving into abstract frameworks or formal theory (Colorafi & Evans, 2016; Neergaard et al., 2009; Sandelowski, 2000).

Nevertheless, Sandelowski (2000, 2010) identified that qualitative description is interpretive, and that care needs to be taken to demonstrate rigour or validity within the research process. Conveying the meanings given by participants to the facts or events and presenting this in a coherent format, which can be recognised and verified by participants, is an important part of achieving validity. Data collection may include minimally structured interviewing, as in this study (Sandelowski, 2000); codes are systematically derived from the data during analysis, which occurs alongside data collection. Data collection informs data analysis and the analysis informs further data collection. Outcomes present a coherent organised representation of the findings, which may be presented within categories reflecting information collected. Such representations of the findings may be used as foundation for further study or action (Neergaard et al., 2009; Sandelowski, 2000):

> …such summaries may themselves yield the working concepts, hypotheses and thematic moments for future grounded theory or phenomenological study, or themselves contain early versions of them. (Sandelowski, 2000, p. 339)

Kim et al. (2017) undertook a review of qualitative descriptive studies, examining processes used. Most commonly, researchers used interviews to collect data, described an inductive approach, and used techniques such as constant comparative analysis, or a combination approach including comparative analysis. Researchers also reported saturation of data, using techniques borrowed from grounded theory. Findings were presented with extensive descriptions, including themes or categories. Half of the studies used figures or tables to present results. Several of the studies combined methods from other research methodologies, confirming the flexibility of this research method. Recommendations from this article included encouraging researchers to identify and explain why qualitative descriptive research was used and to describe links with other research methods which may have been used to inform the research. Sandelowski (2010) affirms this position by espousing the importance of explaining what methods are used, how data is collected and analysed using which tools. Just as significantly, Sandelowski (2010) argues that qualitative studies can be neither atheoretical or naïve. Researchers always begin their research with their own particular knowledge, and interpretation will be influenced by that knowledge. Nevertheless, researchers start with the intent to be open and remain mindful of any preconceptions they hold. Keeping closer to the original data does not remove the requirement to interpret data.

Qualitative description is not necessarily a discrete and separate research method, but is itself a description or collection of research methods which have some core characteristics, described by Sandelowski (2010) as being in a "*distributed residual category*" (p. 82). The importance of the methodological description lies in clarifying the practices used in undertaking the research so that the methods of inquiry can be clearly understood, rather than in applying labels with no additional information. The importance of the research is to change understanding:

> The value of qualitative description lies not only in the knowledge its use can produce, but also as a vehicle for presenting and treating research methods as living entities that resist simple classification. (Sandelowski, 2010, p. 83)

Finally, by being situated in specific situations, qualitative descriptive inquiry furthers evidence based practice (Leeman & Sandelowski, 2012). Healthcare providers function within their own social contexts with shared understanding of the workplace, values

and practices. Qualitative research investigates practitioners' understanding of their context, and what they identify as causal, enhancing or inhibiting factors to achieving. This evidence may then be used to facilitate practice based interventions or change processes. For example, strategies may be developed to identify approaches used to overcome barriers, or to ensure realistic expectations on timescales needed to implement change. In either case, qualitative inquiry is used to further develop and enhance practices or to further planning for change.

As grounded action/grounded theory principals and processes were followed in this qualitative research, the following sections consider such principals and processes. Glaserian grounded theory and grounded action work from a premise of the researcher having as little a priori knowledge as possible (Glaser & Strauss, 1967; Simmons & Gregory, 2003). Qualitative description provisioned flexibility for someone already working in the field, whilst applying grounded action/grounded theory principals and methods ensured rigorous analysis of the data, alongside opportunity to identify actionable problems and actionable opportunities from which to develop an action plan.

Grounded Action in Context

Grounded action was initially developed to provide a way of progressing Glaserian grounded theory into practical action, such as programme design, action models, policy development and change initiatives. Simmons (2006) argued that there was a gap between theory and practice and claimed that observations of what is happening were frequently mixed with concepts of what ought to be happening. Theories need to be derived from data in the practice situation, rather than being postulated ideology. Simmons (2006) argued that field practitioners are critical of social science as being remote from practice, often being too complex and too ideological, whilst practitioner-based responses may be criticised by social science academics as being non-rigorous, not theoretical enough, and focused on the superficial. The dilemma for researchers is that abstract social science theories have often proved to have little value in driving action, whilst practitioner-devised theories are often also problematic as they may miss underlying generic patterns, with little clarity on what needs to be achieved. In contrast, grounded action begins with a systemised method of collecting and analysing data;

theory is abstracted from the data using seminal grounded theory principles (Glaser & Strauss, 1967), and the action plan is also grounded in the theory – addressing both the need for rigorous theory and the need to remain practical and focused on the lived experiences in the field (Simmons, 2006, 2011; Simmons & Gregory, 2003).

Grounded action uses a systematic process to reveal the full extent of particular challenges posed when planning change. Simmons and Gregory (2003) envisaged that using grounded theory as the basis for grounded action encouraged full conceptualisation of the problem, giving rich context and meaning to the development of an action plan grounded in the research process and in the emergent theory:

> Many attempts to solve organisational and social problems fall short because they are not systematically derived from data nor theoretically sophisticated enough to address the multi-dimensional complexities inherent in the problems. (Simmons & Gregory, 2003, p. 3).

One natural product of grounded theory itself is that the process of constant comparative analysis and theoretical sampling together will challenge and reveal any incorrect assumptions that may be made by researchers (Glaser, 1978). This advantage transfers into grounded action. As the action plan is constructed using constant comparative analysis between theory, codes and category, and the original data, and may involve further theoretical sampling to gather action-related data, grounded action also mediates against such assumptions then driving the action plan (Simmons & Gregory, 2003). Hence, using grounded theory as the basis for grounded action ensures participants' concerns and their resolutions remain fundamental to the action design. Unlike other problem-solving approaches, Simmons and Gregory (2003) claim that grounded action uniquely separates the social or organisational problem from solutions, avoiding over emphasis on what the researcher-participants would like to happen, by instead initially identifying what the source of the problem is. Without focusing on what is happening in the social situation, there could be potential for disconnect between the planned actions and the actual need. The emphasis is on the need to "suspend the action problem" (Simmons & Gregory, 2003, p. 3); a process which mirrors Glaser's own emphasis on researchers putting aside their preconceptions to focus on the perspective of participants (Glaser, 1998).

Redman-MacLaren and Mills (2015) similarly described a process of adding action cycles to extend grounded theory methods, naming this transformational grounded theory. Developing action plans from formulated grounded theory allowed the grounded theory to be applied to situations requiring action or change. The point of difference between Simmons and Gregory's version of grounded action and this version of transformational grounded theory appeared to be that grounded theory methods were overlaid onto participatory action methods in a multi-cyclical process (Redman-MacLaren & Mills, 2015). Furthermore, grounded theory methodology used was not stated. Their research exemplified incorporating participants in phase two as co-researchers, as in keeping with principles of participatory action research, whilst upholding constant comparative methods and theoretical sensitivity, fundamental to the development of grounded theory and subsequent action plan. The advantage of using transformational grounded theory is that it allows a partnered and shared approach, supporting the continuance of health promotion initiatives or established changes once the research phase is concluded (Redman-MacLaren et al., 2017).

If designing actions is a purposeful function of the research, then the researcher must differentiate why grounded action principles and methods would be applied to a qualitative descriptive studies, rather than action research. Action research is generally seen as a way of resolving practical issues with "participative communities of inquiry" (Reason & Bradbury, 2008, p. 1). It is a creative response to identified practical community issues. Researchers and those experiencing the issues work together to find ways of knowing about the issues, sharing their learning with others in wider communities. Action research involves democratic solution-focused approaches in cycles of action and reflection, to solve the immediate practical problem and to encourage knowledge development and growth for actors in that community.

Dick (2007) compares action research and grounded theory, demonstrating that each method of research has something to offer the other. Action research has a strong participative basis and is more explicit about how action cycles are managed. Grounded theory may easily be extended into action but provides little information on how to do this. Participants (actors to compare with action theory terminology) are usually only involved as informants, and not as co-researchers contributing to developing theory.

Dick (2007) proposed that theory is often the most challenging part of action research, noting that in contrast, classic grounded theory offers detailed information on how theory emerges from the data using cycles of data collection, coding and memoing. His treatise included ways in which action research and grounded theory could be combined offering advantages of robust theory development whilst retaining participative focus, stating that if participants are involved in analysing the information they have provided, it may offer researchers protection against their own preconceptions. Whilst grounded action adheres more closely to classic grounded theory principles, and participants are involved in providing the data rather than developing theory, Dick's conclusions provided some confirmation of the usefulness of theory emerging from participant issues, as a basis for devising and implementing cycles of action plans. This is the basis for grounded action.

Toscano (2006) confirmed that grounded action forms a logical extension of grounded theory as it drives action to achieve change that has meaning and potential to produce a user-friendly, adaptable solution to the identified problem. He argued that this adaptability offers potential for participants within systems to develop, discover and evaluate a knowledge base that is immediately relevant to the situation, and can adapt to constant changes. Like Simmons and Gregory (2003), Toscano (2006) valued the systems theory basis of grounded action as it encourages responsiveness to shifting problems by examining how system parts inter-relate, directing change through the whole system as opposed to analysing one element that is not working well in isolation from its related parts. As patterns of human behaviour change constantly in response to societal and attitudinal changes, grounded action offers the potential to encompass such changes, providing adaptable action solutions which can themselves respond to change. However, Toscano (2006, p. 509) postulated that grounded action is rooted in "systems thinking" as it focuses on human interaction and how things function, rather than relying on either preconceived ideas or a more rigid approach to analysis:

> Whereas traditional **systems theory** follows a mechanistic line of reasoning, **systems thinking** does not. Systems thinking concentrates on the human interaction of seemingly unrelated constituent parts, so that analysis is, in actuality, an inversion of the conventional modernist position. (Toscano, 2006, p. 509)

Furthermore, Toscano (2006) believed that there is potential within grounded action to oppose hegemony in society, where hegemony is both the open and hidden influence one way of thinking has over other ways. Hegemony is linked to dominance and oppression, with dominant systems manipulating and subverting values of other systems to achieve its own end, as experienced in the subordination of minority groups, or of those who hold a weaker position in society. He argued that grounded action and grounded theory are associated with systems thinking. When applied they are able to overcome challenges of hegemonic domination, as they examine systems in their population and community context rather than applying solutions determined in another context or even another society or culture. Although Simmons and Gregory (2003) did not specifically discuss grounded action's potential to challenge domination or hegemony, they did assert the fundamental importance of generating a systematic grounded operational theory in its context, from an explanatory theory which determines the complex and inter-relating sources of a problem. Grounded action develops systematic context-based theory which can be used to bridge between those with more power and those with less power (Teram, Schachter, & Stalker, 2005), to achieve critical change (Toscano, 2006). Toscano's (2006) reference to systems theory and systems thinking highlight some theoretical underpinnings of grounded action, which are explored in more depth in the following section. Given that grounded action builds on grounded theory, possible philosophical influences of both grounded action and grounded theory are examined.

Philosophical roots of grounded action and theory

Philosophical foundations are important to methodology, as they provide a rationale or belief system with core principles; it is these principles which underpin the method and enable it to work in an ordered way. Nathaniel (2012) asserts that coherence and meaning is provided by the underpinning philosophy, in the following statement:

> If carefully attended, the first principles, assumptions and beliefs of a given philosophy contribute the ontology and epistemology to a *methodology* and hold it together. (Nathaniel, 2012, p. 187).

Ontology is the understanding of the nature of reality, and whether reality is external to an individual, or whether it only exists because it is perceived by an individual. For

example, positivist research is regarded as realist, because it assumes that all things exist, are ordered, and can be explained and verified (Guba & Lincoln, 1994; Lomborg & Kirkevold, 2003). Ontology informs epistemology, which is how knowledge is developed and describes the relationship between the researcher and what is known, and the basis the researcher has for making knowledge claims (Grant & Giddings, 2002).

While Simmons and Gregory (2003) did not specifically discuss the ontological position of grounded action, their explanations of the method indicate there is a reality, perceived by the participants, that can be discovered. Based in systems theory and grounded theory, grounded action embraces the complexity of social systems by using a systematic approach, attempting to uncover all relevant variables in micro and macro contexts (Simmons & Gregory, 2003). Stillman (2006) took this one step further, linking both grounded action and grounded theory to systems theory. She defined systems as an organised way of looking at integrated parts that form a whole, where the whole has properties that individual parts do not have. The whole is an entity which represents more than the parts, coming from the interactions or inter-relationships between the parts. Systems theory is generally taken to mean when one part of the system shifts, then other parts will also shift to maintain the whole balance. Stillman (2006) argued that both grounded theory and grounded action are concerned with exploring, describing, comparing and analysing inter-relationships between the parts of the problem or system, and examining how this influences the whole and how it affects other processes and systems that relate to it.

Systems theory was originally a concept arising from thermodynamics/homeostasis in biology and later applied to psychology and sociology by the biologist and philosopher Von Bertalanffy (Weckowicz, 1989). Von Bertalanffy was interested in building links between biology and other disciplines such as psychology, sociology, history and philosophy. He compared humans, organisms (systems) made up of complex chemical reactions, with systems of communication patterns and institutions (society), and with cultures which he viewed as a system of symbols. He disputed reductionism which claimed that animal and human responses were always a result of stimuli, drives or conditioned reflexes. Von Bertalanffy emphasised the importance of creativity and believed that although physiological drives have a part to play in human behaviour,

greater determination comes from self-created symbols and values, leading to culture development. Symbols are created from events which are given meaning and significance, and created into systems, or culture. He labelled his theory "general systems theory". He believed that systems created from the symbols become increasingly complicated until the complexity of the system makes it non-functional, and the system breaks down:

> They tended to become increasingly complex, to reach a zenith, then to become stereotyped, to decline, to lose artistic vigor, and finally to die, to be superseded by new styles and forms. (Weckowicz, 1989, Section 3.11.)

Until this happens, there is balance and the system accommodates change by adjusting actions of parts in response to other parts changing, so that everything works together in relation to each other.

Von Bertalanffy's views on self-determination, symbolism and the development of culture link with views of other pragmatist philosophers of the time, such as philosophy developed by George Herbert Mead. Mead believed that self is developed through relationship with others where there is shared meaning attributed to gestures, actions or words, and where the self can anticipate another's reaction and respond to that same gesture. People develop roles by recognising commonly attributed gestures; with these roles acquiring shared meaning. However, it is the conscious anticipation of others' reactions in wider communities that contributes to determination of self from the individual, alongside the capacity to be reflexive on how others perceive that individual. Meaning is attributed according to the way individuals inter-relate within a society or community. This philosophy was the basis for the development of symbolic interactionism, commonly attributed to Blumer (Bryant & Charmaz, 2007b).

This progresses to a complex interchange of suggested influences whereby systems theory is the philosophical basis for grounded action, with apparent links between systems theory and pragmatism. Suggested connections between grounded theory and pragmatism are discussed in more depth in a subsequent section on historical influences (Nathaniel, 2012; Strubing, 2007). Systems theory also underpins core elements of grounded theory – for example, researchers are working within a system, such as an organisation or community, when searching for theory to explain behaviour

relevant to the main identified problem (Stillman, 2006). The developed theory may apply to broader areas than the original researched system. The process of determining such a theory then takes a systems approach when exploring data. Constant comparison examines data against previously determined data to determine codes; codes are examined against raw data until categories emerge; using an organised or systematic approach examining the inter-relationships between codes, categories and their properties (Stillman, 2006). This aligns with Laszlo's view of systems, where each system is comprised of elements that work together and affect each other over time and work to a common purpose. In this view, systems theorists aim to find common features which have shared organisation (Laszlo, 1996). For grounded theorists, both the examination of inter-related elements of codes, categories and properties, and the systematic generation of such categories or concepts are important indicators of using a systems based approach to generation of theory (Stillman, 2006). Similarly, Stillman (2006) proposed that theoretical sampling involves examination of the emerging categories against wider systems, demonstrating systems within systems, and testing applicability to other social areas. The component processes of constant comparative analysis and theoretical sensitivity will be explained in more detail later in this chapter.

If accepting a systems view of all social processes within the world, it then follows that any theory development sits within the existing scientific, social and historical influences of the times (Bryant & Charmaz, 2007b; Stillman, 2006). Within this context, it is important to consider both the initial influences behind grounded theory and subsequent developments. The following section expands individual influences on Glaser and Strauss which may have contributed to the development of grounded theory and discusses some of the debate surrounding philosophical influence and subsequent evolutions in grounded theory.

Grounded theory in historical context

Whilst Glaser and Strauss (1967) did not align grounded theory with philosophy or theory, there has been wide discussion amongst academics attempting to provide such links (Bryant & Charmaz, 2007a; Gibson & Hartman, 2014b; Lomborg & Kirkevold, 2003; Mills, Chapman, Bonner, & Francis, 2007). Grounded theory has been placed within both positivist paradigms (Bryant & Charmaz, 2007b) and post positivist paradigms,

(Annells, 1996; Guba & Lincoln, 1994). For example, academics postulate that as the research era in which grounded theory was initially developed emphasized the importance of ensuring objective and rigorous research, new approaches were needed to be able to demonstrate equivalent rigour, using objectivist approaches, by copying the current "orthodoxy" of the time:

> It was hardly surprising that GTM in the 1960s took on the mantle of the prevailing positivist view of knowledge and applied it to qualitative research, hence the focus on data, fit, etc. (Bryant & Charmaz, 2007b, p. 34)

The essence of this argument is that in *The discovery of grounded theory,* Glaser and Strauss (1967) asserted that truth could be determined from the data, and that the authors' persuasion and own knowledge was put to one side and mitigated against by the process used. Bryant and Charmaz (2007b) disputed that it is possible to take the researchers' background and perspectives away from their interpretation of the research, arguing that seminal grounded theory prioritises researchers' findings and interpretations over the participants' experiences. Nevertheless, they did acknowledge that there were other messages less overtly stated within the initial developed methods – observing that Strauss was aware of perspectives framing how people viewed objects or actions, and in *The discovery of grounded theory (Glaser & Strauss, 1967),* there was understated reference to the researchers' experiences shaping the analysis .

By contrast, Simmons (2011) countered that there were no objectivist assertions made by Glaser and Strauss in "*The discovery of grounded theory*". Simmons (2011) argued that as Glaser and Strauss were aware of the ontological and epistemological arguments of the time, they would have made such assertions themselves, if objective reality had been the basis for their approach. Instead, people have different perspectives which are collected together by the researcher, also with a perspective. Having view of the many perspectives enables the researcher to determine if there is an underlying or latent pattern, which is not the same as indicating an objective reality (Glaser, 2002; Simmons, 2011). Simmons (2011) proposed that labelling classical grounded theory as objectivist is itself a constructivist interpretation, as it claims proof of objectivity without being able to ascribe detailed evidence. Furthermore, Glaser (2002) continued to assert that grounded theory is atheoretical and process driven, and

that it can be used with either qualitative or quantitative approaches, refuting attempts to interpret grounded theory's stance on truth, reality or positivism.

The historical context in which grounded theory emerged did provide some explanation for its position. At the time of its development, the overarching scientific approach was based on proving or disproving hypotheses, assuming that there was a reality which could be proved or disproved, and that the research would not impact or change that reality (Norton, 1999). This was an era of positivist research, with expectations that researchers' views and interpretations were incidental to the research process. Grounded theory was a way of exploring social processes in a broader context than the traditional accepted positivist stance of experimentation to prove or disprove hypotheses (deductive approach) (Glaser & Strauss, 1967), thus challenging traditional research methods. The emphasis was on using an inductive approach based on naïve inquiry, focusing on discovering participant issues and uncovering latent (hidden) behaviours. The fundamental importance was in establishing a movement away from the positivist approach of validating hypotheses (context of justification) by using a rigorous constant comparative method in which theory emerges (context of discovery) (Glaser & Strauss, 1967). The data was not used to test existing theory, but generated new theories grounded in participants' perspectives, conceptualising the main issue the population is concerned with, and capturing how the issue is resolved (Achora & Matua, 2016; Glaser & Strauss, 1967). Lomborg and Kirkevold (2003) proposed that this movement from justification to discovery was pivotal to the formation of the methodology and informed the method development, upholding that it is not surprising that classic grounded theory did not focus on the nature of truth. Ontological terms of "truth" and "the nature of reality" were replaced by use of terms "credibility", "trustworthiness", and "faithfulness". The concern was to provide a redirection of method which would be regarded as equally rigorous as that used in deductive methods of research, and which would offer an approach that was replicable:

> A key strength, and one still central to GTM, is that it offers a foundation for rendering the processes and procedures of qualitative investigation visible, comprehensible, and replicable. (Bryant & Charmaz, 2007a, p. 33)

The research method needed rigour to counter academic criticisms of the time, which centred around the lack of research rigour in theory claimed by social scientists. Often

such theory was asserted but difficult to verify using traditional positivist research methods (Stillman, 2006). Glaser and Strauss (1967) identified that their purpose was to develop a robust, generative method which could be used for either quantitative or qualitative research, demonstrating objectivity through theory emergence from the data and participants' perspectives on their situation. The focus was to conceptualise the principle issue of concern in a population and to determine how issues are resolved, so that social behaviours and actions could be explained (Achora & Matua, 2016; Holton, 2012). Anticipating criticism on the validity of the method, Glaser and Strauss (1967) proposed four concepts which could be used to measure rigour. These were fit, work, relevance and modifiability, and they remain as fundamental concepts of grounded theory; explained in the later section "Rigour in Grounded Theory".

Glaser's continued assertions on the a-theoretical nature of grounded theory have not dissuaded academics from attempting to link grounded theory with philosophical or theoretical approaches. Annells (1996) acknowledged a paradigm shift from the primary positivist approach of the time, but identified the confusion over trying to place grounded theory into another paradigm. Guba and Lincoln (1994) identified four paradigms of inquiry: positivism, post-positivism, critical theory (or critical realism) and constructivism, in chronological order of their appearance across the last century. In particular, critical realism expresses that there is a subjective relationship between the researcher and co-participants, but a form of reality can be determined practically through repeated observations and discussion. Using Guba and Lincoln's (1994) paradigm classification, Annells (1996) identified that classic grounded theory takes an ontological position of critical realism – that reality exists and can be mostly, but not completely, understood, and as such, it falls in the post-positivist paradigm. Although Glaser and Strauss (1967) claim an objective approach, Annells (1997, p. 121) renamed the epistemology as modified objectivist, suggesting a "revised positivism". This is consistent with grounded theory as one of the first innovative research methods to move away from the deductive positivist approach to research. To support this, Annells (1996) drew from Denzin and Lincoln's (1994) conceptualisation of research periods as five moments, placing grounded theory in the second moment – the first being traditional scientific inquiry moving towards developing some understanding of social realism and ethnography.

Extending the discussion, some academics have related this ontological uncertainty to ontological ambiguity existing in pragmatist perspectives, arguing that influences from pragmatism and social interactionism were evident in the development of grounded theory (Bryant & Charmaz, 2007a; Lomborg & Kirkevold, 2003; Nathaniel, 2012). Strauss in particular was influenced by pragmatism, which he later acknowledged in his partnership with Corbin (Strauss & Corbin, 1990). Whilst emphasis on inductive process and conceptualisation of theory was critical to grounded theory, Lomborg and Kirkevold (2003) concluded that the practical nature of the research has evolved from pragmatism. However, Pierce's pragmatism is not clear on the nature of truth and realism as truth is discussed as a collective position or consensus, meaning that it is the idea or action that is collectively decided upon, rather than being an external reality (Lomborg & Kirkevold, 2003). Other pragmatists, such as Mead and Blume, in their assertions on symbolic interactionism, managed the ambiguity around truth by propounding that reality can be discovered in the real world, but there is also a social world in which symbolism is agreed by the collective community. Meaning attributed to objects, actions or roles is assigned through collective agreement, and such meanings can be modified. The difficulty here is that the separation between what is empirical and what arises as a result of symbolic interactionism is not clearly defined (Lomborg & Kirkevold, 2003). An alternative interpretation suggests that collective meanings can become social facts, if they are considered by social researchers, which provides a notion of reality that is consistent with seminal grounded theory.

Glaser and Strauss were influenced by their individual mentors and experiences, and by the era in which they partnered to discover grounded theory. This was a time of rapid change and debate in which new ideas were engendered and discussed within academic and therapeutic circles. Glaser and Strauss had diverse earlier experiences and influences, contributing to their discovery of grounded theory. Glaser developed his interest in sociology, social behaviour and processes during his first degree. At the same time in the wider academic world, there was increasing questioning of traditionalism and rigidity, symbolised by the movement from Freud's rigid psychoanalysis to more autonomous forms of therapy, such as Gestalt therapy (Holton, 2012). A year at Sorbonne fostered Glaser's awareness of using explication as a method of language analysis to determine patterns and structures, which later played a significant part in

the process of data analysis to determine underlying patterns (Holton, 2012; Nathaniel, 2012). Glaser subsequently worked with a positivist mathematician, Lazarsfeld, who brought a focus on conceptual analysis and on unobserved variables to his quantitative and qualitative research methods. Both conceptual analysis and the importance of being able to work with quantitative and qualitative designs were incorporated into grounded theory (Bryant & Charmaz, 2007b). Lazarsfeld was particularly interested in determining what indicators were, so that interchangeable indicators could be sought, with concepts developing from the indicators; this contributed to grounded theory's focus on latent patterns when considering social processes. These concepts were used to further develop constant comparative analysis (Holton, 2012) although Gibson and Hartman (2014b) comment that it is more important to regard how Glaser and Strauss moved away from Lazarsfeld's methods by reversing the order of concept development. Lazarsfeld assumed that research moved from concept awareness, to naming dimensions and then searching for indicators using deduction. Glaser and Strauss inverted the process, starting with indicators and building general categories using comparison. Glaser's experiences of studying language patterns, evolution and exposition in France also figure in the techniques used in open-coding to discover latent meaning (Holton, 2012). Merton was Glaser's second mentor whose interest in theory construction was expanded and incorporated into grounded theory methods; Merton used theoretical coding models to develop substantive data – ideas subsequently developed in grounded theory's approach to coding, memoing and determining categories and concepts from codes (Gibson & Hartman, 2014b). Snowballing was used to recruit participants, which became the foundation for theoretical sampling (Holton, 2012). Glaser (1998) later compared Merton's work with his own, identifying that Glaser had been able to expand on concepts achieved by Merton in one research project, attributing this to Merton's limiting of the data and failing to analyse further against existing codes and data. From this, Glaser was convinced that theory had to earn its relevance, contributing to the concepts of both constant comparative analysis and of fit.

Glaser's third mentor or supervisor, Zetterburg, was acknowledged for his humanistic approach to keeping research practical when developing theory, ensuring its usefulness to practitioners, and grounding the theory by comparing concepts. Glaser

acknowledged these influences when naming the research method "grounded theory" (Holton, 2012). Zetterburg was also concerned with theory which provided little information and that which was more expansive in its ability to explain, and Holton (2012) relates this to Glaser's emphasis on developing substantive and formal theory.

Strauss's interest in the initial grounded theory research, *"Awareness of dying",* was fostered by the illness and death of his own mother (Bryant & Charmaz, 2007a); Glaser also had a personal interest in studying dying as he had lost his father prior to joining the research team. Although Glaser and Strauss did not elaborate on how their individual experiences may have influenced coding or concept development, Strauss was interested in how experiences serve to influence thoughts and interpretations. He used students' own experiences to support them in learning and implementing grounded theory (Covan, 2007). Strauss himself was influenced by Blumer, who had been a student of Mead, owning the influence pragmatism has had on grounded theory both initially and in his co-development of axial coding with Corbin (Nathaniel, 2012; Star, 2007).

Some discussions have credited symbolic interactionism as the theoretical basis for grounded theory (Achora & Matua, 2016; Annells, 1996; Lomborg & Kirkevold, 2003; Norton, 1999; Strandmark, 2015). Symbolic interactionism is attributed to Blumer, who himself worked closely with Mead (Annells, 1996; Holton, 2012) and assumes that reality exists but can only be found in the empirical world. There are three identified principles relating to human experiences. Firstly, humans attribute meaning to things based on their experiences and act on those meanings. Secondly, meaning is derived from social interactions between people. Thirdly, meanings are constantly reinterpreted and processed, and as people become aware of the phenomenon that creates the meaning, they communicate this with others. A person frames his actions by deciding on the meaning of others' actions. This complex process of interaction with others changes dynamics between people in different contexts. Blumer's assertion that reality exists and is focused on an empirical world which can be researched and analysed did not provide explanation on how the empirical world is verified in any situation or research (Lomborg & Kirkevold, 2003).

Glaser (2002) acknowledged that whilst symbolic interactionism did play a part in developing the framework for grounded theory, it is not the underlying foundation. Nathaniel (2012) categorised four processes involved in grounded theory, linking them with pragmatism, as conceptualised by the philosopher C.S. Peirce. Notably, Peirce influenced several of Glaser and Strauss's mentors, so it is logical that the influence was continued into grounded theory, and hence into grounded action. Nathaniel (2012) connected grounded theory's premise that there is an objective reality to be discovered, and data is collected from the participants, with Peirce's belief that there is a reality and events can be objectively observed. Peirce also theorised that truth is dependent on collective agreement or consensus, independently of individual interpretation, providing some ambiguity (Lomborg & Kirkevold, 2003). Latent patterns link to Peirce's belief that the universe creates order from chaos. Peirce discussed signs which are used in communication to create meaning; these either imitate objects (icons), indicate something about objects (indices), or are associated with meaning using common language. The signs are brought together in unified concepts that are recognised and interpreted by the converser and the listener. Nathaniel (2012) perceives this as linking to the discovery of the participants' main concerns and how these are resolved, and the identification of latent patterns. Peirce's signs contributed to Blumer's concepts of symbolic interactionism; and as stated earlier, Glaser acknowledged this influence (Achora & Matua, 2016; Annells, 1997; Norton, 1999; Strandmark, 2015). Richardson and Kramer (2006) similarly aligned Peirce's philosophy of pragmatism with classic grounded theory, observing that abduction forms key components of both pragmatism and grounded theory. Abduction is a process where new concepts are developed, and unified concepts are collected together to form a theory. This involves imagining and theorising at the same time as collecting data and is a central principle in Glaserian grounded theory (Coffey & Atkinson, 1996; Lomborg & Kirkevold, 2003; Richardson & Kramer, 2006).

From a personal perspective, there is reality in the physical world in terms of verified existence of physical elements and parameters that can be viewed and measured; for example, the sea exists and tides rise and fall. However, reality in the social world is often obtained by implicit collective agreement of groups, so although individual experiences differ, there is an overarching collective experience, or collective reality,

informing group behaviour. Patterns of behaviour in a group evolve over time and become a cultural or social reality for that group. It is this social reality which is the object of study in grounded action and seminal grounded theory; critical realism provides a platform for critiquing what is happening in the world and for determining operational constructs from grounded theory. Furthermore, both systems theory and pragmatism provide practical bases for analysing what is happening, constructing operational theory in grounded action, and interpreting and analysing efficacy of actions. This personal philosophy relates well to Peirce's pragmatism, where truth depends on group agreement, but truth can be sought and collectively determined. Peirce declared that to determine meaning, it is necessary to establish what collective actions are undertaken, with those actions ascribing meaning. For example, if a group of actions in a certain context is thought to be nursing by everyone in that context, then it is nursing (Bryant & Charmaz, 2007b). Seminal grounded theory seeks out actions to determine meaning, by asking "what is happening here?", focusing on the participant experience from the participants' perspectives. The demonstrated coherence between pragmatism and seminal grounded theory suggests that pragmatism has contributed to the philosophical roots of grounded theory, and it may go some way to explaining its epistemology, and the development of the methods used (Nathaniel, 2012). Nevertheless, it is also important to recall that Glaser (1998) emphasised that it is adherence to the methods which make the process meaningful, and that discussions about ontology are unnecessary, as any theoretical position can be taken.

Although the links between pragmatism and classic grounded theory have been established here, Gibson and Hartman (2014a) argued that describing these links is not enough to establish that pragmatism is the philosophical framework underpinning classic grounded theory, and so it cannot be said it supports the methodology. Instead, they debated that grounded theory makes unrecognised theoretical assertions, for example when questioning what the nature of concepts and properties are:

> …Questions about the nature of concepts and properties, for example, and their relation to reality are clearly philosophical. They are a priori questions which cannot be solved by doing empirical research and they have been discussed by philosophers since antiquity. (Gibson & Hartman, 2014a, p. 19).

Evolutions in Grounded Theory

In the fifty years since classic grounded theory was developed, other forms of grounded theory have emerged. Some academics regarded this as part of a natural evolutionary process reflecting changes in the research community as interpretive methods have gained acceptance (Annells, 1997; Bryant & Charmaz, 2007a; Denzin & Lincoln, 1994; Strauss & Corbin, 1990). However, Glaser consistently asserted that other approaches are different research processes and should not be labelled as grounded theory (Glaser, 1992, 1998).

Strauss and Corbin (1990) developed complex coding process in their version of grounded theory, developing a formalised process of axial coding. Axial coding involves researchers considering varying contexts of the research problem, including organisational, community, national and international conditions. Perhaps in response to the increasing debate on ontological and epistemological perspectives of research, Strauss and Corbin (1990) stated that reality is always relative, as the researcher's perspective will always be contained within the theory produced and as theory is developed by the researcher, the theory is always subjective (Markey, Tilki, & Taylor, 2014; Strauss & Corbin, 1990). Strauss and Corbin (1990) identified pragmatism interpreted by Dewey and Mead, and symbolic interactionism, as philosophical and theoretical underpinnings of their form of grounded research. This influence contributed to Strauss's view of people – including their interactions and commitments in the groups they occupy, which he referred to as social worlds. Strauss identified that social worlds themselves generate identity and views, which determine both individual and group action; a similar position to that of Mead's universe of discourse (Clarke & Friese, 2007).

Glaser and Holton (2004) rejected this form of grounded theory, asserting that theory emerges from the process. They described this version of remodelled grounded theory as a form of qualitative data analysis rather than grounded theory, as it produces description. Furthermore, their critique stated that defining and restricting the epistemology produces bias, distortions and forcing of the data (Glaser, 1992; Glaser & Holton, 2004).

Situational analysis also developed from grounded theory, based on a premise that everything in the situation affects everything else in the same situation in some way, and from Foucault's explicit strategies on examining discourse. Clarke and Friese (2007) repudiated the need for Strauss and Corbin's axial coding, regarding the elements and conditions as an embedded part of the situation, postulating that it is unnecessary to consider elements and conditions in an analytic matrix. Instead, within situational analysis it is the situation itself that is the unit of analysis, and the key question centres on how the conditions appear within the situation being examined. Clarke developed three maps to use as analytic tools, in a cartographic approach. These are

- situational maps, providing an analysis of relationships between humans, non-humans and other elements in the situation being considered,
- social world/arena maps, which consider how the actors and non-human elements mediate their world by negotiating and interpreting their situations,
- positional maps, which mark decisions made and positions taken, and those decisions not taken by considering areas of difference, alongside controversial positions taken.

As with seminal grounded theory, situational analysis may use varying methods of inquiry from interviews, ethnographic, historical, visual or narrative interpretation, and is useful in multimodal research. Whilst Clarke adheres to principles of classic grounded theory, such as analysing data from initial collection, coding, theoretical sampling and grounded theorising, she also demonstrates a clear purpose to regenerate grounded theory method from its original positivist roots to a postmodern position (Clarke & Friese, 2007).

Charmaz also moved away from the positivist roots of grounded theory in constructivist grounded theory, which is founded on an epistemology claiming individual perceptions of researcher and researched cannot be kept out of the research process. Research deduces how situations are constructed by the actors in the research situation. Glaser (2012) again described this as an alternative form of qualitative analysis as he felt that constructivism was just one of the epistemologies that could be applied to grounded theory, and that Charmaz's approach is too simplistic as it reduces grounded theory to one epistemology and frequently one method, with interviewing often being the only

form of data analysis used. Glaser criticised the emphasis on storytelling, concluding that this may result in failure to determine latent pattern concepts or identify the participants' main concerns. Imposing a mutual understanding between the researcher and the participant overlays the researcher's own perspective, whilst classic grounded theory attempts to use participants' perspectives without the researcher's influence. Glaser (2012) therefore argues that more weight is given to the researcher and the participants' main concerns are in danger of being discounted.

To summarise, although grounded action is a further development of grounded theory, Simmons and Gregory (2003) are clear that grounded action does not alter grounded theory in any way. It retains the same inductive process, with the addition of developing action cycles grounded in the discovered theory. Grounded action has been developed to extend grounded theory into action phases, and shares emphasis with grounded theory on the importance of method and rigorous processes. Systems theory was explicitly named as the basis for grounded action (Simmons & Gregory, 2003), and integrates grounded action and theory with its emphasis on systems being composed of shifting dynamic processes that move in balance to complete a whole entity (Simmons & Gregory, 2003; Stillman, 2006). Grounded theory examines the social experiences of the participants around a specific social entity, using theory to explain the experiences of that entity with all its static and shifting categories and properties. Grounded action moves the theory into action using the same systems theory principles. Similarly, there are links between pragmatism, particularly symbolic interaction, and systems theory – as both discuss symbols being created from events, which are ascribed meaning either by individuals or societal cultures. Although not explicitly stated for either grounded action or theory, the pervasive influence of pragmatism on philosophy and general academic thought and developments can be perceived in the design of these research methods. Both grounded action and grounded theory search for "what is" (Simmons & Gregory, 2003, p. 3). The focus is on determining what the participants' perspectives are on their experiences, examined in their complexity. This appears to relate to a position where meaning is attributed to events, as in pragmatism. Although truth is not explicitly examined, a position of critical realism has been ascribed; the truth being searched for is that ascribed to the events by the participants.

Furthermore, grounded action and grounded theory both work from principles of keeping the researcher's perspectives to one side in order to ensure the participant's voice is channelled and reflected in the theory and subsequent action plans presented. The researcher's awareness of the field is only acknowledged at the point of theoretical sensitivity, whereby knowledge of the emerging categories is used to compare what is known with what is emerging (Glaser, 1978; Glaser & Strauss, 1967; Simmons & Gregory, 2003). General processes of ensuring participant focus, and other elements of grounded theory, are explored in more depth in the following section.

Core elements of grounded theory/ grounded action

As stated, grounded theory applies a systematic approach to discovering the main concerns of participants, and the way these are resolved (Glaser, 1978, 1998; Glaser & Strauss, 1967), or "what is happening here?" (Grant & Giddings, 2002, p. 17). It is important the researcher remains open to all possibilities throughout the research process, including what participants see as the main concern, and to the relevance of local or professional constructs; this is termed theoretical sensitivity (Gibson & Hartman, 2014b; Glaser, 1978; Glaser & Strauss, 1967). In maintaining theoretical sensitivity, Glaser and Holton (2004) identify that researchers need to remain open, trust concepts that are emerging, and tolerate confusion in the cyclical process. They also need to be able to develop theoretical insight into the area being researched from which theory can be developed. This involves putting aside any preconceptions and holding any prior knowledge on one side, so that it does not influence emerging concepts.

Either qualitative or quantitative approaches can be taken, often beginning with unstructured interviews or observations to collect data but may progress to other methods such as examining archival quantitative data. Appropriate method for research may change as the research progresses, and is also revealed by the emergent data (Simmons & Gregory, 2003).

Holton and Walsh (2017) identify three foundational principles, which are emergence, constant comparative analysis and theoretical sampling, explained below. Charmaz (2006) also claims three tenets in constructivist grounded theory: focus on meaning,

mutual creation of knowledge and use of established theoretical perspectives from sociology. Focus on meaning purports to extend interpretive understanding, and regards the phenomenological meaning people attribute to behaviour, rather than explaining why people are acting in a certain way (as in seminal grounded theory) (Gibson & Hartman, 2014b). Mutual creation of knowledge indicates a shared perspective whereby the researcher aligns themselves with the researched, suggesting joining of the participants with the researcher to create knowledge with a hermeneutical focus; again, this contrasts with seminal grounded research where there was intentional separation between the researcher and researched, although the participants' perspectives were paramount. Gibson and Hartman (2014b) critique Charmaz's assertions around using theoretical perspectives – claiming that it is unclear whether Charmaz means different theoretical perspectives such as feminist, phenomenological, or political perspectives may be used whilst using grounded theory, or whether she infers that grounded theory strategies can be used in other kinds of research.

Emergence

Glaser and Strauss (1967) discussed emergence in the broadest terms, so whilst emergence is usually taken to mean the process of encapsulating the concerns of participants until the main concern is revealed, it also refers to other aspects. The researcher begins with an open area of study and decides initially on how data is to be collected and from whom. As data is gathered and explored, concepts emerge, and it may become apparent that the research question changes or emerges from the participant input – it may be also that the initial loose framework of who data is collected from, and perhaps how data is collected, needs to change as a result of the emergent developing concepts and the identified main concern.

Conceptualisation

Conceptualisation of this main concern becomes the basis for theory explaining how the main concern is managed or resolved by the participants. Researchers maintain an open position without personal or professional preconceptions so that latent patterns can be discovered and theories developed to explain the social process encountered (Glaser, 1978, 1998; Holton & Walsh, 2017). Categories must not be imposed on the

data, but relate to and emerge from the data, so that emergent theory also fits and explains the data. Conceptualisation of what is happening, what the issues are and how they are being resolved, begins from initial data collection and is refined, altered or developed as subsequent data is collected (Glaser, 1978).

Glaser (1978) was clear that there are several activities which could prevent emergence, including specifying research questions which remain unchanged as the research progresses, assuming the relevance of a theoretical code without testing it, assuming that certain variables are affecting the data such as gender, race or culture, age and so on, or doing extensive literature searches prior to starting the research. Glaser and Strauss (1967) controversially stated that grounded theory does not require identification of a theory gap prior to commencing study; indeed, as the research question can only emerge as the participants' concerns are discovered, the main issue is not known and therefore any preliminary literature search may become meaningless or the researcher may unconsciously try to incorporate previous findings into this research, confusing the participants' data and not allowing latent patterns to be uncovered. Glaser (1978) instead suggested that a literature search is more appropriate after the main concern and core category have emerged; at this point in the research, it can become part of the data used for constant comparative analysis.

Theoretical sensitivity

Emergence only occurs with openness – the researcher puts aside all preconceptions or prior knowledge about the area being studied and attends carefully to the data by a process of constant comparative analysis, which is explained in the next section. It is important to distinguish between using current understanding or knowledge to impose thoughts and concepts onto the data, and being sensitive to existing theory which may link with emerging concepts (theoretical sensitivity) (Gibson & Hartman, 2014b). Theoretical sensitivity referred to being sufficiently aware and knowledgeable to draw from a variety of disciplines, existing theories and constructs when generating theory (Glaser, 1978; Glaser & Strauss, 1967) from the data in an iterative process described below. This links constant comparative analysis with openness – ensuring that researchers retain an awareness that there may be different ways of coding and theorising around the data. Examples of data which are different from other examples

become important to provide what distinguishes one against another, which in turn can be helpful in limiting or defining the theory (Gibson & Hartman, 2014b; Glaser, 1978). This might involve relating different categories together where there is seen to be a defining connection.

Theoretical sensitivity requires openness to considering the way participants regard and translate different experiences, and how they may perceive their circumstances differently and respond in varying ways. These variables become important in the comparison process, with coding and analysis integrating similarities and differences.

Separating prior interests from preconceptions allows recognition of the researcher's background and motivation, so that the researcher can ensure they are aware and strive to examine such influences on the way they interpret findings. Gibson and Hartman (2014b) observe that preconceptions are often subconscious, leading the researcher to interpret results using their own concepts, which may hinder true emergence. Simmons and Gregory (2003) extend this notion of theoretical sensitivity into grounded action when they discuss suspending any ideas about the action problem, or necessary action, when determining what the participants' main concern is from the initial presented data.

Constant Comparative Analysis

Constant comparative analysis is the building process used to develop grounded theory. Data slices are compared to generate concepts encapsulating a meaningful explanation of the data, ultimately linking all aspects of the data together. The analysis of data begins from the first data collection and continues through all stages, with comparisons made between data slices. As codes and categories are generated from the examples or data slices, these are also examined against existing data and new data (Glaser, 1978; Glaser & Strauss, 1967). Apparent differences or exceptions are carefully explored, in a creative process considering how the elements are different from the emerging concepts, and whether this can be resolved by considering a higher concept. Hence, the process moves from narrow consideration of data slices, comparison, widening to broader generalisation across the comparisons (Gibson & Hartman, 2014b). Flexibility is important, as the researcher remains open to reconsidering concepts and categories, to

obtain more coherence or better fit across the data (Gibson & Hartman, 2014b; Glaser, 1978; Glaser & Strauss, 1967).

Glaser (1978) discusses a back and forth process, where constant comparative analysis is happening throughout the research, and both coding and analysis is simultaneous with data collection. Similarities generate statements or observables that can be applied across different data slices (analysis units) (Glaser & Strauss, 1967). Constant comparative analysis results in the emergence of a core category which demonstrates validated integration and clarification of other categories, showing whether further categories are needed. Constant comparative analysis therefore generates and delineates the theory, by ensuring that all properties of the theory are incorporated, and no new properties or categories are emerging. Testing and writing the theory become a part of the constant comparative process.

Constant comparative analysis has four purposes (Glaser, 1998): to identify and check that any patterns in the data are denoted as categories, to ensure that category names are meaningful to the concept or pattern of behaviour which they describe, to determine properties – or what is needed for a category to occur, and to ensure that saturation has been achieved so that the categories and core category identify what is happening in response to the main concern. Emergent conceptual ideas have to show relevance, and if relevance cannot be demonstrated then that concept is discarded, so this delimits the theory to what is relevant and fits the data (Glaser & Holton, 2004). Thus, the emergent theory is grounded in the data.

Theoretical Sampling

Theoretical sampling occurs alongside constant comparative analysis and is a process of deciding what data is collected as the theory emerges. The emerging theory suggests where to find the data. Sample comparison groups are selected to test the theory or to further elaborate the theory, and so the selected groups of participants need to be able to generate further understanding of the emerging categories, properties, and integration of these to lead to theory development (Glaser, 1978, 1998; Glaser & Strauss, 1967). Memoing helps with deciding where the gaps in the research are – this may mean searching for data from new sources of information.

Alongside enriching or testing the theory, theoretical sampling also reduces the amount of data needed as the research moves from broad collection of data to specific collection around the identified main concern, core category, categories and their properties, and the developing theory (Glaser & Strauss, 1967). Theoretical sampling may involve changing the strategies used to collect data or changing the group or groups of participants data is being collected from, or it may mean focusing on a specific part of a group. It may also involve returning to earlier participants to ask for information on specific developing concepts.

In grounded action, theoretical sampling is used to gather more data to provide information on professional, organisational or social contexts, budgets, resources and any other variables that may need to be considered when developing operational categories from explanatory theory. This may mean returning to participants, determining other participants, or exploring other data sources to enrich and expand the available data, thus strengthening the action plan (Simmons & Gregory, 2003).

Coding

Coding describes a set of techniques used for two purposes – developing categories which explain the data, and then integrating the categories into an ordered theory (Gibson & Hartman, 2014b; Glaser, 1978). Glaser and Strauss (1967) emphasised that this process occurs in conjunction with data collection and analysis, and that the three parts relate to each other.

Glaser (1978, p. 57) identified several 'rules' governing coding. The first two rules involve asking questions of the data and using a line by line approach. Initially, the data is fractured into small segments before developing conceptual groups or codes which abstract what is happening in that small section. Three questions are considered when analysing the fractured segments of data: what is this data a study of; what category does this incident or data slice indicate; and what is happening in the data (Boychuk Duchscher & Morgan, 2004; Glaser, 1978). Labels or codes describe the activity or concern occurring in the segment, representing overt findings or covert findings (that which appears to be implied rather than stated). Using a line by line approach allows

details to be considered, and categories can be verified and saturated; it also ensures that everything is included for consideration.

The third of these rules stresses the need for the researcher to code their own data (Glaser, 1978). The saturation of categories is a conceptual process involving more than determining how many times a code emerges from the data, as it must also consider how does the potential category fit with other data slices and integrate with other codes. It is the researcher who must produce the codes and consider the inter-relationships as the coding progresses.

Associated with this, the fourth rule recognises that the researcher needs to stop coding when ideas are emerging, so that the ideas are elaborated in memos (Glaser, 1978). This is considered in more detail in the following section, but the ideas generating are the beginning of the conceptual process to develop theory.

The fifth rule directs researchers to remain within their substantive area of study and not consider the theoretical application to other areas until the fit, relevance and workability of the theory have been confirmed. Moving beyond the substantive area may be done once the theory is fully formed, saturated and checked against these criteria (Glaser, 1978).

The final rule reminds the researcher that they should not assume variables such as gender and age are relevant unless this is demonstrated in the data; as the codes needed to describe and group data together are verified and corrected until saturation is achieved. This will produce codes that vividly portray the data they represent, then generates further analysis and ideas (Gibson & Hartman, 2014a; Glaser, 1978).

Open coding was described as the initial process of developing categories reflecting the data, and for considering the inter-relationship of these categories, identifying what was the main concern and the dominant or core category. The core category relates to as many of the other categories as possible, describing much of the behaviour observed in the data. Stability is demonstrated by frequent reoccurrence of the pattern.

Once this is established, the core category becomes the selective focus of future sampling, coding and memoing to saturate the core category and ensuing theory. The

second coding process ensues; Glaser (1978) referred to this process as selective coding, whereby the researcher considers only those variables that relate sufficiently to the core category. Focus is placed on variables relating to the core category; gaps are identified and rectified through theoretical sampling, with selective coding continuing a process of integrating categories into theory through increasingly analytical memoing. If the core category has been selected wisely, it will link with other categories easily and will enable theory development. The process is delimited so that extraneous codes which do not relate to the core category are discarded. Selective coding also governs testing concepts in the developing theory.

A distinction was made between substantive coding and theoretical coding (Glaser, 1978). Substantive coding relates to initial coding, placing similar activities, ideas or difficulties together to express the data. Theoretical coding develops hypotheses from the examination of how the emergent substantive codes relate to each other and to the core category, ultimately integrating the theory. It is theoretical coding which completes the process of reworking the fractured data into a unified social story, capturing the concerns and how they are resolved.

Glaser (1978) described eighteen of the most used coding families which can be used to delineate theoretical coding, although also indicating this list was not exclusive. Selected coding families are briefly described in this section. The first was the six Cs – causes, contexts, contingencies, consequences, covariances and conditions; and of these, many studies were identified as fitting causal, consequence or condition models.

 The process model was next ascribed, assimilating sequencing through processes, phases, passages, progressions, stages or cycles. The implication is that a series of things happen over time.

Another coding family considers how dimensions of something affect the working of the model by considering the smaller parts; often this refers to operational dimensions which impact on concepts and define how they work.

The researcher uses the coding family selected as a tool to analyse the data, contributing towards integrating codes into theory. Although several coding families may fit the data, using one guides thoughts and ideas through the coding family's

identified patterns to integrate the data. The emergent theory must then be grounded, to mitigate against simple logical derivation (Glaser, 1978).

From open coding through to selective coding, substantive coding to theoretical coding, memoing is used as a tool to express observations, ideas and links. Ideas are captured as they are conceived in a parallel process, considering and expressing thoughts around relationships between codes and categories (Gibson & Hartman, 2014b; Glaser, 1978).

Memoing

Memos involve a process of conceptualisation. They are used to note and interpret researchers' ideas around how the codes can be grouped together into categories, what properties the categories need in order to function, and how the codes and categories relate to each other. Theoretical memoing is the process of expressing conceptualisation and moves codes from a fragmented collection of activities or descriptions to more coherent abstraction of theory (Bryant & Charmaz, 2007a; Glaser, 1978; Holton & Walsh, 2017).

Glaser (1978) clearly determined that memos may take any form – they are the researcher's aid to observing thinking and as the research progresses, memos become more refined, as emergent ideas are examined critically and analysed against the data. They are theoretical notes which examine links and conceptual connections between categories (Glaser & Holton, 2004). The process of conceptualising, or developing theory through memoing, is likely to result in movement of categories as the researcher continues considering what is happening and how does this work. For example, it may be that something that was initially thought to be required for something else to happen (a property), is really a category; or categories that have been labelled separately are really one issue when more fully conceptualised and explored. Categories may be modified as more data is collected, until theoretical saturation is achieved when the categories can be elaborated to explain theory and nothing new can be added (Glaser, 1998; Holton & Walsh, 2017).

Concepts

Whilst the notion of conceptualisation is fundamental to analysing data, and to identifying codes and memoing, the term "concepts" is used in different ways by

different grounded theorists. Concepts and categories may be used interchangeably (Charmaz, 2006), or may be given different meanings. Strauss and Corbin (1990) suggest that concepts are a component of all theories, and are also grouped together to form categories – therefore they are a sub-unit of categories. Glaser (1978) discussed conceptual specification, whereby the concept is modified according to the emerging grounded theory. Both categories and properties are specific kinds of concepts, which link data with emerging theory, are useful and analytic, and are developed or indicated from the data (Glaser & Strauss, 1967). Concepts are therefore analytic, sensitising and link to ideas connecting all the elements of the grounded theory together, thus joining data with the theory.

Saturation

Data saturation is achieved when no new data is emerging and all data fits within existing core category, categories and properties, and thus can be explained or predicted by the existing theory (Glaser & Strauss, 1967). At this point, no more data is required to further develop the theory. As data collection proceeds until data saturation is achieved, grounded theory does not begin with a preconceived notion of how many participant interviews are required.

At each stage of analysis and theory development, fit, workability, relevance and modifiability are considered. For example, the researcher asks the questions does this code represent the data, or does this category explain the data?

Rigour in Grounded Theory

As stated, grounded theory's rigour is measured using four criteria: fit, workability, relevance and modifiability. Fit refers to the theory providing full explanation of the data, and is achieved through constant comparative analysis, whereby codes, categories and concepts are generated from the data and linked back to the data, comparisons are made between data sets and validated with participants, as described above. Fit provides the main evidence for determining validity of grounded theory (Giske & Artinian, 2009 ; Glaser & Strauss, 1967). Workability is the way grounded theory explains what is happening for participants and interprets how participants solve their main concern; the generated theory must explain the relationship between the main

concern and the resolution process meaningfully to the participants. Relevance refers to whether the participants relate to the identified main concerns and ensuing theory; both terminology used and developed theory should resonate with the participants. Glaser (1978) refers to theory having grab for the participants, which occurs when the participants can recognise and identify the core problem and resolution. Modifiability describes the continuous nature of grounded theory, as grounded theory cannot be disproved but it may be modified by future studies, and adding information from future studies can enhance and further develop the theory (Glaser & Strauss, 1967; Holton & Walsh, 2017). Hence modifiability expresses the flexibility of the theory to undergo changes in response to a moving social environment.

Additional Steps in Grounded Action Processes

Grounded action uses the same principles of minimising preconceptions prior to beginning the data collection process as grounded theory. Qualitative or quantitative approaches may be used. Processes in constant comparative analysis and theoretical sampling are also followed, although Simmons and Gregory (2003) argue that as the research progresses, who conducts the research may change. For example, it may be that participants are included in the action analysis and action cycle stages of grounded action, or analysis may be conducted by the researchers, collecting further data during and after the action plan is operationalised:

> In grounded action, who does or doesn't participate is secondary to ensuring that the research and the actions are grounded and theoretically rich. Decisions about who participates and at what level and in what ways are open to discovery. (Simmons & Gregory, 2003, p. 5).

An alternative approach is to include participants from the outset of the research if considered to be the best process (Redman-MacLaren et al., 2017).

Simmons and Gregory (2003, p. 3) emphasise that the first step in the action process stage of grounded action is to suspend the "the action problem". The action problem is the entry point for the research but as the main concern emerges, it may reveal a different concern than originally conceived, and the initial action problem may have minimal importance in the data, or it may be a property of a larger problem – hence the need to hold the action problem on one side. For the action problem to be retained, it

needs to emerge from the data in the constant comparative process. The new action problem derives from the discovered core variable, which explains most of the variations in actions occurring in the action context. From this core variable, an explanatory theory is produced, emergent from analysing differences and similarities between identified codes, categories and their properties, and considering concepts and how they relate together.

The explanatory theory is used to systematically develop an operational theory, that is also grounded in the data, concepts, categories and their properties. It is this operational theory which addresses all the complexities of the social system identified in the constant comparative analysis process. Simmons and Gregory (2003) stress the importance of understanding the factors that promote, inhibit and prohibit change, and warn that research based on limited focus may result in unintended consequences following the implementation of actions. They suggest using a series of questions to generate operational theory from explanatory theory, including "What is the real action problem?", "What are the desired outcomes?", "What priorities are assigned emerging from explanatory theory?" and "What needs to be addressed for successful change to occur?". If such analysis of the explanatory theory does not provide enough clarification to develop operational theory, it may be necessary to go back to analysing the data and memoing or to collect more data.

The final stages of the grounded action process involve implementing the action plan and evaluating the efficacy of the explanatory and operational theories and subsequent actions taken. Action outcomes are assessed in relation to the identified action problem. Whatever data is decided upon to measure outcomes is itself then subject to the grounded process and adds to the initial data, undergoing further constant comparative analysis using analysis and memo writing. Any modifications to the explanatory theory or the operational theory are then incorporated into the next cycle of the grounded action plan. The grounded action researcher is interested in outcomes and in the change process, which is ongoing, so there is no fixed end-point. The process is evolving over time as solutions emerge and are refined by the process. As there is no fixed predictable end-point, and the action is incorporated into organisational function, the actual end of projects is often determined by pragmatic considerations such as a

requirement to finish within a certain time frame or the end of funding (Simmons & Gregory, 2003).

Ethical considerations in practice settings:

One dilemma presented in preparing an operational theory and action plan arises when participants wish for different resolutions of the action problem; these outcomes may at times be mutually exclusive. Determining the action plan becomes problematic and the researcher then may have to choose between proposed or desired options. Simmons and Gregory (2003) noted that Glaser, in personal conversation, advised that researchers treat this dilemma as data to be processed for solution. They further argued that as the participants are usually stakeholders in the changes proposed, they will assess their relationship to the action plan and act accordingly. All the factors that make change difficult will be present when implementing the action plan. Simmons and Gregory (2003) mitigated against such challenges by asking specific questions of the data, outlined in the previous section.

There are additional potential overarching ethical concerns for any action research, considering complex relationships within society and within different cultural groups (Brydon-Miller, 2008). Inclusion of participants in co-designing, implementing and evaluating action may provide some mitigation against power imbalance, but it is also important for the primary and co-researchers together to explore the nature of relationships in the action context (Redman-MacLaren & Mills, 2015).

Simmons and Gregory (2003) warn of the dangers of partiality when funding or initiation of the project is either undertaken by specific stakeholders, or comes from stakeholders with powerful positions, where there is dominion over others. In this instance, researchers are advised to proceed with caution and be prepared to withdraw from the project if impartiality will be compromised by continuing or if there are minimal safeguards to protect those less powerful who may be affected by the actions.

Summary

Qualitative descriptive research may borrow from principles and processes of varying research methodologies; in this instance, the principles and methods of grounded

action/grounded theory form the basis for collecting data and exploring findings. Grounded action is a compound research form building on Glaserian grounded theory, suitable for application where investigation of a social environment is sought, to develop and apply change or action (Simmons & Gregory, 2003). Glaserian grounded theory is used to investigate how something works, often identifying what basic social processes are occurring (Glaser, 1978), examining how issues are resolved. Grounded action develops the grounded theory determined into an action plan using operational categories, which are grounded in the theory and in the social, political and structural environments in which the action will be set; effectiveness of the action plan is then determined using grounded theory methods as evaluative tools. As my purpose was to determine what was happening between primary care and public health practitioners, to develop action in the workplace between the public health team I work with, and the local primary care team, using qualitative description with grounded action/grounded theory methods provided an appropriate way of finding robust information to contribute to the proposed action plan. Finally, this study concluded with the development of the action plan; due to time constraints posed by the doctorate of health science process, the usual end stage of evaluating action cycles will occur in the workplace, after the thesis is completed.

This chapter has discussed the basis of qualitative descriptive research and how it may use principles and processes taken from other research forms. Accordingly, this research applies grounded theory and grounded action principles and processes, detailed in this chapter. It was demonstrated that Glaserian grounded theory purports to be atheoretical, applicable to qualitative or quantitative data generation methods. Glaserian grounded theory was developed at a time when sociologists were questioning perpetuation of positivist research based on proving hypotheses. Grounded theory provided an alternative rigorous research focus, using inductive reasoning to build theory from general investigations on how something operates. Grounded action is rooted in systems theory; grounded theory has also been examined in the context of both systems theory and C.S. Peirce's view on pragmatism, demonstrating some similarities (Nathaniel, 2012). The evolution of grounded theory, including grounded action as a part of the evolutionary process, has also been explored, before explaining basic component methods of grounded theory and grounded action.

The central perspective of grounded action and grounded theory research is that it focuses on the participants' perspectives and experiences of their world, with a concomitant understanding that the researcher leaves any prior knowledge to one side (Glaser, 1978; Glaser & Strauss, 1967; Simmons & Gregory, 2003). Knowledge is later used to enrich theoretical sensitivity if found to be relevant. Glaser and Strauss (1967) regarded grounded theory as a process of discovery, in which the theory is emergent. It is both a methodology and methods, where adherence to the methods is important to the integrity of the research. In this study, qualitative description uses grounded action/grounded theory principles and processes to determine the concerns of the practitioners and how they are resolving or managing their concerns.

The following chapter explores how the methods were applied in this study, detailing how the findings, representing participants' voices, provide information from which actionable opportunities could be developed.

Chapter Four: Methods

Introduction and context

The methods chapter illustrated the researcher's journey through the qualitative descriptive research process using grounded theory/grounded action principles and processes, cataloguing methods undertaken alongside interruptions and frustrations in the researcher's journey. The terminology used around the method development is based on the principles and processes involved in grounded theory/grounded action, as applied to this qualitative descriptive research. For example, grounded theory identifies the main concern, categories, and their properties; these form the framework for the findings in this research. Nevertheless, the findings are not further formulated into formal theory as with grounded theory, but remain as qualitative description from which the actionable plan could be developed.

Context of the research was revisited before considering applications for ethics approval and locality agreements. Recruitment of the participants included reflection on snowballing techniques, alongside demonstrating theoretical sampling. The following section on data analysis applied grounded theory methods of open coding from field notes and transcripts, and memoing. The uncertainty in progressing from open coding to considering emerging categories was expressed; researchers using constant comparative analysis need to tolerate tension as they move backwards and forward across the data, comparing data across and between interviews (Holton, 2007; Holton & Walsh, 2017). The following section focused on identifying the main concern through conceptualisation, using memoing and diagraming to consider inter-relations between codes. Ordering concepts included recognising some of the drivers influencing actions undertaken, identified as integrating codes (Glaser, 1978). Presentation of the findings and further elucidation of contextual information was undertaken by returning to some practitioners, and with other practitioners, on completion of initial analysis (Nussbaumer & Merkley, 2010). The final section considered the process of developing the action plan from the grounded theory obtained.

Three research questions were posed:

1. What is the main concern of public health and primary care practitioners collaborating at practice level?

2. How do practitioners resolve or manage their concern?

3. What needs to happen to resolve those concerns and enhance collaboration, in an action plan?

Once the research proposal was accepted, preparations could begin to undertake the research.

Preparations

The initial stage of this research project was to obtain consent from Auckland University of Technology Ethics Committee (AUTEC), accredited by the Health Research Council of New Zealand (Appendix A: Ethics Acceptance, p. 236). Whilst the research was not focusing on obtaining information from clients or vulnerable people, some special consideration needed to be given to the nature of the research. Qualitative descriptive research requires the researcher to carefully consider their own perceptions and to be attentive to ensuring the participants' voices are at the centre of the research (Sandelowski, 2000, 2010). Grounded theory and grounded action investigate social situations from a position of no prior knowledge (Glaser & Strauss, 1967; Simmons & Gregory, 2003). Similarly, the ethics application needed to show that the action plan would be determined from the actionable problems and not from the researcher's ideas or current working position. Simmons and Gregory (2003, section 4.1.2) referred to this process of keeping knowledge to one side as "Suspending the action problem".

It was therefore important to carefully reflect on the researcher's own knowledge gained from working in the field of public health, ensuring that emphasis was placed on the importance of keeping any knowledge gained from personal experience to one side, focusing on using an open interview process and systematical data analysis. One of the challenges presenting in this study was that ethics approval required preparing an information sheet with detailed information to present to the potential participants (Appendix B, p.237). Early in the research, it became apparent that the participant information sheet may have predisposed practitioners to focus on concerns they were experiencing when collaborating, even though interviews began with a broad grand

tour question around the practitioners working lives, and then pursued the practitioner's direction of concern (Glaser & Strauss, 1967). The methodological focus moved to qualitative descriptive study using grounded action/grounded theory methods (Neergaard et al., 2009; Sandelowski, 2010).

Whilst this research did not involve recruiting vulnerable people as participants, there remained a requirement to ensure that ethical principles of autonomy, non-malfeasance, beneficence, and justice were maintained (American Nurses' Association, 2015). Autonomy, or self-determination, describes the right of individuals to make decisions, free of harm, coercion or undue influence from others. Non-malfeasance ensures participants are not exposed to harm through any aspects of the research. Beneficence balances risk of undertaking research against potential benefit. Justice purports that equal selection across race, culture, gender, and other variables is required unless the research requires specific characteristics. Although using qualitative descriptive study applying grounded action processes is a relatively young research method, it was not difficult to translate the meaning of the terminology used in the ethics application process to the intended research plan.

AUTEC applications require evidence of eight principles, and each of these will be discussed briefly in the following paragraphs. To ensure that individuals in this research retained the right to provide informed and voluntary consent, as required under AUTEC's first principle of ethics, I needed to ensure that no undue influence would be exerted or be perceived to be exerted. This meant that I needed to conduct the research away from immediate professional connections inherent in managing a team of public health nurses or in providing occasional management cover to another team of public health nurses. I proposed instead that participants would be recruited from a mixture of two DHBs and from primary care practices affiliated with one of seven PHOs. Public health practitioners from the DHB where I worked were excluded from the research. I also prepared an information sheet which provided a summary of the purpose of the research and how it would be conducted, alongside assurance that information provided would be protected and that confidentiality would be upheld (Appendix B, p. 236). Consent forms were completed by participants and kept in a locked drawer, in a secure office (Appendix C, p. 239). Both the information sheet and

the ethics application clarified that participants retained the right to withdraw information from the study. Participants were also informed of their right to withdraw information at the beginning of each interview.

AUTEC's second principle of ethics is to demonstrate respect for individual's rights to privacy and confidentiality. Participants were individually asked for their permission to use digital recordings of the interviews. The ethics application declared that recordings would be transcribed and kept on one password protected-data stick. Once the interviews had been transcribed, the recordings were deleted. Each participant interview was assigned a label, and the de-coding information for these labels was kept separately by the researcher, ensuring no other person had access to the information. The nature of the study meant that the role of participants was relevant to coding and analysing the interviews, and so the labels used incorporated role identifiers, evident to the researcher. When using direct quotes from participants, role of participants was included to demonstrate working differences, but individual identities were protected.

The third principle is to minimise risk. Risk in social research needs to be measured differently and incorporates notions of social and cultural sensitivity (the fifth AUTEC principle). Broadly, participants were professionals working in either public health or primary care or general practice centres. Each of these participant groups has their own cultural and social identity, and it was important that the research was sensitive to listening to the participant's viewpoints of their work and their experiences. The ethics application explained that this would be achieved using reflective listening skills and checking back that information had been understood correctly, using summarising and condensing techniques. The Treaty of Waitangi principles of partnership, participation and protection are upheld through the research process, by considering respect for participant rights to voluntarily contribute information, have their identity protected, and minimise any risk of harm. Protection and minimising risk of harm in this research involved ensuring that participant's information remained protected during and after the research process, and that participants chose a place convenient for them, at a time scheduled to suit both participant and researcher. I was responsible for ensuring that the participant was able to talk freely in an area without risk of being overheard, where possible. Given that the interview sites were selected by the participant, and frequently

I had no knowledge of the geography of that site prior to the scheduled interview, it is perhaps surprising that this only presented a challenge on one occasion. On that occasion, I was asked to interview the participant in a small room which contained storage materials, including a vaccine fridge. During the interview, another nurse came into the room to return vaccines to the fridge, even though we had placed a notice requesting privacy on the outer doors. I stopped the recording and asked the participant to pause the interview, until the nurse had left the room, when we were able to resume interviewing.

The remaining principles required by AUTEC relate to research adequacy, truthfulness and limitation of deception, avoidance of conflict of interest, and respect for property and intellectual property rights. The qualitative descriptive study applying grounded action process itself requires methodological rigour in analysing data obtained during the research process. Ensuring truthfulness and limiting deception meant demonstrating that I would apply the methodology in such a way that I could show how any preconceptions were put to one side, so that I could attend only to the information presented. The research needed to reflect all participants' perspectives as far as possible, therefore upholding the ethics requirements and ensuring integrity of the grounded action process. Providing an outline of the research methodology facilitated this process.

Obtaining Locality Agreements

Ethics approval was obtained quickly (Appendix A, p. 236). However, as I was intending to recruit from a wide area including participants from several organisations, I then had to seek locality agreements for permission to use participants from the respective nine organisations: two DHBs and seven PHOs in a northern city. Locality reviews assess the suitability of the proposed site for the research being conducted, ensure that local governance issues have been addressed, and are required in addition to ethics approval.

Applying for locality agreements proved to be a challenging and long process. The two DHBs involved provided information on completing the locality agreement and research approval process within four weeks. The application forms for each of the DHBs were as

lengthy as the original ethics application; the DHBs also required proposers to represent my request from senior management in child or community health. Fortunately, the research was viewed positively, and I was able to secure proposers without difficulty. Consideration of the application took five months before approval was granted. However, the positive aspect of completing these applications was that the organisations provided clear information on what was required.

Working with the PHOs presented different challenges. Information on individual locality agreement processes was sought from key people in each of the PHOs. Some of the organisations' contact people initially indicated they would email or ring back with information on their respective processes. At two of the organisations, I left several messages with different people by email and phone, requesting information, but received no reply. Another organisation sent me a detailed application process, and then after several months of waiting, rejected my application, reasoning that collaboration between primary care and public health was not relevant to their organisation. Five months after my original applications for locality agreement were requested, I was given permission to recruit participants from primary care practices in just two of the seven PHOs. The main issue in communicating with the remaining four PHOs was in not gaining access to a key person who could provide information on obtaining locality agreements or take the information to the appropriate board for consultation. This difficulty in gaining access mirrored later findings from the research.

Recruitment of Participants

Participants were health professionals working in primary care practices or in public health departments of two DHBs in a northern city in the North Island of New Zealand. The only exclusion criteria related to the aforementioned decision not to recruit participants from the DHB in which the researcher was working. Initially, recruitment occurred through contacting key people in each organisation where locality agreements had been approved, requesting an opportunity to meet with nurses, doctors and GPs. From this, presentations were conducted at education evenings and team meetings to provide information on the research purpose and methods, requesting interest. Information leaflets were circulated to team leaders, managers and attendees. Most of the participants from public health departments were recruited through these

measures. However, it was more difficult to access participants from primary care. One of the two PHOs was unable to allocate time at education evenings as they had full schedules arranged for the following eighteen months. They offered to circulate a brief passage in the newsletter, which went to all practices aligned with this PHO. This did not generate further interest. The same brief passage and the information leaflet were also sent to nursing organisations, with a request to circulate. One respondent had an interest in public health but was currently working in a university setting so did not meet criteria. There were no other respondents who made contact through the nursing organisations.

At that point, it seemed logical to apply snowballing sampling (refer to Figure 1). Snowballing is where recruited participants are asked if they know of anyone who may participate in the research. Morse (2007) noted that snowball sampling is a useful technique to use where there is difficulty in identifying participants. I also asked my own professional associates to circulate the information sheet, including several people who had previously worked in primary care or had close contacts with primary care. Most of the primary care participants were recruited using either snowballing or networking; attempts to contact practices directly was generally unsuccessful (Figure 1: Source of participants, p. 88).
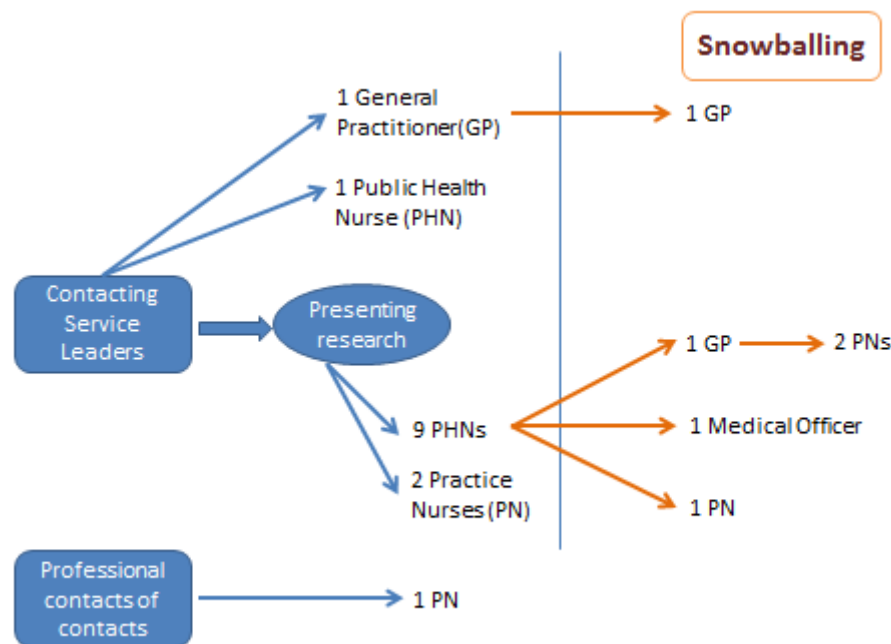
Figure 1: Source of participants

As a qualitative study using grounded theory/grounded action principles, attention was given to grounded theory processes. In grounded theory, sampling continues until saturation is reached, when no new data is emerging (Glaser, 1978; Glaser & Strauss, 1967), so the sample size is not determined before starting the research. Twenty-one interviews were completed with twenty participants; one participant was interviewed twice. This included three GPs, six practice nurses, ten public health nurses and one public health medical officer. Of the ten public health nurses interviewed, three were from the communicable disease team and seven were from local teams. These were scheduled over the following time period: 1 GP in April 2017, 5 public health nurses in May 2017, 2 practice nurses followed by 1 public health nurse in June 2017, 1 practice nurse then 2 public health nurses in July 2017, 1 practice nurse followed by medical officer public health in September 2017, 1 GP in November 2017, 2 public health nurses in February 2018, 1 practice nurse then 1 public health nurse in April 2018, 1 GP and 2 practice nurses in July 2018.

One of the difficulties encountered was that although saturation appeared to be reached before I had completed fourteen interviews (Glaser & Strauss, 1967), I was concerned that there was a potential imbalance as most of the practitioners I initially

interviewed from primary care had limited or no awareness of local public health teams and focused their discussion on the communicable public health teams. Interviews fourteen and fifteen were with public health nurses and were already arranged. Although I had not completely analysed the findings at this stage, I did have a range of concepts that appeared to be repeating. I introduced these in later interviews, to determine if the public health nurses related to the concepts and concept labels; as consistent with qualitative descriptive studies (Sandelowski, 2010). Public health nurses definitely related to the terms thwarted access, not knowing, and to the descriptions of navigating responsibility, and elaborated on this. No new data emerged, confirming that saturation had been achieved across public health participants. However, I continued to be concerned that the primary care practitioners who had volunteered had not had frequent experience or engagement of working with public health practitioners, and that the primary care information may therefore have been skewed towards not knowing. To ensure that the developing theory would also relate to primary care practitioners who regularly worked with public health, I purposefully selected participants from primary care practices where I knew there had been frequent collaboration with public health nurses, as in accordance with the grounded theory processes used in this qualitative study. Purposefully selecting interview participants is encouraged in theoretical sampling, whereby participants are carefully selected to challenge or test categories, concepts and developing theory (Glaser, 1978; Glaser & Strauss, 1967). In practice, it took some time to find willing primary care participants who had regular experiences of working with public health practitioners, which allowed time for the actionable problems to emerge. Interviews seventeen to twenty-one involved listening to the practitioners' understanding and experiences, and also continuing to confirm the concepts and determination of actionable problems. These interviews contributed to checking that the actionable problems were consistent with practitioner perceptions of their issues.

Data Collection

Interviews were scheduled as participants were identified. As this qualitative study used grounded theory and grounded action principles and processes, a grand tour question was used to open the interviews (Glaser, 1992; Glaser & Strauss, 1967). This invited

practitioners to describe their day to day practice, allowing expressed concerns to then be followed by further questions specific to those concerns. The suggested initial interview guide, required for ethics purposes, was quickly obsolete. As the ethics application had carefully explained that interviews using grounded theory practices would follow practitioner statements and that the pre-drafted interview questions may be irrelevant in individual interviews if they did not relate to the emerging concern of the participants, the process remained within the approved ethical framework.

The first participant interview was conducted with a primary care practitioner. The grand tour question worked well and the participant discussed successful interactions with the communicable disease public health teams, alongside identifying some of the concerns. I was conscious that the information related to one regional public health team and not local teams and at that point I asked a question relating to local teams. I discovered quickly that this was an error and that such a question was leading the practitioner to an area that was not a primary concern to them. This was a significant and early learning point for me and I did not repeat the error. One of the difficulties of being very aware of local provision and of having prior knowledge potentially related to the investigation is that there is potential to ask leading questions and force the results (Glaser, 1992; Glaser & Strauss, 1967). I was mindful of the need to try to keep preconceptions to one side and appreciated that I had this early opportunity to reflect on questioning/ interviewing techniques in the learning process.

As the interviews progressed, it became apparent that participants generally talked freely, with few prompts, and so key focal points based on practitioners' early responses were used to underpin the interviews.

Often the key focal points were around what collaboration takes place, whether there are any concerns with collaboration, and if there are difficulties, how are they resolved. There was no mention by practitioners of searching for health needs or population health issues (other than immunisation), so these issues were not discussed. Most of the practitioners focused on examples from providing individual care to their clients. Sometimes specific topics such as immunisation or health education were discussed more broadly. Some of the participants also expressed ideas about what they would like to see developed or resolved in an action plan.

I used an active listening approach, condensing and reflecting back what participants had said, or asking further questions at times, to encourage further discussion or to clarify meaning. I taped each of the interviews and made field notes at the end of each one, recording any reflections I had about the process and first impressions of what was happening. These were later used to develop memos and were also used for comparative analysis. Glaser (1998) recommended using field notes rather than transcripts from interviews, as transcripts produce too much data and slow the analysis down with excess and irrelevant information. However, as an inexperienced researcher, using transcripts offered me an opportunity to revisit the interviews to ensure that I was capturing comparative codes from the data. I transcribed the first nine interviews myself and subsequently mainly used a professional transcriber, who had signed a non-disclosure confidentiality agreement (Appendix D, p. 240).

Grounded action uses the data to determine theory from which an action plan can be developed. In qualitative descriptive studies and grounded theory/grounded action, it is important that the researcher examines any preconceptions, so that findings contributing to the actionable plan are grounded in the data, and not the researcher's own perceptions or influences (Glaser & Strauss, 1967; Sandelowski, 2010; Simmons & Gregory, 2003). Sandelowski (2010) also confirms the importance of trying to keep prior knowledge to one-side, whilst recognizing the tensions inherent in research undertaken by researchers in a practice setting. As I have been working in a public health arena in New Zealand and elsewhere, I needed to consider how this would influence the analysis of the data. Searching for universal concepts linking primary care practitioners and public health practitioners partially ensured that the concepts related to the participants, as I have no direct experience of working in primary care practices. I also carefully examined any areas and examples encountered which were similar to my own experiences to ensure that I was reflecting the practitioner's statements and not my own, and to check that I was not adding information that was not evidenced. Similarly, I ensured that I captured codes from experiences which were different to my expectations and experiences. Such vigilance was represented by constantly asking questions of the research:

- What did this practitioner really say?

- What did they mean?

- How is this similar to others' experiences within this research?

- How is this similar or different to my own experiences?

The overarching questions remained how are the practitioners collaborating, what are the main concerns and how are they managing or resolving these?

Analysing Data

A process of constant comparative analysis was used (Glaser & Strauss, 1967), which involved initially coding the data obtained – in this research, from interviews – and as it is being coded, comparing it to what has already been coded. In practice, comparisons were made across one interview and between interviews (refer to Table 1, p.95). Each interview was coded, and codes were then grouped together (Appendix E, p. 241; Appendix F, p. 242; Appendix G, p. 243). Coding commenced from the first interview and continued. Throughout this process of coding and analysing the interview text, thoughts and ideas were noted in memos, and the memos were also compared. The process is interactive, as generated ideas or concepts are tested against the data, so interview data, field notes, generated codes and memos are all compared for what is the same and what is different (Gibson & Hartman, 2014b; Glaser, 1978)

As the interviews were conducted over time as consent was gained, they tended to be spaced in clusters of one occupational group or another. The first interview was with a GP, affording a different view of the collaboration from my own working experience, and allowed me to really place my own ideas of what I would find to one side (as discussed earlier). One challenge presented both during this interview and later interviewing was how to respond to direct questions posed on practice-related issues relevant to the research. Practitioners were aware of my background in public health and my position as a local public health manager. This GP had knowledge of public health only in relation to the communicable disease team and had little awareness of local public health activities. By reflecting back and asking naive questions to ensure my understanding was correct, I inadvertently raised awareness which in turn prompted questioning about local public health activities, and how local public health might be relevant to general practice. This presented me with a dilemma as I felt giving the

requested information might compromise the rest of the interview. I suggested that I could send further information by email and discuss at the end of the interview. Similar conflicts arose when later interviewing public health nurses, who were curious to know how public health nursing practice was managed around specific instances, within other areas. Whilst I acknowledged these questions and also became more adept at sidestepping them to try to ensure the interviewing focus remained on the participant's own knowledge and experience, the questions did underline that I needed to hold my experience to one side, as espoused by Simmons and Gregory (2003).

The next cluster of interviews were public health nurses from first local teams, and then from a communicable disease team. As I coded and reflected on the first of these interviews with PHNs, I realised that I had made assumptions from my own knowledge; ironically, this had resulted in not following a direction. Although the statements made were open to interpretation, I had assumed meaning which was possibly attributable to my own experience in public health. To keep subsequent interviews as open as possible and explore the participant's observations and statements in more detail, I ensured that I remained aware of my (thinking) responses and any assumptions I might be forming as the interviews progressed. I used inquisitive questioning to elaborate any details or points where I felt I was at risk of making such assumptions. Glaser (1978) referred to openness to changing approaches used during the research process, by applying theoretical sensitivity:

> When the strategies of theoretical sampling are employed, the researcher can make shifts of plan and emphasis early in the research process so that the data gathered reflects what is occurring in the field rather than speculation about what cannot or should have been observed. (p. 38)

Listening required attending to what the participants were saying, what they were not saying, being aware of any possible thoughts I might be experiencing and keeping these to one side, encouraging elaboration as described above, and being careful with the facilitation process. Skills used in interviewing were similar to those used in clinical supervision, allowing the practitioner to talk, and guiding the process when a particular focus seemed to be complete.

Field notes composed after each of the six interviews with public health nurses reflected some commonalities and some substantial differences between interviews and with the first interview. Between each interview, I made field notes on immediate impressions formed during the interviews, and further reflections gained whilst transcribing each interview. Whilst it was natural to make immediate comparisons on more apparent similarities and differences between the interviews, some commonalities and differences emerged through coding and analysis of that coding (memoing).

From the first interview, codes were identified using line-by-line analysis and analysis of larger passages (Table 1, p.95). Some of the codes were phrases, or gerunds formed from phrases, that were used by practitioners. A gerund is a verb which is used or construed as a noun, whilst still being "able to govern an object" according to the Oxford English dictionary, (Sykes, 1977), and in English is characterised often by adding the suffix 'ing' to the end of a word. For example, "Not knowing" was a gerund derived from the first interview referred to above, where the GP repeatedly said they "didn't know". Other gerunds were used to capture the meaning of "what is happening here" behind a line or passage (Glaser, 1978, 1998; Glaser & Strauss, 1967), but did not directly take words from the transcript. Codes were refined by comparison and grouped together. As some similar issues had been represented differently, as in the example below, there was some rationalisation of the coding at this stage, so that the multiple labels were replaced by one coding label.

Using the example of "Not knowing", this derived from many statements such as "GPs not fully understanding role", "not valuing, not understanding", "not visible to other services", "not aware", "Not knowing processes or procedures", "Not knowing, no involvement", "forgetting", "disconnected from reality of service provision", "Not seen, not visible (to GP)".

Table 1: Example of coding from interview data

Example from Data	Open coding	Comparative codes
WPG1:		
It was a tricky situation, so we had to contact public health and just get their advice. I had to ask the nurse to follow with the public health and they had to contact the University guys who run the exams, so there is this back and forth, with the public health. So, it was good to know what to do in those sorts of situations. In the clinical setting what happens is we are busy there, you know because of the time, there is only so much time to sort out a patient because the next patient is already waiting. You have to sort that patient within those ten fifteen minutes.	Seeking advice on what to do	Seeking information
	Using nurse	Nurse as conduit
	Trusting expertise, seeking guidance	Trusting
	Time pressure	Time, urgency
	Always another patient waiting.	
	Sorting each patient, 10-15 minutes	

Memos were used to capture thoughts about the codes and developing data. Initially, memos were simple reflections on issues that were occurring through the codes or were apparent from the field notes taken following interviews. However, as there seemed to be more patterns emerging, memos took on different forms, considering how one code related to another or considering concepts or categories that seemed to be emerging. For example, one early memo reflected on emerging codes of time and trust; field notes after the first interview (segment represented above, Table 1, p.95) commented on the GP trusting the public health nurse to give advice and know what to do, and that saved him time. Later interviews discussed where there was no trust that the practitioner would follow the right process for the client. Considering the codes "trusting" and "saving time", led to one memo pondering as follows:

Table 2: Example of memoing from notes

Abbreviated Field Note:	Relevant codes:	Memo:
Interview 1: GP does not concern self with what PHN is doing, trusts action will follow e.g. contact tracing. Time is fundamental	Trusting	What is it that leads one practitioner to trust another, and why are there differences? How are these experiences different?
	Saving time	In the first instance, the GP wants something of PHN i.e. wants to save time, wants to hand over care. In second example, PHN is wanting to share
Interview 3: Waiting a long time to be seen by GP or nurse or get contact.	Wasting time	something or ask GP for something and GP/PN is managing the time. Does that mean that GPs/ PNs always manage their time – is this about limiting

Sense of being of no value to GP	Not being trusted?	contact or about not having enough information to know that the contact is important? Or is there another reason? Such as the GP does not know enough about PHN role to understand the reason why the PHN needs some time with him/ her? Could this relate to GPs feeling overwhelmed by information coming in, demands made of them, time restrictions? What happens next – does this discourage PHNs from trying to make contact with GP another time after an experience where they have waited a long time to see a GP? Or does it change how they make contact?

Such questions were useful in subsequent interviews as they provided a baseline for comparisons to be undertaken and also ensured that I could gather more data in future interviews by noting similarities and differences and sometimes asking questions to collate more information on what the participants think is happening in relation to these issues. This was helpful when considering are these codes really properties, or categories; and if they are categories, what might their properties be?

As both the interviewing and analysis progressed, memos became more detailed, considering more complex inter-relationships. Sometimes it was easier to voice record myself, developing a reflective narrative to consider thoughts and interpretations. Diagrams drawn and restructured were also useful ways of looking at how different elements related to each other (Appendix F, p. 242; Appendix I, p. 249; Appendix J, p. 253). Increasing analysis reflected in memos is in keeping with Glaser and Strauss (1967), who observed that initially memos represent conflicts in thought where, for example, similar codes may not always be behaving in the same way in each data slice. Over time, memos become logs of constant comparative analysis, but also move from being about incidents to close examination of properties and categories.

Identifying the Main Concern

The next stage, having developed comparative codes (Appendix E, p. 241; Appendix F, p. 242; Appendix G, p. 243), was to look at how the codes were organised, considering what was the main concern, what were categories and sub-categories, and what

properties were evident. Glaser (1978) identified that more than one main concern may be evident, but that grounded theory research pursues one main concern and other identified concerns may be pursued in later research. However, in qualitative description using grounded action processes, it is important that all of the data is explained as the actionable problems and opportunities need to be grounded from the data, and an actionable plan based on only a part of any problem identified from the data is necessarily incomplete and unlikely to be successful (Simmons & Gregory, 2003; Stillman, 2006). Memos begin the analysis and examine what concepts may be evident in the process, which can then be tested through further interviewing or revisiting the data and field notes (Gibson & Hartman, 2014b; Glaser, 1978; Glaser & Strauss, 1967). Initially, I gathered all the codes together manually using post-it notes on pieces of paper; each paper related to codes which seemed to all be about similar themes, so was labelled accordingly. I then laid these out in a large area and moved them around, developing relating codes into themes or groups under collective headings where there seemed to be some shared meaning (Appendix E, p. 241). This produced a series of concepts or categories, and I continued to consider the inter-relationships through diagraming and reflection/memoing, considering the complexities of information. Hundreds of codes were grouped into fifty-six labelled clusters initially, and over time these could be arranged into different relational groups or categories (Appendix G, p. 243). However, this was not a simple process as there seemed to be overlaps – that is codes which could not be easily put into one group of ideas or another but appeared to be shared across several of the concepts. Later in the process, it became clear that some of these codes were properties of several different sub-categories.

There were difficulties in working out what the main concern was, with tensions from both the mass of information collected and the apparent disparate nature of the professional groups. Broadly, there seemed to be four professional groups: GPs, practice nurses, public health nurses from local areas and public health practitioners involved with communicable disease work. There were more links between GPs and practice nurses than there were between GPs and public health practitioners. Similarly, the two public health groups shared more similarities than differences. Some categories, such as navigating responsibility, seemed to develop quickly into a logical taxonomy, where categories and properties could clearly be separated, whilst others

were much harder to process and order (Sandelowski, 2010). Searching for one main concern was fraught as it was difficult initially to see the common themes between the separate professional groups. Concerns appearing most frequently were difficulties in gaining access, and then around factors interfering with the quality of the interactions once access was gained. Communication difficulties were evident across processes and understanding. Roles and responsibilities seemed to be important, as did time and geography, for public health nurses. Not knowing appeared frequently in the data but related much more directly to GPs and practice nurses than to public health practitioners.

Several approaches were used to reworking and re-labelling emerging concepts, constantly considering how categories or sub-categories were similar and in what circumstances were they different, and making notes or memos on these comparisons (Kelle, 2007). Firstly, the purpose of interactions between public health and primary care practitioners was considered. Notably, direct communication was usually initiated by public health practitioners, unless GPs or practice nurses were enquiring about management of notifiable disease or the immunisation status of individual young people. This may have been related to the frequent assertions that GPs and practice nurses were making about their limited knowledge of the role of public health nurses. Broadly, there were five purposes for collaboration: seeking information, seeking direction, giving information, linking and coordinating care, and directing or adjusting care. Whilst this elicited more analysis expressed in diagrams and memos, it did not resolve the issue of determining a main concern expressed across all of the professional groups, although options seemed to be narrowing to "disconnect", "not knowing" and "thwarted access".

The second process involved returning to the coding groups and re-examining what was happening in each of the broad groups. I was hoping to elicit categories, sub-categories and properties that related to each other and would support developing one or other of the considered concerns as the identified main concern and would begin to unify the data across all the professional groups (Appendix G, p. 243; Appendix H, p. 246). To make codes relating specifically to concerns more apparent, each of the codes generated were separated into those relating to practitioners' concerns, and those

relating to how the practitioners were managing their concerns (Appendix H, p. 246). There was also a smaller group of codes relating to practitioners' wish lists of change they would like to occur, which were put to one side for later use when developing the action plan. Looking simply at frequency of occurrence, "thwarted access" and "not knowing" were the most prevalent categories in the group of codes relating to practitioner concerns. Each of these codes was explored against all other codes, considering how other codes and categories related to both "not knowing" and "thwarted access". This exploration of "not knowing", when compared with both examples from the original data, codes/categories and memos, revealed that it was an incomplete explanation of the main concern. "Not knowing" mainly related to GPs' and practice nurses' uncertainty about roles and activities of public health nurses, hence it did not unify all practitioners in a common concern. "Thwarted access" provided a complete and unified over-arching description of the concerns, when relating it back to data and memos. The meaning of "thwarted access" is explained in the following chapter five on findings. Given that grounded theory processes were used in this qualitative study, attempts were made to align codes with gerunds as closely as possible. However, Glaser (1978) did state that at times, the use of gerunds may not be appropriate ways of describing some social processes, and that it was sometimes appropriate to use nouns. In this process, the main concern was "thwarted access", with "clearing the way" as the core category, representing processes practitioners undertake when collaborating (Glaser, 1978; Sandelowski, 2000).

Ordering concepts

Having determined a main concern, codes relating to how practitioners were managing their concerns or resolving their issues were then considered. As with identifying the main concern, ways of managing the issues tended to relate to practitioner groups as identified above. To try to ensure that all links were discovered, I needed to consider an alternative way of analysing the data, so took a simple root cause analysis approach to map out the apparent causes of what was being done (Appendix I, p. 249). Whilst this is not a recognised step in grounded theory or grounded action, it served as a heuristic technique to further my thinking around how the different code groups related to each other. Glaser (1978) referred to coding families, and within this he elaborated on

causal-consequence models, where an action or behavior may be the unintended outcome of another behavior. This seemed to link well with considering a causal approach such as root case analysis, particularly as the data did demonstrate some causal-consequence characteristics. Furthermore, Glaser (1978); (Glaser & Strauss, 1967) discussed sorting concepts by collating memos to structure a multi-relational theory. Memos may take any form, although Glaser (1978) guards against using diagrams to limit the theory and encourages deeper exploration of how the connections between concepts are related. It was therefore important to regard the analysis exercise as simply another form of memoing, bringing some written memos together, and not a decisive or defining tool. As this qualitative study aimed to produce a descriptive analysis of the concerns and actions to determine actionable problems, using additional analytic resources was appropriate (Sandelowski, 2000, 2010)

For the first time I began to be able to make connections between the professional groups and could see how activities linked, although initially appearing to be quite different (Appendix H, p. 246; Appendix I, p. 249). Although ostensibly GPs and practice nurses were working from a different framework to public health nurses, they were all engaging in activities to manage their workload, which was initially labelled as "Clearing the way". Continuing to compare memos and diagrams, I realised that many of the activities were relating to all the practitioners in some way. "Clearing the way" moved from being a category to becoming the core category explaining all behavior undertaken.

Returning to earlier memos, there were two broad areas to consider, relating to those activities concerned with making initial connections, and those relating to providing client care. These were labelled and became categories. The aforementioned "Why, why, why" (root cause) analysis diagrams were further explored and related to each other, and an initial attempt to map out the complex inter-relationships between all assigned categories and sub-categories was made (Appendix I, p.249). During this process, categories changed and moved around, so for example controlling workflow was initially thought to be one of three sub-categories, but on further analysis it became a category unifying the three sub-categories which were all found to be ways of controlling workflow. Other shifts were made between categories, sub-categories and

properties after further consideration of how the emerging theory fitted with original examples from data. For example, GPs discussed feeling bombarded. This related to both the information coming into practices ("channelling information") and to the demands on their time (identified as one of the initial codes, refer to Table 1: Example of coding from interview data, p.95). Further exploration of this found that GPs protected their clinic time in a number of ways – by "blocking access" using the receptionist or "using the nurse as conduit". "Blocking access", "choosing when to respond", and "using the nurse as conduit" were all properties of the sub-category "managing bombardment". "Channelling information" became a sub-category alongside "managing bombardment", which allowed other properties to be included that related to considerations defining how "channelling information" worked. Preserving or managing time was a mediator for both sub-categories.

Moving between codes, properties, sub-categories and categories in response to different slices of information from the data continued until the order of categories, sub-categories and properties seemed to provide the best fit with the data available. Some of the concepts underwent some significant changes in this process as the adjusting concept "maps" or initial conceptualisations were challenged against data, further interviews and memos.

For example, one discrete group of concepts, concerned with managing care, emerged from early interviewing and seemed to work well and have fit initially. However, although most of the categories and properties worked well together within this category, continuing analysis demonstrated that one of the sub-categories, labelled "shunning responsibility", did not quite fit with the other sub-categories. This concept related to all practitioners choosing not to tell their 'opposite' practitioner that there was an issue which they were not aware of; for example, about referrals being directed to an incorrect place. As one practitioner called this "beyond their remit", this term was adopted to replace the previous term "shunning responsibility". After further analysis, I felt that this also linked to "not knowing" as a property. The outcome is that the 'opposite' practitioner continues not to know how to do something. "Beyond their remit" became a property of two other sub-categories, which were both located in a

different category. Nevertheless, this movement from sub-category to property and between categories produced better fit with the data (Glaser, 1978).

This explanation of determining codes and actionable findings demonstrates how categories, sub-categories and properties moved constantly as further analysis was applied and more interviews were undertaken. The process is not linear or even circular, there is constant movement and overlap between categories, and some elements related across the process. The process needs to be expressed in two dimensions to present a graphical image and yet it is moving and some elements overlap several sub-categories (refer to Appendix J, p. 236 - this was an earlier drafted representation of interlinked concepts and suggested categories and sub-categories).

Some elements were difficult to fit in with the qualitative study using grounded theory processes, as they seemed to be both properties of the main concern and properties or drivers influencing actions undertaken. These were time and geography, relating to the sub-category "managing bombardment"; knowledge and roles, relating to sub-categories "channelling information" and "selective knowing", and to some extent also category "navigating responsibility"; and power and responsibility, relating to category "navigating responsibility". As they influence both the main concern and influence the way sub-categories work, they are at both ends of the represented drawn model. Again, this difficulty represents dilemmas associated with trying to present a diagram in a linear format when it is not linear, but rather a complex interplay of concepts operating in a number of dimensions. Knowledge, time, geography, roles, power and responsibility may all be regarded as integrating codes in which the problem sits, which the solution needs to acknowledge and reference. These integrating or theoretical codes derive from the coding family of the six Cs as identified by Glaser (1978): causes, contexts, contingencies, consequences, covariances and conditions. Further explanation of how these integrating properties related to thwarted access is provided in the first findings chapter.

When the order of main concern, core category, categories, sub-categories and properties had been established, it was possible to complete and confirm the actionable findings from the data, and in participant interviews, as described above.

Developing the action plan

Once the actionable findings were confirmed, an action plan was developed. Simmons and Gregory (2003) suggested that whilst grounded theory forms the basis for developing an action plan, it may be that not all information needed to develop action can be resourced from the grounded theory. To explore this further, and to ensure that the action responded to the actionable problems as fully as possible, I considered the following (taken from Table 3, p.104) in relation to each of the sub-categories, navigating responsibility, managing bombardment, channelling Information and selective knowing:

- What are the action problems?
- What are the desired outcomes for the groups of practitioners – GPs, practice nurses, and public health practitioners?
- What actions are immediately possible and in the control of practitioners?
- What actions need to be recommended, as they fall outside of the direct control of the practitioners? (For example, recommended changes may suggest broader changes to the structural health context or provide recommendations to education institutions.)
- What social or political challenges might there be?

Constant comparative analysis continued to be applied through each stage by comparing the problems and their solutions with the original data and the analysis, using memos and diagrams to capture ideas and develop a framework reflecting identified challenges and practitioner solutions from the initial interviews. This included returning to the original codes that were separated into three sections: codes relating to the problem, those relating to the solutions practitioners were using to resolve problems, and those relating to an ideal the practitioners were envisaging.

Table 3: Applying explanatory theory: adapted from Simmons and Gregory (2003, p. 7)

Questions asked of explanatory theory:	Examples of detail	Comments
What is the real action problem?		
What are the desired outcomes of the action?	Not fully answerable from the explanatory theory – participants may present different viewpoints	May present ethical dilemmas
What priorities can be assigned to outcomes, based on explanatory theory?	Consider – what order is needed, what resources are currently available, social or political considerations	
What parts of action problem need to be addressed successfully to bring about change?		
What needs to be done to address this part of the action problem?	Considering individual components of action problem	
What roles do individuals have in the action scene and how would they need to change to bring about desired results? How can this change be achieved?	What are likely to be the contributing factors or difficulties in establishing these changes in the action scene?	
What is it possible to achieve?	Consider current circumstances – time and resources, participant skills, organisational politics	
What are predicted outcomes? What are the potential worst-case outcomes?	How can worst-case outcomes be prevented?	Identify possible recovery plans

Whilst the sub-categories and categories in the process integrated practitioner actions undertaken to manage concerns of both primary care and public health practitioners where this was practical, the actionable problems needed to ensure that the needs of each professional group were accommodated. This meant considering desired outcomes for public health and primary care practitioners separately. The desired outcomes informed the action decisions. Moving between the identified desired outcomes of each professional group enabled more flexibility in approach to meet their challenges. It also ensured that the actionable problems, desired outcomes and actions were grounded in the data (Sandelowski, 2000; Simmons & Gregory, 2003).

I initially tabulated the data under each of the sub-categories and categories from the identified actionable problems. However, a presenting challenge arose from the complexity of the summary descriptive qualitative process, as the identified sub-categories each inter-linked. As might be anticipated, this interlinking meant that the identified actionable problems and desired outcomes also interlinked. For example, not knowing was a significant property of selective knowing for primary care practitioners, particularly reflecting that many of the primary care practitioners did not understand what public health practitioners do. Not understanding roles had implications reflected in managing bombardment, channelling information, selective knowing and to some extent navigating responsibility. Because of this, actions responding to this lack of understanding of roles would also link all these concepts together. Similarly, education to improve role awareness would resolve some of the issues under selective knowing but would also have relevance to managing bombardment, as other research highlights that where practitioners are known personally to each other and have role understanding, they are more likely to engage quickly in collaborative working (Clancy & Svensson, 2009; Kvarnstrom, 2008; Martin-Misener et al., 2012). In a pragmatic approach to resolving this without repetition, I developed new actionable categories allowing actions to be shared across the qualitative process. This presented a succinct way of resolving the actionable problems and meeting the desired outcomes. Each actionable category was mainly sited as originating in one of the categories or sub-categories of navigating responsibility, managing bombardment, channelling information and selective knowing for representational purposes in the tables (O'Neil Green, Cresswell, Shope, & Plano Clark, 2007).

Decisions about actions to be taken were made using a combination of participant's current ways of resolving issues, and from their suggested proposals. As suggested by Simmons and Gregory (2003), some of the identified problems did require additional information to prepare actions that would be practical and manageable. Some solutions needed to be considered in consultation with experts in other disciplines – for example, considering information technology solutions required the support of others more knowledgeable in this field than me. I considered all possible actions and devised a plan based on what was practical without further consultation, considering what individual practitioners would be able to achieve by working together: what would require further

consultation and development, and what required changes to be made at an inter-organisational or national level.

Member checking

Once the action plan was developed, arrangements were made to present the explanatory and operational theory, and subsequent action plan, to public health teams and to representatives from primary care, for member checking. Member checking is a process of confirming theory accuracy, is a verified way of determining sensitivity to participants in qualitative research (Sandelowski, 2010) and in this research it was used to confirm the developed action plan as well as the theory:

> … confirming the accuracy of codes, categories, and the overall theory developed by the grounded theory researcher through the solicitation of respondent feedback (member checking) … (O'Neil Green et al., 2007, p. 486)

Simmons and Gregory (2003) also highlight the potential need for the researcher to return to participants or to others in the field to further determine that all understanding is achieved about the social, financial, political and policy settings in which the action plan is to be set so that all criteria is used to develop the action plan. In this instance, the process and actionable problems was checked by returning to one public health participant and by introducing to two of the practice nurses at first interview, and one GP at first interview. Generally, the practitioners were very positive about the determined needs, determined actionable problems and desired outcomes, although the GP and one of the practice nurses also observed that having a prior relationship with the collaborator makes a large difference, and they felt this should have played more of a key part in the descriptive process. I did consider this observation and realised that communication runs through the process model, and also that their perception was not really directly reflected elsewhere in the research findings, although it does confirm earlier research. I therefore decided that it was not appropriate to change any of the categories.

Subsequently, I presented the process model and action plan to a group of public health nurses and a group of managers. Each of these groups confirmed both the process model and the action plan, including the actionable categories, generating considerable debate about action planning, and whether this needed to come from a perspective of

engaging management to make changes at leadership level, or whether some changes could be initiated at practice level. The action plan incorporates both elements. Unfortunately, it has not been possible to member check the actionable plan with primary care practitioners due to no further availability.

Summary

To conclude, this chapter has examined processes involved in conducting the research alongside those processes used to analyse the data and develop an actionable plan. There is only a limited view presented here of part of the developed process, as full explanations are given across the following three chapters. Chapter Five examines the main concern, "thwarted access", in more detail in relation to the problems currently experienced by the practitioners, and also presents the core category, "clearing the way". Chapter Six presents the categories "controlling workflow" and sub-categories "managing bombardment", "channelling information" and "selective knowing", with their concomitant properties. Chapter Seven provides a fuller explanation of the relationship outlined above between the category "navigating responsibility" and sub-categories "assuming responsibility", "balancing responsibility" and "shifting responsibility", detailing the associated sub-categories.

Chapter Five: Findings 1 – Thwarted Access

Introduction

Findings are presented in this and the following two chapters, relating to two of the three questions posed by the research. Findings 1 collates the analysis of data responding to the question, "What is the main concern of public health and primary care practitioners collaborating at practice level?", whilst the following chapters present the core category, categories, sub-categories and properties emerging from the question, "How do they resolve that?". Findings 2 describes the core category and the category "controlling workflow", considering responses practitioners make to resolve or manage difficulties gaining access; whilst findings 3 relays practitioners' responses associated with client care, under "navigating responsibility". Chapter eight resolves the third question, "What needs to happen to resolve those concerns and enhance collaboration, in an action plan?".

This chapter will explore the main concern and how it is mediated through integrating codes of time and geography, knowledge and roles, and power and responsibilities. These integrating codes weave throughout the theory and portray why difficulties occur, also contributing to how practitioners interpret their priorities in the way they manage or resolve difficulties encountered.
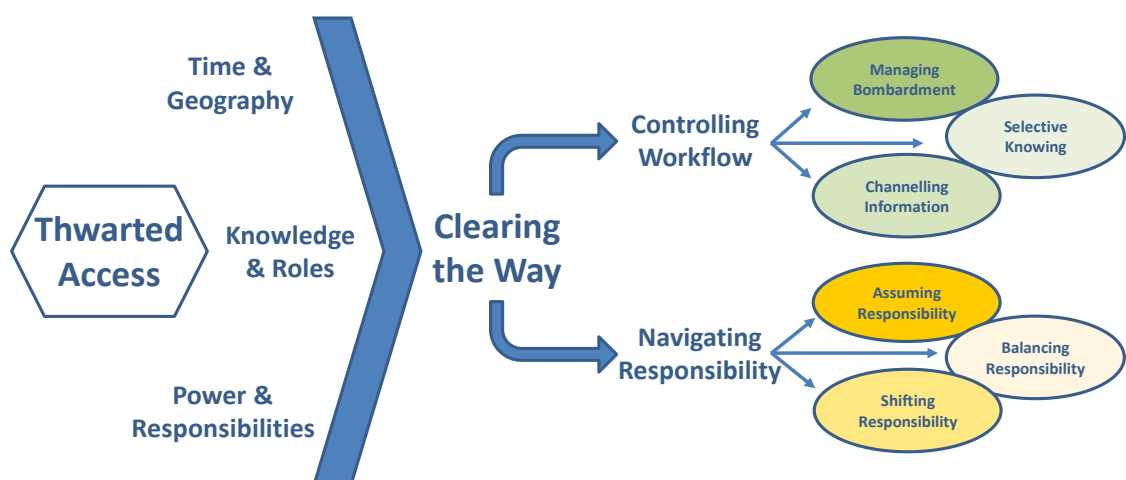
Figure 2: Thwarted access as main concern

Thwarted access as the main concern

The main concern reported by practitioners was thwarted access, as identified in the previous chapter. The term "thwarted" incorporates both active and passive concepts (Sykes, 1977). Thwart was originally a nautical term describing a plank of wood placed across the traverse of the ship to strengthen it against oncoming hazards or obstacles; it has a variety of roots including "thwert", which was middle English meaning perverse, obstinate and adverse. The active form of thwart is perhaps used more commonly, meaning to oppose or stop something from happening, suggesting deliberate choice applied to the manipulation of events leading to non-achievement. The passive form of thwarted also implies preventing accomplishment of something but is non-intentional – it may be a by-product of something else that is happening. Both active and passive forms of thwarted were demonstrated in the related experiences in this research, ranging from difficulties in gaining access to other practitioners through to failing communication where the intended messages may not be getting through in the most appropriate or direct way. "Access" is interpreted comprehensively to mean something more than initial entry to the sought practitioner, including gaining access to talk to the practitioner, achieving the practitioner's understanding of the seeker's viewpoint and their perceived client needs, and agreement on planned action. Hence, thwarted access describes difficulties from organising communications, making initial and subsequent contacts, through to any difficulties expressed when engaging in healthcare of mutual clients.

Whilst thwarted access represented the overarching or main concern of all the participants, it was apparent that there were variables or integrating codes influencing this problem, and often influencing the actions taken. For example, time affected how all the practitioners worked and related together, but it was particularly important for primary care practices to protect and organise their time to maximise numbers of client contacts. This impacted on how and whether primary care practitioners segregated time for engagement with other health agencies. The following three sections illustrate how each dimension of time and geography, knowledge and roles, and power and responsibility exert influence on thwarted access.

Time and geography

Time and geography emerged during the first interview and was present in each subsequent interview in some form. These integrating codes influenced how communications were selected and how access to the other practitioner was achieved. GPs and practice nurses experienced time as a significant barrier to communicating with other professionals as they were always aware that there was another patient waiting. They worked to time-limited appointment slots, so any communication had to take place around clinic sessions or somehow be fitted between clients.

> *In the clinical setting what happens is we are busy there, you know because of the time, there is only so much time to sort out a patient because the next patient is already waiting.* (GP)

Seeing fewer patients to allow more communication time with other professionals was challenging, as primary care practices are partially funded by patient contacts and therefore seeing fewer patients results in potential loss of income. Whilst public health practitioners were aware of this tension, they experienced inevitable delays as time wasting for them. Reported consequences included delayed intervention or delays in contact tracing, with substantial time taken in trying to contact primary care practitioners. Although this was described as frustrating, public health nurses seemed to both accept the status quo and assume responsibility for finding a way of getting around the difficulties in accessing primary care practitioners:

> *Well you would think that it's easy* [phoning the GP] *but it's very frustrating because there are certain practices that don't answer, you remain on hold for a very long time, it can be up to 10 minutes or more … and really affects the time that we take and the amount of work we can actually achieve, because of the delays in communication.* (Public health nurse)

Time also had an impact on the way information resources were managed. GPs needed to access information when they were with clients, so if they could not find the information they were seeking quickly, such as pathways of care suggesting treatment regimes, they resorted to their own knowledge and judgement:

> *For those practices who do not have so many cases and come across now and again, they will struggle to know how to identify, where to send this patient and what services are available …* (GP)

Sometimes this resulted in incorrect prescribing, inappropriate referrals being made and inevitably was more time wasteful as errors would need to be corrected, or referrals would take longer to get to the right destination.

Furthermore, primary care practitioners reported being bombarded with information and with requests for communication from other professionals. Both calls to communicate and the volumes of information entering the practice were difficult for the practices to manage. Quickly changing information, for example bulletins directing management of communicable disease outbreaks, were often confusing and primary care practitioners had difficulties establishing whether information was up to date.

All practitioners recognised that those in public health often work across large geographical areas where many primary care practices are located. It was not possible for the PHNs to develop significant relationships with each of the practices in their patch:

> *Being geographically based as a Public Health Nurse is really important or location based so that you've not got clients all over the city, you're actually focused on a geographical area, so you do get to know the key people in that area that are managing people's health.* (Public health nurse)

Working across large areas resulted in intermittent and often infrequent contact with primary care practices; and the primary care practitioners felt they had some difficulties in trusting public health practitioners as they had not developed personal relationships with them. This was compounded by GPs and practice nurses being unfamiliar with the role of public health nurses, particularly roles of those nurses who were in local teams rather than the communicable disease teams.

Knowledge and roles

Knowledge of roles contributed to successful collaboration and was more likely to be present when GPs and practice nurses had experienced working with PHNs before. Frequently though, knowledge was limited, and GPs and practice nurses identified that they were not sure what the PHNs did, which provided restrictions on what could be achieved. Limited awareness of others' roles was expressed by many of the participants. Most GPs and practice nurses associated local public health with immunisations and with 'some kind' of nursing in schools.

> *You see I don't really know what they do exactly. I have an idea their place in schools is great and I think that is a great way of getting to the young people who are not coming to us ... If there is a local person we got to know, that would be better.* (GP)

Some GPs thought public health nurses were employed by the schools and did not know they were employed by DHBs; they claimed minimal understanding. This in turn appeared to give rise to uncertainty on whether public health nurses are qualified, as some health workers in schools are employed as 'first aiders' and are not registered nurses, whilst other schools do employ registered school nurses.

> *… I heard a practitioner talking about us, they said school nurses are not proper nurses, they have no training.* (Public health nurse)

Three public health nurses who had previously been practice nurses stated that they had only limited understanding of the public health role when they had been practice nurses. Other GPs were unaware that there were public health teams in the local DHBs and were only familiar with public health's role in managing communicable diseases. There was poor knowledge of public health working with school students and their families:

> *You mentioned about local … services I wouldn't know who they are, apart from knowing the [communicable disease team] is there, I wouldn't know what local public health services are being provided.* (GP)

Given this lack of knowledge on roles, it is easy to see why GPs did not prioritise enquiries from public health to return their calls.

Other public health nurses referred to their role in encouraging clients to access their GP in situations where there were frequent access barriers:

> *Oftentimes I will provide transport for a family and the GP definitely will not realise I've done that … I don't think they would know our role, the specialists at … would far more likely link into us … maybe those relationships have been formed better.* (Public health nurse)

Although public health nurses were aware of this lack of knowledge, and indeed stated that they suspected they themselves only had a limited awareness of the extent of primary care roles, they did not make primary care practices more aware of what they do. There was a sense that the problem was too large to overcome by just working with

a few GPs and practice nurses to increase awareness. For example, one public health nurse talked of GPs being reminded individually that they were responsible for contact tracing for pertussis when a client had been diagnosed with this communicable disease. This nurse acknowledged that specific practices or specific GPs were not responding to the directions, but they did not feel there was a need to follow up:

> *…they wouldn't always consistently take that on board … like they were not listening really they were just doing their own thing, and there wasn't that consistency from everybody, but I don't really think there's need for follow up.* (Public health nurse)

Public health nurses had noticed that sometimes referrals from GPs had taken some time to reach their department, commenting on GPs' lack of awareness of where the referrals should have been directed. However, they did not consider notifying individual GPs to inform them that there had been specific difficulties and that the GPs had not followed the correct pathway. They also felt it was beyond their remit to suggest changes to the information systems GPs accessed and imagined that this would be happening at a higher level. One public health nurse intimated that she had tried to discuss this with her manager and had been informed that changes take a long time:

> *It's hard when our processes, like even on health point it's not up to date, and we have spoken to our … manager but she said it takes quite a long process to get that changed …* (Public health nurse)

GPs also recognised that they did not address some issues arising from working alongside public health practitioners. For example, one GP observed that he was not informed on healthcare provided to clients by public health nurses but did not think it was practical to feed back to public health to try to resolve the communication difficulties:

> *I think you know, the difficulty with day to day work and the challenges that we already have, when there are roadblocks, we can address some of the roadblocks, the ones that really need to be addressed. Things we come across not on a day to day basis, we tend to just leave them ... we don't have much time, we accept this is all they can offer, this is all we can expect from the service.* (GP)

Given that GPs do not have frequent contact with public health nurses, such process issues are unlikely to take priority, as attempting to address the issues would take too

much time for relatively little return. This is explored in 'Selective knowing" in the next chapter.

Power and responsibility

Power and responsibility underpinned the way practitioners related to each other. Some of the obstacles encountered referred to what happened when an incorrect treatment regime was applied, or when a referral was routed to the wrong place. Public health nurses, particularly if they were inexperienced, had some difficulties in approaching GPs to inform them that there was an issue with something they had prescribed or done. Most GPs amended the treatment or attended to the concern, but there were examples of GPs questioning nurses' authority to raise the issue with them. GPs lack of role awareness and understanding may contribute to this. When GPs did not amend the treatment, public health nurses had to find alternative ways of ensuring clients received the correct treatment, illustrated in sections on shifting responsibility and balancing responsibility in the following chapter. Generally, there was no evidence of recourse taken to ensure the same situation would not arise again with that GP.

Some of the communicable disease public health team relayed stories of their colleagues using their mandate to ensure the public are protected as a way of gaining access to the surgeries. These practitioners were "upping the ante" – that is they were informing receptionists that they were very important, or they had an urgent matter to attend to, and the GP had to talk to them at that moment, irrespective of whether the GP was reviewing a client or was otherwise engaged. These actions were not commented on by GPs and perhaps had not been experienced by those GPs who participated in the research.

As practice nurses are employed by GPs, they undertake activities directed by them, and are subject to the same pressures to manage client time economically. Some practice nurses said this led to limitations in their work – such as they are only able to reclaim government funding four times per year for nurse-client consultations of clients with chronic diseases. This was problematic for them when trying to change client or family lifestyle, as they identified that limiting the number of repeat appointments compromised efficacy for the clients. Whilst this was not directly related to

collaboration difficulties, it did demonstrate there is a role for collaboration on client care between practice nurses and public health nurses, as public health nurses would be able to assist nurse and family in promoting positive health changes in homes and school environments.

Some of the practice nurses stated that whilst GPs were usually respectful and supportive, they could also make demands on the nurses when nurses were with patients. Nurses generally discussed whether their knowledge and practice was respected and considered by the GPs. One public health nurse, who had previously been a practice nurse in large and small practices, was reflecting that practice size makes a difference, and that the nursing role is limited in large practices because the GPs defer to each other when having questions about care, and they do not then involve other professionals in their decision making or actions. A small passage from her reflection on her practice nursing role in a large practice has been included here, indicating greater role limitations placed on nurses:

> *I think maybe it tends to be easier for that power balance to change in the bigger practices ... They* [the GPs] *certainly had some issues around that power. There was a lot of GPs there, you know 20 plus ... and they had a lot more nurses, but nurses weren't allowed to look in throats or listen to chests because that was a doctor's job.* (Public health nurse)

This PHN also thought the business model was more focused in these practices, meaning that practitioners were reminded about ways of making more money for the practice, and of reducing costs. Practice nurse salaries were paid by the practice, so the GPs directed what activities practice nurses undertook, including taking calls for the GPs, filtering information, and assessing what the GPs needed to know and what they could resolve themselves. Frequently, responsibility to liaise with public health – either local public health or the communicable disease team, was devolved to practice nursing. Practice nurses who had developed some understanding or relationship with a local public health nurse found them to be accessible; those who had no prior relationship sometimes found them to be difficult to access and often public health practitioners returned calls several days later, when the issue had been resolved in a different way.

Summary

"Thwarted access" is the main concern presented by all practitioners, applying to practitioners both making contact and collaborating meaningfully together; although it is recognised in different ways between different professional groups. Integrating codes of time and geography, knowledge and roles, and power and responsibility influence practitioners' experiences and actions. However, participants did not directly address these influences. Instead, the integrating codes and concomitant issues are accepted as something that is to be worked around, rather than something which might be changed.

All practitioners prioritised client care and their health needs first, and usually attempts to communicate were related to either advocating for clients, improving or refining client care, or were about seeking information to facilitate contact tracing. There was no evidence of any active working together on population health issues, or mutual searching for local health needs. Public health nurses referred to the practitioners as "working in silos" and wanted to try to find ways of working more productively together.

Although practitioners did highlight difficulties in accessing each other and communicating actively together, most of the practitioners were positive about wanting to improve their collaboration and resolving issues. Practitioners continued to find ways of working around the difficulties encountered when attempting to collaborate. "Clearing the way" was the core category used to encapsulate these activities, encompassing ways of navigating through barriers in initially accessing colleagues, and ways of organising information and communications to get the best outcomes. "Clearing the way" encompasses two categories of "controlling workflow" and "navigating responsibility". These represent ways practitioners have found to move around issues of gaining access, and managing communication systems (in Chapter six, Findings 2), and of collaborating on mutual care for clients (in Chapter Seven, Findings 3).

Chapter Six: Findings 2 – Clearing the Way

Practitioners organise their work around the difficulties they encounter, ensuring that they can either work around blocks and communication difficulties of thwarted access, or resolving the difficulties presented by thwarted access. "Clearing the way" is the core category used to reflect the activities undertaken by practitioners. "Clearing" suggests emptying a space or moving obstructions to one side, so that the desired communications can take place. For the practitioners, "Way" combines a sense of moving forward with determining a direction, or route, of travel.
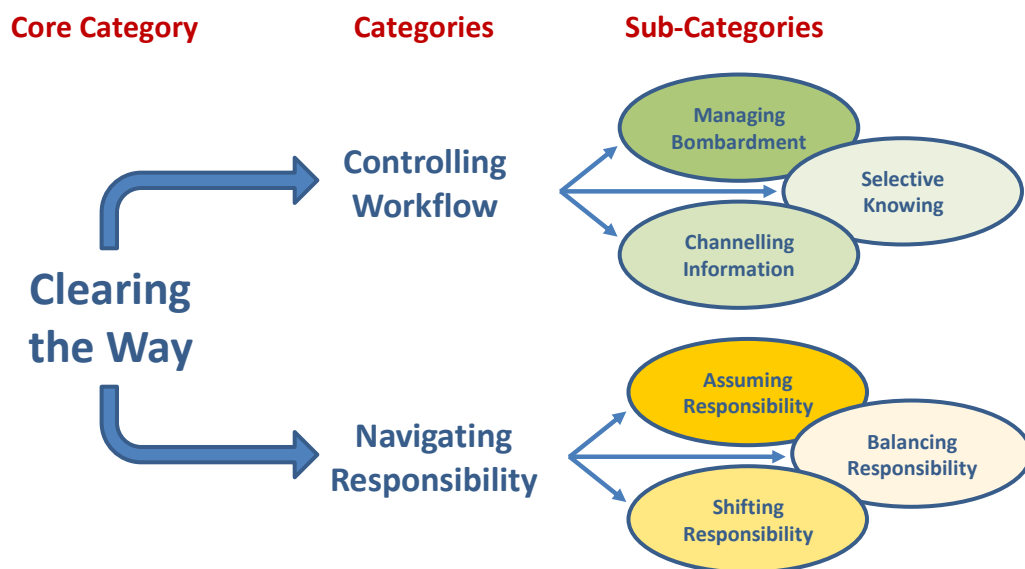
Figure 3: Clearing the way (main category) with related categories and sub-categories

The practitioners took a pragmatic approach to managing the difficulties experienced, considering time and resources available. Mostly this involved working out what could be done if the first attempted way of achieving communication was not possible or became too difficult. For example, if a public health practitioner could not access a GP to talk to them about a treatment that needed to be given, they would talk to the practice nurse instead. Similarly, practice nurses left messages with administrators for calls to be returned if they were not able to access public health practitioners.

Clearing the way encompassed two categories, "controlling workflow" and "navigating responsibility". In turn, each of these categories was divided into sub categories. "Controlling workflow" was defined by sub-categories of "managing bombardment", "channelling information" and "selective knowing". Each of these sub-categories collated ways the practitioners responded to issues around accessing the other practitioners, managing the flow of work coming into the workplace and being referred or moved on from the workplace, and around how not knowing of others' roles was managed. The integrating codes of time and geography, knowledge and roles encountered in thwarted access also played a significant part here, shaping practitioner responses to issues.

Some of these sub-categories determined clear ways to resolve the issue. In other sub-categories and properties, issues were managed rather than fully resolved. For example, public health nurses selectively engaged with certain practices to manage challenges posed by working across large geographical areas. There were no working relationships in other practices. The sub-categories are not fully separate, with overlap and influence between the categories, depending on what the circumstances of events are, and on the variables or properties to the sub-categories. This difficulty of representing a dynamic model in a linear or 2D graphic way was explained in more depth in the methods chapter.

Controlling Workflow

The first category, "controlling workflow", provides a more detailed analysis of the overlapping sub-categories "managing bombardment", "channelling information", and "selective knowing". "Controlling workflow" was approached differently by primary care practitioners and public health practitioners, reflecting the different contexts in which they worked. Nevertheless, challenges and responses were linked through the interpretation of the sub-categories.
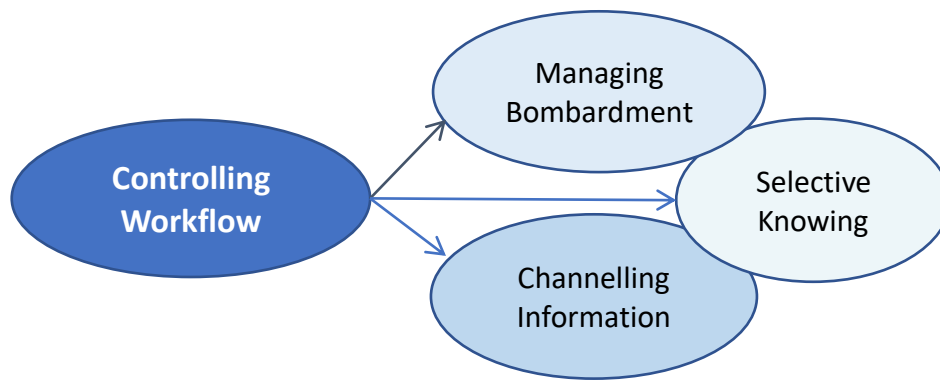
Figure 4: Controlling workflow and related sub-categories

"Managing bombardment" was the sub-category where practitioners found ways of protecting their work and commitments, influenced by integrating codes of time and geography (as expressed in Chapter Five: Findings 1 – Thwarted Access). For primary care practitioners, this related to communicating with other professionals at times that fitted around client appointments and clinics, so they could remain in control. Public health practitioners then had to manage ways of contacting primary care practices; for them issues related to how to access practitioners to discuss issues, and using priority criteria to determine which general practices to engage with over large geographical areas:

> *There were 1 or 2 GPs I did get to know a little bit … I needed their input …*
> *this was a low decile area and got to know GPs more because working with*
> *cases with more need … care and protection or advocating for child needs …,*
> *or if it's treatment beyond my scope.* (Public health nurse)

Just as primary care practitioners felt that they were bombarded by external health professionals wanting to provide them with information or discuss issues with them, so public health practitioners felt they had to be selective about which primary care practices to work with, given that there are relatively few public health practitioners compared with large numbers of primary care practices across given areas. Both demonstrated a need to 'manage' the work and balance this against other priorities.

"Channelling information" reflected ways primary care practitioners managed large volumes of information entering the practices, and the difficulties this presented. Similarly, this sub-category considered how information systems are used when practitioners needed to communicate with each other. Time and knowledge were the

relevant integrating codes weaving through this sub-category, as all practitioners wanted information to be available as it was needed. Public health practitioners generally needed to be able to get information to primary care in such a way that it would be read, considered and useful, and any directions would be followed. Primary care also wanted to receive current, clear and useful information at the point of need, but nevertheless this section details difficulties presented by the shared need for effectively transmitted communication.

The third sub-category, "selective knowing", intersects with both "managing bombardment" and "channelling information". This considers both how practitioners choose how they use information available to them, and how practitioners' knowledge and understanding of their own and others' roles impacts on access and collaboration. Pertinent integrating codes here are time, knowledge, roles and responsibility.

Managing Bombardment
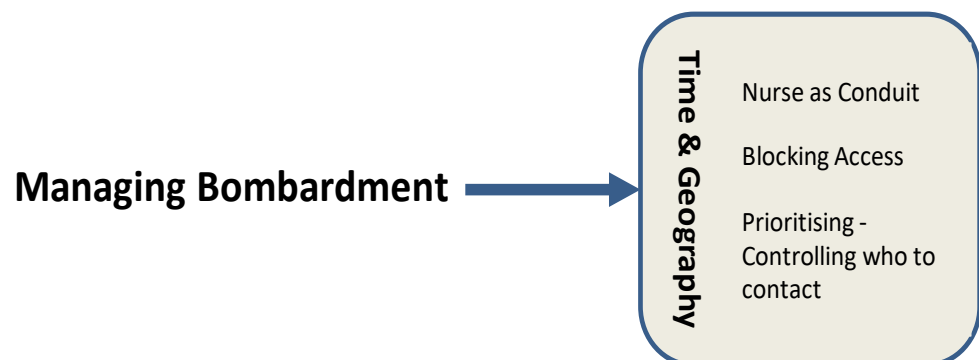
Figure 5: Properties of sub-category "managing bombardment"

Nurse as conduit

The main action in "managing bombardment" is for primary care to protect GP time, particularly when they are reviewing clients, by restricting access. Receptionists act as gatekeepers, managing incoming calls by either asking the practitioner to call back later, or by diverting the calls to practice nurses, who become conduits between public health practitioners and GPs:

> *The receptionists are pretty wary about putting us through to the GP, …*
> *Usually we don't need to bother with that, just with the practice nurse and*
> *just get a summary of the patient records.* (Public health medical officer)

> *I just get hold of the practice and talk to the admin people at the desk … and as soon as I say I'm a public health nurse, they're normally happy to put me through to someone. Often, I'll talk to a practice nurse directly as that's easier than the GPs because they're booked up, they're so full … and I'll give any messages and they will then talk to the GP.)* (Public health nurse)

As implied, the public health nurses trust that the information is getting to the GPs, and they do not check that information has been passed on by the practice nurse.

Practice nurses confirmed calls were directed through them and saw this as an accepted part of their role. They answered queries and filtered what needs to be passed onto the GPs. This facilitated liaison with external health practitioners whilst balancing time and availability within the primary care practice, thereby reducing risk of potential GP overload. Sometimes public health practitioners were seeking demographic or other information, which could easily be provided by practice nurses from client records. Occasionally additional information was requested, relating to the client's health history, which had not been recorded in the notes. The practice nurses then passed a message to the GP to call the public health practitioner, although the practice nurses did not know whether the GPs did return the call. Using the practice nurse as conduit in this way allowed GPs to remain in control of whom they responded to, and when they responded, to preserve uninterrupted time with clients. Some practices allocated triage time to the nurses, where time was allocated for responding to phone calls, but this was not universal. Other nurses managed phone calls alongside clinics and other duties.

Blocking access:

If practitioners were busy and unable to answer calls, the opposite practitioners were invited to leave a message and wait for a returned call. In public health departments, the call went to administrator answer phone; whereas practice nurses reported that receptionists put calls through to the nursing clinics irrespective of whether the nurse was with patients. Practice nurses managed this by letting the call go to answer phone. Calls were not always returned when messages had been left:

> *So what we can do is leave a message but what we find is that the nurses don't ring back very often.* (Practice nurse)

Public health practitioners stated that they could spend several hours chasing access for primary care practices aligned with one PHO. This PHO had an alternative approach to practice structures, and to organising care for clients. The practices operated a non-appointment system whereby clients present at the practice and queue until a GP or practice nurse consult becomes available, causing several dilemmas for contact. Firstly, all contact was directed through a call centre. Usually it took a long time for the call centres to answer the calls as they were dealing with a large volume of clients and professionals wanting to connect with different practices. Call centre administrators took messages from the practitioners, rather than redirecting calls through to the practices. The public health practitioners had no confidence that these messages were forwarded to the practices, and rarely had returned responses:

> *The only way you can leave a message is through switch. You cannot contact, you cannot leave messages directly at any one of those centres. They all have different numbers listed but it goes through to switch, you can't ring anyone directly.* (Public health nurse)

Public health nurses had not found a way to manage the difficulties in working with these practices, although they did focus on working with the practice nurses rather than the GPs, where they could. One nurse had attempted to visit a GP at one of these practices and observed that it was not a viable option:

> *If I want to see a GP, or even a nurse, I have to wait two hours to be seen.* (Public health nurse)

A second issue arose with the way this PHO was organised, as clients did not have a named GP. Instead, they may have been seen by one of several GPs. The GP can only gain a sense of the client's health history from the client health records, time permitting. This lack of care continuity meant that clients often repeated information relating to chronic health issues, and the GP reviewing the client had little information about their personal situations. Consequently, public health practitioners' perception was that although this system minimised costs thereby facilitating reduced patient charges for families with lower incomes, this practice approach did not provide best care for the patients. Public health practitioners and practice nurses did not know who they needed to have conversations with, further compounding access difficulties

(linking with selective knowing). Costs were inevitably transferred to other services as public health took more time to gather basic information:

> *They [the children and carers] see whoever's on that day, they just have to wait, and so when I'm trying to get something arranged for these children, ... and I'm trying to get that actioned, I can't because they don't have that one GP, you don't know who to talk to and you don't know who you're going to get ... no-one takes responsibility for the patient.* (Public health nurse)

Nurses identified that small practices seemed to be more responsive and welcoming to public health practitioners, and GPs were more likely to return calls to discuss clients. When GPs did return calls after practice nurses had passed on information to them, PHNs reported that communication was successful and often outcomes for the clients improved. The public health nurses felt affirmed, and that there was opportunity at these points to develop a more robust plan of care collaboratively with primary car:

> *I worked with one small practice that was welcoming. I had a good relationship with the practice nurse, I could get patients to see the GP ... The practice nurse would contact me about a patient we had been working jointly with and we would work out a plan.* (Public health nurse)

Whilst this public health nurse had identified the small practice size was important in being able to establish a relationship resulting in positive outcomes, other public health nurses identified that relationship building and gaining familiarity were more important factors in accessing practitioners and working together. One PHN pondered whether greater responsiveness in the smaller practices resulted from relatively fewer clients at the practice.

> *[discussing practices who are easier to access] ... they're set up like who they have employed or maybe they have better staffing ratios. They don't seem to be very big practices, they're smaller ones.* (Public health nurse)

Once access was gained, practice nurses readily gave requested information to public health practitioners without questioning their identity or their right to the information.

Prioritising – Controlling who to contact

Whilst primary care practitioners protected their time using the above mechanisms of blocking direct access to the GP, and using the practice nurses as conduits, public health practitioners used alternative methods to arrange their time and workflow. The

pressure was not so much that the demands on their time were being made by others, but rather that the awareness of balancing all the potential work waiting to be done caused a sense of bombardment. For them, there were two main presenting challenges. Firstly, they were working in large geographical areas with too many primary care practices to allow development of good relationships with all GPs and practice nurses. One public health nurse regretted that she now worked in a much larger area than she used to; she implied that it was easier to develop those relationships and work more closely when she was working in a specific locality:

> *I always go* [to one school] *on a Thursday and on a Monday I go to the decile 3 at the other end of my huge area and get quite a lot of complex referrals … I was always in …* [small discrete local] *area for years, and there were 1 or 2 GPs I did get to know a bit … and I needed their input.* (Public health nurse)

Public health nurses prioritised liaising with practices where there were more clients registered, or where there were more shared clients with complex issues or issues of concern. Often, these clients were registered with the large practices aligned with the PHO which had central switchboards and were more difficult to access, as above.

Practitioners thought that geographical working would facilitate collaboration:

> *… if you had a better, you knew a bit more about each other, could probably communicate much better. I think if it were more localised, and perhaps the public health nurses in that area could introduce themselves to the practice, I think things could be good.* (GP)

This GP recognised that success in collaboration is often related to one practitioner leading the process, acknowledging that there may be a personality element to this and that it may be easier for some nurses to introduce themselves to general practice. They reflected that it should be possible for public health nurses to attend practice meetings and explain their roles. However, some public health nurses were uncomfortable with the idea of introducing themselves to practices to try to build better relationships – there was no framework or precedent for them to suggest coming to practice meetings to discuss specific client needs, or for meeting informally:

> *There is no model for contacting GP practices – do we just rock up at a GP practice and introduce ourselves? Would they be OK and would there be an 'and so?' in the air?* (Public health nurse)

> *We must need to have some kind of meeting ... Would we be well received? I don't know.* (Public health nurse)

PHNs linked this uncertainty on whether it would be acceptable for them to introduce themselves to practices to their perceptions that GPs and practice nurses did not understand their roles, which is discussed more fully in the section on "selective knowing".

Public health practitioners identified that where they had been able to work successfully on a previous occasion with the practice (or another previous PHN had had a good relationship with the practice), the practices became more trusting of the public health nursing role, and barriers to gaining access reduced or disappeared as the practices got to know the public health nurse. In the following situation, the nurse identified working in a clinic where the previous nurse had established positive relationships with one local practice:

> *... there was a nurse here, so I piggy-backed on that historical relationship that's been built over a long time.* (Public health nurse)

Public health practitioners frequently knew which practices were easier to access, and which primary care practitioners would respond, based on their previous experiences. Their knowledge informed how they operated with general practices and enabled some collaboration with mutual clients at selected practices. This links with both the sub-category selective knowing, and with how practitioners navigate responsibility.

Channelling Information
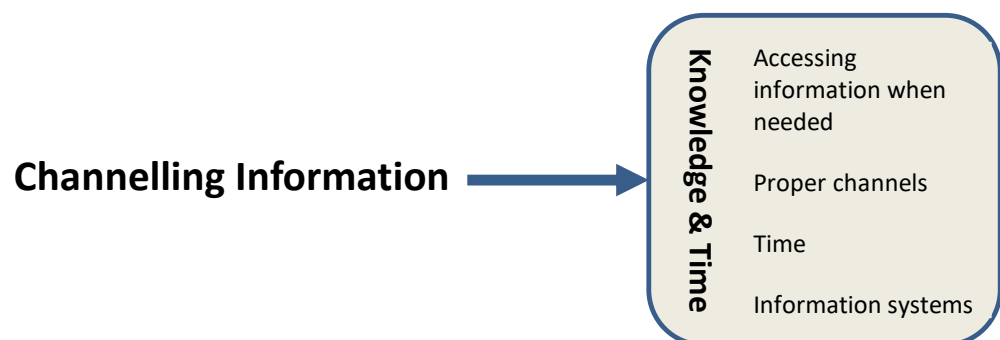
Figure 6: Properties of sub-category "channelling information"

Alongside managing bombardment, GPs and practice nurses identified that they needed to find ways of working with information coming into the practice from multiple directions. Channelling information is the sub-category describing the way GPs and practice nurses process and use information to access resources at the point of need. Information included directions or general information, for example flyers on outbreak management of communicable diseases, updates on immunisation schedules, referral pathways and information on electronic referring processes, or details provided by other practitioners (including public health nurses) associated with provision of individual client care. The key properties or drivers in this sub-category for primary care practitioners were being able to access information when it is needed and receiving information through proper channels. Information systems and how these were used by practitioners was a significant area of concern for primary care and public health practitioners.

Accessing information when needed

GPs, as stated above, noted that they have a lot of information coming into the practices, from different directions. Generally, any changes to service provision is notified via a combination of education evenings for GPs and practice nurses, coordinated by the PHOs, or by circular/email communications sent out to primary care practices from the PHO central offices. Such information covers changes to service provision or treatment options, referral processes, or changing expectations in managing communicable diseases and updates. It was difficult to manage the volume of circulars coming into PHOs, with leaflets changing and progressing management recommendations for communicable disease, as status of the communicable disease outbreak evolved. Information changed quickly, and it could be confusing trying to manage forwarding of information:

> *… at the PHO we had a little bit of difficulty first in that the communications were not terribly clear … we weren't quite sure which was the correct one …* (Practitioner working at a PHO)

GPs receiving these circulars on managing the mumps outbreak confirmed the confusion and stated that they were not sure which of the circulars being sent was the current information as it changed quickly from being asked to screen for mumps to being asked not to screen, and advice seemed to be conflicting:

> *Yes, it was bombarding, it was just full on – which is the up to date one, should they really be tested, should they not be tested. … it was just totally confusing.* (Practice nurse)

When GPs considered the care they were offering clients and knew who to approach, phoning public health for information generally seemed to work well for them:

> *I find that beneficial in the sense that I can pick up the phone ring public health and say 'Hey, this is what I've got what do I need to do?' And they can tell me or my nurse this is what we want you to do … and the rest of the things we can follow through.* (GP)

Other sources of information came from webpages and internet sources, widely used in consultations. Pages needed to be clear to navigate with explicit instructions on managing specific pathways where relevant. Further information on this is provided under selective knowing.

Proper channels

GPs expected information to come via PHOs into the practice, rather than being sent directly to their own email addresses. PHOs take responsibility for ensuring all practices receive information in a coordinated approach, allowing practices to determine how such information is managed without flooding GP inboxes. They also have current lists of GPs at each practice, so can ensure even dispatch for circulars and updates. GPs objected to these systems being sidestepped, wondering how their email addresses became known:

> *I guess the difficulty of that would be that you might almost be breaching the privacy issue of contracts and people coming in and asking how did you know about me, who gave you the address?* (GP)

One GP also related this to information being forgotten, unless a GP was dealing with that issue with one or more patients at the time the notification was received:

> *… that ends the message and then, after about a week or so, people forget about that if they don't see any cases until there is the next message, say two months later. They won't think about public health for a long time in that sense I guess. So how we could work more collaboratively I guess is I find that in primary care for anything to be at front of mind, the communication has to come through the proper channels.* (GP)

Public health nurses in turn had little confidence that GPs were retaining the information transmitted in flyers from the public health team, or that verbal information given to individuals changed GPs' actions in the long term. The following public health nurse was reflecting on consistent instructions that had been circulated over contact tracing once pertussis has been detected, which has been the GPs' responsibility for some time:

> *Pertussis – it's up to the GP practices to manage the context [contact tracing] for a few years now ... they should know it's their responsibility but even to this stage we still talk to GPs practices and then like 'Oh, are we supposed to be following this up?'* (Public health nurse)

The response to this was to continue re-educating individual GPs, giving the same information over again, but public health nurse stated their preference was for there to be more accountability within the practice, appointing someone in each practice to become responsible for ensuring GPs fulfil their responsibilities, such as the practice manager.

Evidence that primary care practitioners were not responding to updated directions included some GPs continuing to use outmoded screening tests to determine if a client had pertussis:

> *A major issue I see is that GPs are still ordering serologies for acute cases of notifiable diseases, whereas that's completely outdated, it's all about PCI testing. We've sent a lot of health advisory information out there… it's about knowing where to look because it's quite clear.* (Public health nurse)

Public health managed this by contacting practitioners to advise them that they would need to re-test using the appropriate method, or by repeating information messages about the tests to order next time they suspected that disease. No changes were made to the style of communication, even though public health practitioners were aware of those GPs repeatedly making the same errors. One public health nurse was interested in delivering training and information talks on updating practice but had not managed to access the PHOs' education sessions to deliver such training:

> *I actually developed some training sessions for GP practices, for GPs and nurses, so I haven't actually managed to be able to do any yet ... from last year, we still haven't got any dates or sessions.* (Public health nurse)

There was no shared priority or understanding around the suggested education being provided. For the PHOs, there are too many agenda items competing for publicity; priority will be given to those education items which are perceived to have widespread benefit or those topics enabling target fulfilment. One explanation for this was described in the action plan and referred to in the section on selective knowing – the lack of shared priorities may be impacted by practitioners not having full understanding of others' roles.

Information systems

Whilst most of the above information exchanges considered in this section have been concerned with practice directives or processes that need to be followed, public health practitioners also provided information on managing diseases and individual client care. Often this was giving details of medication initiated, or of an episode of individual care completed by public health practitioners. On a collective scale, information was provided to the general practices at the end of a season of immunisation programmes in schools, informing GPs and practice nurses of students who have been immunised in schools, and of those who have provided consent but wish to be immunised at the primary care practice. Similarly, as noted above, flyers are sent to practices informing them of updates on managing disease outbreaks, and of which diagnostic tests to use.

When public health practitioners were informing primary care on care or treatment that had been completed, they generally used less direct methods of contact, such as faxing letters, or mailing letters. One practitioner suggested that emails could be used as a way of collaborating around ongoing care (linking to the section above on managing bombardment):

> *I just now send an email and say 'are you following up this person? Would you mind emailing me back to say you are doing that?' and that's all I need to do, and they email back and say 'yes this person has been referred to the chest clinic.' So that's another way of saving everybody's time.* (Public health medical officer)

Nurses identified that in some larger practices, the absence of named GPs makes it hard to know who to liaise with, as there is no one person overseeing the client's care between visits to the practice (linking with managing bombardment, and selective knowing). This mitigates against relationships being created between clients and GPs

and between primary care and public health practitioners (detailed more fully under thwarted access and selective knowing).

When public health nurses have provided medication under standing order, a letter is faxed to the primary care practice the client is aligned with, informing of the condition treated, and the dose and length of course of antibiotics supplied. Several public health nurses expressed anxiety on using faxing as a method of communication, questioning what might happen to the information:

> *They need to receive it in a form that is useful to them. I don't know whether someone looks at it and puts it into the system or whether it goes in the shredder?* (Public health nurse)

> *It's a fax, it feels a bit outdated to me how much is still done on fax. Purely because you don't even know if it's gone to the right place. And I've never received any confirmation, so I've just sent it off, hopefully to the right GP, hopefully they get it.* (Public health nurse)

There were also examples provided indicating that GPs were not aware of faxes or did not open them, resulting in treatment being supplied twice to the same client, once by the public health nurse and later by the GP.

> *I did have an incident where we'd been sending faxes ... I rang the GP and it turns out they weren't opening the faxes.* (Public health nurse)

One example told of a GP who had not noticed in the discharge letter that a client's treatment for tuberculosis was being supplied directly by the infectious disease consultant and monitored by the communicable disease public health team. The GP also provided the family with a prescription, and for two days the patient received double dose of the medication before the public health nurse became aware and rectified the issue. Although the GP was informed and asked to stop prescribing on a certain date, he renewed the prescription on said date and the medication was continued for longer than required:

> *I phoned the practice nurse and asked her what was the best way of contacting the GP to tell him to stop prescribing on this date, she said send it to this generic email, attention it to the doctor and I'll forward on. So, I emailed the GP to stop prescribing on the set date, ... Then I checked after that date and he was still prescribing.* (Public health nurse)

Reflecting on this incident, the public health nurse involved noted that the letter sent from the infectious disease team, her phone conversations with the practice nurse, and her generic email sent to the practice had all proved to be ineffective forms of communication with this GP. Instead, she had to make sure that she checked the medication was discontinued as requested on the due date. The public health nurse had felt that she had highlighted the failure in the process when she talked to the practice nurse and was frustrated that this had not eventuated in the required prescription changes:

> *[In terms of following this incident up] Well I felt like I did that when I spoke to the practice nurse. She should be aware of that and I made her aware of that.* (Public health nurse)

The public health nurse involved in this incident thought that having a work email address for the GP they could communicate on would be more effective. Other public health nurses also thought GP email addresses would be a better form of communication than faxes. One nurse alluded to risk of privacy being breached, perhaps in relation to local DHB policies indicating that emails are not considered to be a secure method of communicating to agencies outside of the DHBs, with whom no secure information technology link has been developed.

> *… Somehow, if we were communicating that way* [using mutual information technology systems] *we would be able to see if the GP had seen them, and I understand privacy would be a huge hurdle for this.* (Public health nurse)

Public health practitioners recognised wider technology limitations and reflected on the possibility of systems being developed which could allow a form of shared documentation. This would enable practitioners to look up information quickly on medication that was being provided or treatment given, for example, and would also allow GPs to see which other professionals were involved:

> *… our computer systems are ridiculous. They don't link up, different DHBs don't link up, GPs have a separate one. … And so, it would be fantastic if all the records were together and we were not working at odds. Because it must be hard for the GPs as well.* (Public health nurse)

Public health nurses reflected on limitations of their own documentation systems. Their records did not link clients in the same family, so practitioners may not even be aware

when a public health colleague was working with another child in the same family; and they were frequently unaware of practitioners from other services or from primary care actively working with the family.

GPs were less clear about sharing information systems. The concern was that it may take too long to scroll through extensive notes, and that they would prefer to have summary information as the care is ongoing rather than only at the end of an episode of care:

> *A summary of … what consultation they had would probably be helpful, although some GPs might argue they don't want to know everything about that because they haven't got time for that. Which is a fair comment.* (GP)

Such information may be used to gain understanding of how clients are treated within other services, with practitioners gaining knowledge or awareness of what is likely to happen to other clients who are referred:

> *One advantage of sharing notes … is that it is not just beneficial for the patient … so I may tell my next patient, these are the steps, and it may not be exactly the same way, but it will be helpful for me to inform the patient that this is what you can expect from here on.* (GP)

For some nurses, the concern around information technology was to improve systems so that time could be saved with smarter working processes. This ranged from improving the time taken to document consultations, through to clients using apps in healthcare to be more active partners in their own healthcare needs:

> *Less paperwork, less recall letters. If the system is smart enough it can be done via computer.* (Practice nurse)

> *… this app that people* [clients] *could use that you could communicate with your nurse on a weekly basis.* (Practice nurse)

All practitioners wanted smart information technology systems that would improve information sharing and facilitate written communication between primary care practices and public health. Systems need to attend to the needs of both groups of practitioners if they are to be successful communication channels. Such information systems would enhance knowing and have the potential to improve practitioner

understanding of what it is they need to know, contributing to selective knowing, detailed in the next section.

Selective Knowing

Selective Knowing ⟶ **Roles, Responsibility & Time**
Not knowing roles

Reliance on own system v. using pathways

Beyond their remit
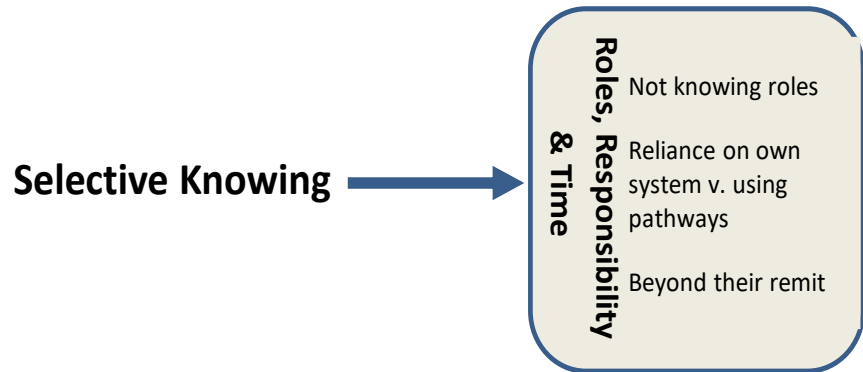
Figure 7: Properties of sub-category "selective knowing"

This section explains how "selective knowing" overlaps with each of the two sub-categories "managing bombardment" and "channelling information", but also collates repeated assertions of "not knowing" throughout the interviews. "Selective knowing" was mediated through integrating codes of roles, responsibilities and time. Primary care practitioners sometimes work from expedience under time pressure, choosing not to search for available information – instead relying on their own thoughts about where and who to refer to, sitting under the property "reliance on own systems". All practitioners acknowledged that they did not have full understanding of others' roles, impeding collaboration between the professional groups. There was also limited understanding of processes to be followed when passing on information, directions or when making a referral, as well as to whether practitioners are responding. Practitioners receiving information that had gone via an indirect route (often taking longer to reach its correct destination) did not consider correcting the sender of information, so that on subsequent occasions they would understand the process, and this defined the property "beyond their remit".

Not knowing roles

Most of the practitioners identified a lack of role understanding. GPs and practice nurses did not fully understand what public health nurses did, expressing confusion about the separate public health teams who either work alongside schools or manage

communicable disease. Generally, primary care practitioners understood that public health was involved in communicable disease and immunisations in schools, although often the primary care practices could not distinguish which teams performed these roles.

Understanding reflected primary care practitioners' experiences of working alongside public health nurses. Some GPs had consulted with the communicable disease team and had appreciation of their work around contact tracing and in supporting medication for tuberculosis or other communicable diseases. However, they generally accepted that they could consult or refer on, without necessarily needing to know what public health practitioners did. The communicable disease public health team were regarded as the experts, reflecting both trust and delegation of responsibility:

> *They want to know schools and check the addresses and phone numbers and find out a little about the history … public health nurses do whatever it is they do and that's the end for us … they are the experts and we don't really know much about public health, so it's their field of expertise not ours and we can leave them to get on and do what they do.* (Practice nurse)

Aside from contact tracing and managing some communicable diseases, primary care practitioners knew that public health nurses immunised in schools and reported some two-way communication, seeking information on who had been immunised. Confusion expressed by primary care practitioners included not understanding who employed public health nurses, and how they differed from other services such as school nurses, or community paediatric nurses and district nurses.

Practice nurses commented on how other roles are clear and specific, in comparison to public health nursing, which is more difficult to grasp and understand.

> *Sometimes when you get a call you're a bit blurry about, like you know it's from the hospital but is it a district nurse, public health nurse or someone else.* (Practice nurse)

> *… Whereas public health nursing is just this nebulous name. You know they do something with kids you know they go into schools, you know they do the immunisation programme.* (Practice nurse)

Public health nurses were aware of this confusion, particularly on understanding the difference between roles of school nurses and public health nurses. There was a sense

that public health nurses think that they may be partially responsible for their low profile as they had not communicated purpose clearly when contacting general practices:

> *I don't think GPs understand the role of PHN. This is at least partly our fault. They have no inkling our main priority is to link families back into primary care.* (Public health nurse)

Primary care practitioners thought that practices could do more to engage with local public health teams to find out what they do, and how they overlap with primary care, by inviting them into practice meetings. Various reasons were explored around why public health nurses had not given more information about their roles to general practice, and what has given rise to the role confusion. Possibilities included being concerned that if GPs became more aware of the role, numbers of referrals would increase to unmanageable proportions, although public health nurses generally thought that more opportunity to collaborate would improve understanding, benefitting clients and their families. Other public health nurses linked failing to explain their roles back to being unsure of how they would do this, and what reception they might get, linking with 'prioritising' under "managing bombardment".

As part of providing explanations on how public health differs from community nursing, there needs to be some explanation of wider engagement. Primary care practices need to understand the framework public health nurses work in and their collaboration with social workers, community workers and other contacts, in agencies and non-government organisations. Other nurses talked of using practical situations with clients to get to know practices and work alongside practice nurses, again, aligning with a sense of needing to have a reason described above:

> *I haven't taken the time to go into individual practices mostly and get to know the practice nurses, it's just over time ... that one case I've been talking about, I did get to know that nurse and she was brilliant, spent quite a bit of time with her ...* (Public health nurse)

Practitioners need to have a sense of mutual purpose if they are to effectively engage with each other, which includes public health practitioners being able to provide primary care practices with clear information on their role and responsibilities in their work with clients. As the role expands and contracts over time depending often on

current priorities, it can be difficult for public health nurses themselves to keep pace with their own role limits:

> *I think certainly in terms of the roles and responsibilities of PHNs … we are definitely having a lot of those struggles with what is our role and responsibility and what is a school nurse ... that will be easily crossing over into how we're interacting with our healthcare providers as well.* (Public health nurse)

> *I guess for us, and the DHB, its quite fluid our role, it's dictated by what the government is focusing on ... and so our job is fluid.* (Public health nurse)

If public health nurses themselves are unable to communicate their role to primary care practitioners, it is unsurprising that primary care practitioners are not using public health or referring to them, and collaboration is likely to be sporadic. Primary care practitioners will have limited or no understanding that there may be overlapping functions, treatment or actions. This uncertainty in roles was identified by primary care practitioners as being one of the main reasons why there was infrequent liaison between primary care and public health. Collaboration needs to be of some use to the practice and to primary care clients, and currently GPs do not know what public health nurses can do for them, or how they can be useful to their clients:

> *I would like to stress in terms of local services it is an important thing for practices to know what's around and what services and who to contact and what support they can provide. I'm not sure what would be offered.* (GP)

When asked what needs to change, primary care practitioners identified that knowing what public health nurses do is key to thinking about collaborating with them:

> *It's probably knowing what public health nurses can do, so what services do you provide, and therefore you've got that in your brain when the next patient comes in you think, that's where I could go.* (Practice nurse)

Public health practitioners consider that they would need to lead any communication with primary care, as they can determine which primary care practices families are registered with. However, primary care has no way of knowing whether public health nurses are involved, unless they have received a letter, fax, telephone call or visit advising them of their involvement in an episode of care. Developing a form of shared

information systems may help to dissipate this hidden nature of public health (as discussed in "channelling information"):

> *Right now, it's too difficult for primary care to contact us. How would they know we are involved? We can know which GP the client has, but they do not necessarily have a PHN at any one time and it could be anyone.* (Public health nurse)

To summarise this dichotomy, primary care practitioners have only limited understanding of what public health nurses can do, as part of the public health role is not discrete, and changes in response to identified need and government directives or locally identified need. Public health nurses are aware of this limited knowledge but are unsure how it can be addressed as they feel the lack of knowledge impacts on how primary care views their usefulness to them. They acknowledge that the invisibility of when they are involved with clients means that they must be responsible for introducing themselves to practices, and for addressing the lack of knowledge on what public health nursing is.

Reliance on own systems v. using pathways:

Linking with the above section on "channelling information", GPs and practice nurses work under time constraints and need to be able to access information quickly during client contacts. When this information is not readily available, both practice nurses and GPs talked of relying on what they thought was the best approach:

> *You want [most up to date information] or you ring up and [no-one responds] and after that it's like 'Oh well, I'll just have to fudge it as best I can, or print out an information sheet and hope it's up to date.'* (Practice nurse)

GPs talked of trying to access pathways to know what to prescribe or who to refer to, or of trying to access information from webpages. Sometimes these were opened in readiness prior to a client consultation, if the GP had some awareness of what might be needed. Often though, there was not enough time and GPs relied on their memory or their own way of doing things. This may result in mistakes being made, and the wrong treatment is provided (linking with "navigating responsibility"), or a client is referred to the wrong place for their condition. They do acknowledge that they cannot know all

that is needed and that it can be challenging managing clients who have less frequently presenting conditions:

> *Even things like rheumatic fever, I think that what happens is it's a separate sort of problem in itself. It's got a huge amount of work, … and for those practices who do not have so many cases and come across now and again, they will struggle to know how to identify, where to send this patient and what services are available.* (GP)

DHBs are aware of the difficulties GPs have in accessing the information they need and have consequently developed improved platforms. However, GPs acknowledge that they are not always using this site:

> *I keep forgetting to use it because it is not top of my mind because it is another thing I have to log into it, I have to go onto the health point icon and then it's there.* (GP)

Time, having too many things to remember and forgetting to log in, and having difficulty in navigating to pathways were three reasons given for not accessing the information provided by secondary services such as public health. Practitioners reported that sometimes trying to navigate around unfamiliar webpages was too challenging to be managed within client consult time when the information was needed.

This poses further questions about accessibility of information service applications designed by DHBs for primary care to access, and about training provided around using such systems.

Where GPs are not accessing current pathways and are relying on their memory of how they have treated or referred when working with previous clients, there is more likelihood of errors occurring which may result in delays in referral, for example, or in less effective treatment methods or screening methods being applied, which will be examined more in the next section.

Beyond their remit

Sometimes, practitioners' reliance on their own knowledge delays processes. For example, referrals may be directed to the wrong place and take a circuitous route before reaching the correct department. Public health nurses experienced this when

referrals were sent to the wrong DHB or wrong department for children who are bedwetting, and referrals bounced between DHBs as well as between departments in DHBs. Other examples of GPs not following the correct process or pathway included supplying incorrect medication or continuing to supply medication when they had already been notified that treatment should be concluded. Often when such issues related to current client care that needed to be amended, public health practitioners found ways of addressing these issues, as described in the following sections on "navigating responsibility". However, some issues remained unaddressed, particularly when relating to referrals being incorrectly directed; public health nurses receiving referrals, after a time delay, did not notify the referring GPs that they had incorrectly directed the referral. They also felt it was beyond their remit to suggest changes to the information systems GPs accessed and imagined that this would be happening at a higher/strategic level. One public health nurse intimated that they had tried to discuss this with their manager and had been informed that changes take a long time:

> *It's hard when our processes, like even on health point it's not up to date,*
> *and we have spoken to our … manager but she said it takes quite a long*
> *process to get that changed …* (Public health nurse)

GPs and practice nurses also talked of public health nurses using inappropriate processes when providing information.

Unfortunately, when practitioners do not inform their colleagues that processes have been incorrectly applied or followed, the practitioners who followed the incorrect process remain ignorant of the issues. Without feedback, practitioners will continue to use the same less than ideal processes in the future and the problem continues.

Considering summary implications for actionable plan

In each of the sub-categories under the category "Clearing the Way", practitioners engage in ways of managing or resolving issues relating to initial and ongoing access. Some ways that practitioners are currently resolving issues can translate directly into action. For example, with the sub-category managing bombardment, recognising the practice nurse as conduit works as an effective access point to communication for all practitioners. Similarly, limiting the geographical size of areas public health nurses work in allows public health nurses to focus on concentrated development of efficient

relationships in fewer practices, prioritising practices where there are clients with lower health literacy and higher social/health needs. This is a realistic way of managing the smaller number of public health nurses compared with primary care practices.

Other ways that practitioners currently manage their identified issues provide a way of gaining access but are not necessarily successful for all practitioners concerned, and often the aim of contact is not achieved. In these instances, actions need to be developed to acknowledge the working patterns of all practitioners, to facilitate solutions. Under "channelling information", examples include the need to develop common information systems for all practitioners, working from established shared priorities, and recognising practitioners' needs and expectations. Similarly, under the sub-category "selective knowing", practitioners need to have clear understanding of the role of others, and ways of informing on roles, communication to develop shared priorities, and acknowledgement of responsibilities with concomitant agreements on actions to be taken when something is not working as it should.

Practitioners also shared their wish list of what they would like to happen, which included elements such as public health practitioners introducing themselves to practices, primary care practices inviting public health nurses to practice meetings, developing clearer information systems and being able to disseminate information at education evenings when appropriate. These suggestions have also been considered in the chapter on action planning.

The next chapter considers "navigating responsibility", which is the second category under "clearing the way", relating to ways practitioners collaborated on providing individual care to clients.

Chapter Seven: Findings 3 – Navigating Responsibility

'Navigating responsibility" is the second category under the core category "Clearing the way", explaining how practitioners liaise when they identify a client health need, and where another practitioner is consulted to meet that client need. This category collates all aspects of care coordination from successful collaboration on planning and implementing client care, through to considering how challenges were managed in collaborating to promote client care. Collaboration was usually initiated by practitioners advocating for their clients, or who wanted to ensure that processes were being undertaken correctly. Contact varied from consulting through to advising and directing care. As with thwarted access, there were integrating codes of power and responsibility, and knowledge and roles.

Often, difficulties in collaboration arose when public health nurses were requesting a service from GPs. For example, nurses were advocating aspects of individual client healthcare such as modifying treatments to conform with existing treatment pathways or recommending referral to a paediatrician. Other examples included advising on the use of appropriate screening tests or advising on contact tracing for specific communicable diseases.

Sub-categories of "assuming responsibility", "shifting responsibility" and "balancing responsibility" generally reflect the ways nurses work with or around GPs to achieve the best outcome for clients. How nurses responded depended on nurses' levels of experience and confidence on whether they felt able to contact GPs to discuss their concerns, and on whether they had experienced previous negativity when talking to GPs. Both prescribing and conducting medical assessments to assess the need for specialist intervention have traditionally been regarded as the medical practitioners' remit, rather than nurses, which may explain nurses' reluctance to challenge doctors' actions. Nurses expressed some anxiety around discussing incorrect prescriptions with GPs, as their perception was that they were encroaching on the doctor role.

Historically, public health departments have employed medical officers who performed the task of liaising with their GP peers over prescribing issues, and who also organised direct referrals to paediatricians. However, more recently there has been an

expectation that nurses take on this role; the change in practice emphasis has been challenging for nurses:

> *… in the first instance we've been directed to get the GP to do it [alter the prescription] rather than us doing it. In the past we had medical officers, … and they used to come out with us … and we used them a lot … and they've never been replaced.* (Public health nurse)

There was a definite awareness of power differences between doctors and nurses, alongside a sense of hierarchy in which nurses expressed some discomfort in asking GPs to make referrals, or in asking them to change treatment regimes. Nurses commented that they could not anticipate how GPs would react, and this uncertainty added to their wariness:

> *… I guess sometimes even for me there is a little bit of anxiety ringing the GP, because you've got to be careful with your wording not to be telling them what to do because it's not really what you're doing.* (Public health nurse)

> *It's so variable whether you're going to get a good response or not a good response.* (Public health nurse)

Nurses' anxiety was evidenced through the responses and actions nurses undertook, throughout each of the sub-categories of assuming responsibility, shifting responsibility and balancing responsibility. Nurses selected one approach to use when coming across treatment challenges, but sometimes the approach changed over time or in response to outcomes from a previous encounter with a GP, which will be discussed in the following sections.
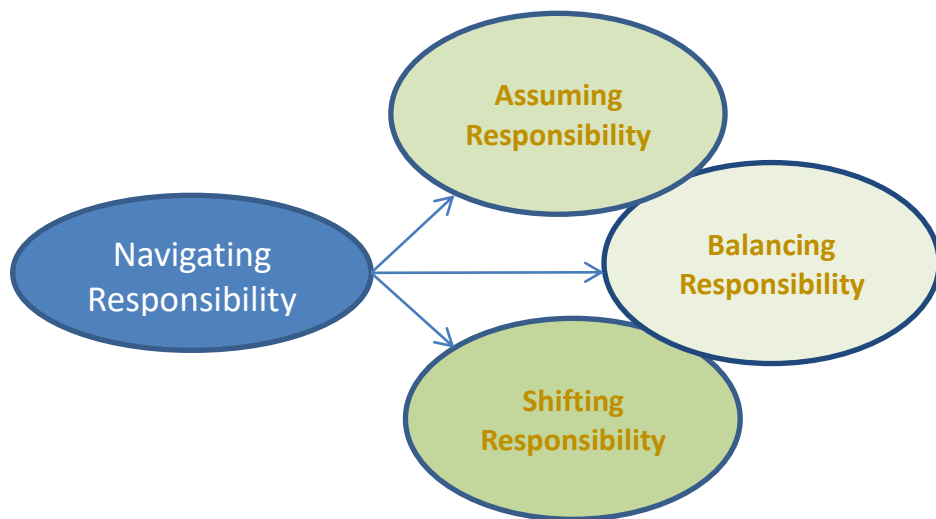
Figure 8: Sub-categories of "navigating responsibility"

Assuming responsibility

"Assuming responsibility" combines successful collaboration achieving better care for clients, whilst also reflecting approaches nurses used to overcome their anxiety in liaising with GPs, as presented in the "Navigating responsibility" section above.
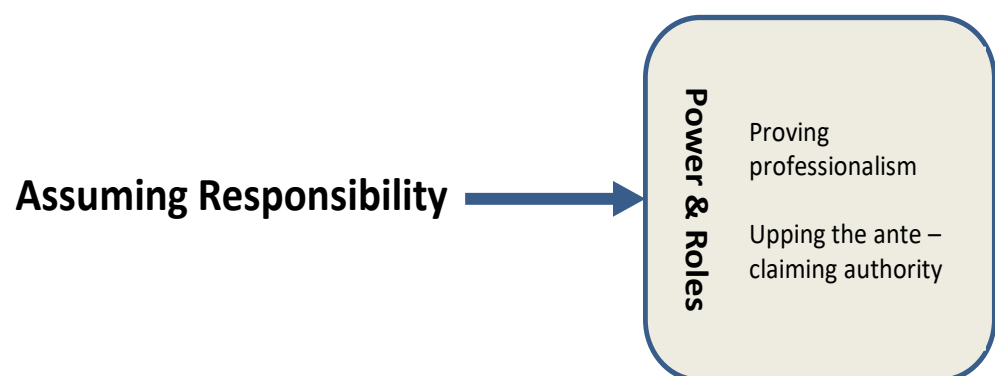
Figure 9: Properties of "assuming responsibility"

There were two properties associated with this sub-category. The first property, "proving professionalism" referred to nurses discussing issues with GPs; ensuring they presented their concern using 'professional' or medical terms, discussing nursing/developmental assessments undertaken, and referencing any pathways used. This became the property "proving professionalism".

Successful collaboration between primary care and public health was measured in terms of clients having better outcomes over a specific health event. Practice nurses discussed contacting public health nurses when prescriptions had been issued to clients, so that public health nurses could provide assistance with cost barriers to getting the medication dispensed. Similarly, public health nurses described attending visits with families to work more closely with the GP, to advocate for the client and to help the client overcome any barriers to improving their health and undertaking treatment. One public health nurse described coordinating care to ensure a child had ongoing medication, which the school staff administered to the child. She worked with a child and his family, the school and the GP, to secure a complex arrangement whereby the school contacted the practice when there were only four days of medication remaining, the PHN arranged with the practice for the script to be sent to the pharmacy near the mother's work, and the mother was then able to collect the prescription in time for the new medication to be given. The public health nurse noted that this was working well:

> *So, it's this very complicated system but it works, and it does involve a lot of people … it involves the GP being flexible and getting an email from the school and faxing the script off to the pharmacy …That was a good example of everyone working well together to make this work.* (Public health nurse)

Practitioners navigated a way of working together and optimising the relative strengths of each service to achieve health benefits for the clients. Public health nurses thought that such events would need to be more frequent than they are to make a difference to role understanding and to really develop trust between the practitioners.

Proving professionalism

Practitioners identified that sometimes they needed to provide some direction to GPs, where, for example, medication has been incorrectly prescribed, or to guide communicable disease response. This was usually because GPs had not followed prescribing pathways, giving the wrong dose or length of treatment, or because they had ordered incorrect tests to determine suspected communicable disease. Public health practitioners also wanted to instruct on contact tracing protocols for pertussis once infection had been diagnosed, and to ensure GPs were aware this was their responsibility.

Nurses felt they needed to be well prepared when presenting a client's need to the GP, for their nursing assessments to be accepted. They ensured that they had completed a full assessment, and that they were using medical terminology when presenting back to the GP. Some nurses talked of being hesitant to advise GPs, so used established pathways or research evidence to support their findings:

> I guess I just make sure when I'm doing my assessments, I'm doing a good quality in depth assessment, so that when I'm handing over to the nurse or GP, they can hear that and know that you've done a comprehensive assessment. (Public health nurse)

One such nurse described being careful to leave the decision with GPs when advising that medication needed to be extended to follow prescribing pathway requirements:

> Well I say [to GPs or practice nurses] that our guidelines state this dose, so I can only give this dose under standing order, so what would you like me to do? … would you like to write another prescription, and I can help the family pick it up? I throw it back into their court really. (Public health nurse)

When public health nurses thought a child needed to be referred to secondary services, they either attended GP appointments with the parent and child or asked the parent if they wanted to take a letter from the public health nurse to the GP. Public health nurses reported that families sometimes appreciated this where parents had more limited understanding of health needs, as there was a sense of advocacy, or of someone helping them to get the best outcome for their child. The perception was that letters needed to be equally well prepared to get acceptance from the GP, such as further medication or referral, and included assessment completed and the response required. The letter often also included directions on treatment pathways:

> I had a situation where I did a full screening using paediatric evaluation tool, strengths and difficulties questionnaire, looked at everything, followed the whole process as I was worried about the child's development. I put it all, results and perceptions, in a letter, and sent it ... I gave the teen mother a copy and encouraged her to take with her to the GP. (Public health nurse)

The preparation made prior to discussing health issues with the GP suggested that nurses found liaising difficult when they were proposing alternative treatments, so they strived to prove their professional competence.

Upping the ante – claiming authority

The second property under "assuming responsibility" was "upping the ante". Practitioners claimed authority or urgency as a lever for gaining credence with the primary care practice, either to gain direct phone access to the GP, or to assign importance to the message. This involved using government-ordered mandates around communicable disease to procure action.

Public health practitioners in the communicable disease team frequently directed practice, focusing on informing GPs that they are required to do contact tracing, or informing them that they had ordered an incorrect screening test to detect an infectious disease. The mandated processes of notification and pathways specifying responses gave these public health practitioners some authority to direct primary care practitioners when needed. However, there was some frustration that directions given did not change practice, because GPs may respond initially or not, but then forget what to do on subsequent occasions in similar circumstances:

> *… you expect the same GP or the same practice nurse and you've been giving advice maybe around the same disease, you know – and the guidelines and the pathways and they should follow, and they wouldn't always consistently take that on board … like they were listening but really they were just doing their own thing.* (Public health nurse)

Sometimes the GPs questioned nurses' assertions that they were responsible for contact tracing, and asked to speak with a medical officer, who was able to enforce nurses' messages. In the following example, the public health nurse had been talking to the GP about his responsibility to trace contacts of a patient who had been diagnosed with pertussis, offering some guidance around the process. The GP wanted to return the responsibility for contact tracing back to the public nurse (linking with shunning responsibility):

> *I was talking to a GP directly … 'for a few years now it's been the responsibility of general practice to follow up the contacts so I can advise and direct you ...' And he didn't like it and called back again, and went through to the doctor to try and get out of it … He got the same message, but it's not just him, it's quite a few.* (Public health nurse)

Some public health practitioners used their mandated authority as a way of negotiating a way past the receptionist, to gain direct access to the GP or practice nurse (linking

with "managing bombardment"). Similarly, they present the direction they are giving the GP more forcefully, stressing the importance of this public health task:

> He [a colleague public health medical officer] *just rings them up and says this is a really important public health thing and if you don't do what I say you are going to be in big trouble … He just rings up and 'I want to talk to the GP right now and put me through and he makes a big stink and that's the way he gets it.'* (Public health medical officer)

This sense of power and authority appeared then to be unquestioned for public health medical officers but not for public health nurses, even though the information they were providing the GPs with may have been the same. One public health nurse noted that the "hierarchy" was perceived by both nurses and clients, particularly those from cultures that naturally vested power to people in leadership positions:

> *GPs and practice nurses don't seem to be on the same level as we are in terms of caring for clients. GPs seem still to be the chief wallah* [sic]. (Public health nurse)

Where public health nurses had either experienced negative responses, had not enabled change, or had not been confident enough to liaise with the GP, they sought alternative ways of navigating their responsibility to procure changes for their clients – which is described under the sections "shifting responsibility" and "balancing responsibility".

Shifting responsibility

"Shifting responsibility" explains how public health nurses search for alternative ways of managing the need to inform GPs that the GP has not prescribed according to protocols, or for arranging referrals to paediatricians without going through the GPs, or equally refers to the situation described above when the GP thought the responsibility for contact tracing should rest with the communicable disease team, and tried to redirect this back to the public health service to do the contact tracing.

Shifting Responsibility →

Power & Responsibility

Previous negative experience

Age and Experience
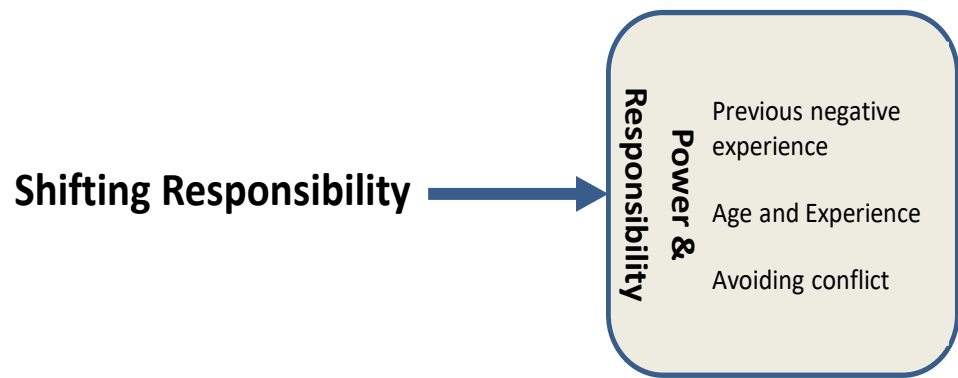
Avoiding conflict

Figure 10: Properties of "shifting responsibility"

Properties specific to "shifting responsibility" include age and experience matter, and previous negative experience. Avoiding conflict was a key property for both "shifting responsibility" and "balancing responsibility".

Previous negative experience

Some nurses described having negative experiences with GPs who had disregarded their requests for extending medication. The same nurse reported positive experiences with other GPs but did feel that the encounter with this GP who was dismissive had had an impact on her practice for a time, when she was more inclined to ask her manager to intervene with the GP. The following example relates to treatment provided to prevent rheumatic fever potentially developing in a child who had a positive streptococcal A sore throat swab:

> *… he had only prescribed seven days, so I asked him if he could prescribe another three days. He wasn't very impressed … and he wouldn't prescribe another three days. I pointed to the heart foundation guidelines but even then he wasn't very receptive. Yeah, tell him what to do?* (Public health nurse)

> *Initially I was put off* [from contacting a GP again]. *I spoke to my manager and she said she was going to speak to the consulting doctor and he was going to contact that particular GP. And then I followed up the next day and I saw that doctor had actually done a script that Mum picked up.* (Public health nurse)

Other public health nurses acknowledged they consulted with a medical officer, paediatrician or nurse practitioner to get a prescription for the correct dose of

antibiotics, or they asked a medical practitioner/clinical director or the team leader to inform the GP that the GP had given an incorrect dose according to the pathway.

Balancing responsibility

In "balancing responsibility", practitioners found ways of getting around the process of involving primary care, whilst ensuring clients did receive the treatment. Practitioners resolved treatment issues without consulting with either the GP or another medical officer. Similarly, they liaised directly with paediatricians or other secondary services to make referrals themselves, without necessarily informing GPs.
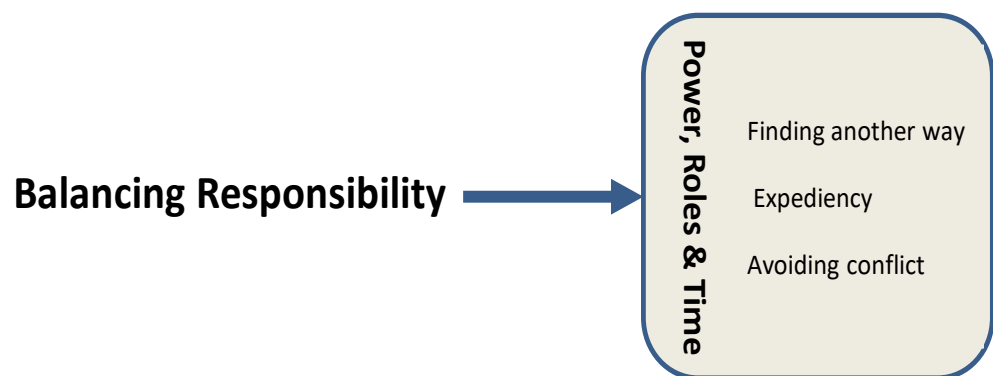
Figure 11: Properties of "balancing responsibility"

Properties included finding another way and expediency. The third property of "avoiding conflict" also applied to the sub-category "shifting responsibility" and was often in direct response to antagonism practitioners had experienced, or their relative professional inexperience.

Finding another way

Public health nurses described varying ways of meeting the clients' health needs, without contacting the GP. Public health nurses claimed that historically, they had referred directly to paediatricians via a medical officer – and they have subsequently adopted the same processes used by the medical officers:

> *In some cases I have referred to S.*[paediatricians] *myself, and I've followed the type of letter our medical officers used to do, the same sort of information, and those referrals are accepted. ... But if it doesn't happen* [GP does not make referral after consulting]*, and there's a pressing need for whatever reason, then I would still do it again if it was a clear-cut referral ...* (Public health nurse)

Primary care practitioners did not necessarily think there was a problem with public health nurses making direct referrals to secondary services. One practice nurse observed that general practices should be able to trust a PHN's assessment and that if their assessment concludes that a referral is needed, then they should be able to make the referral without returning to the GP, acknowledging that it is important for the public health nurse to keep the practice informed:

> If she wanted a patient referred, then she should be able to do it, she should be able to refer to a specialist and send a courtesy note … Because actually I respect the GP if he assesses the patient and he says right well I think the best management is such and such, just, you know, if she really wanted, it's his/ her call, it's the GP's call, if they don't want to refer. (Practice nurse)

Public health nurses can provide medication under standing orders for certain restricted conditions such as positive streptococci A sore throats, or skin conditions. Under "balancing responsibility", public health nurses attempted to resolve incorrect medication that had been prescribed by the GP, for the same conditions. One of two ways was used. Nurses talked to paediatricians with authority for the standing order and asked if the medication could be topped up or amended to the correct dose. The second activity was that nurses administered a new course of antibiotics for the child, at the recommended dose and length of course, withdrawing the medication or prescription the GP had arranged.

Taking this corrective action meant that public health nurses needed to explain to the client or parents that the medication was incorrect. Potentially, that poses two risks. The first is that the client or parents may become confused about what the correct medication is and how to take it. The second is that the client or parents will necessarily think that the GP has made an error which may undermine the family's trust or confidence in their GP. In future health events, the clients may seek public health rather than primary care as their first treatment option, negating a basic public health principle of promoting and assisting access to primary care, alongside undermining the GP's care.

Sometimes the step balancing care was taken after failed attempts to resolve the issue through the GP. In the following example, a client received medication from both the GP and the infectious disease team. Initially, the public health nurse contacted the GP

to ask them to stop medicating. As this did not result in any change, the public health nurse then removed the medication that the infectious disease team had provided and told the client to just take those supplied by her GP in the blister pack. When the client got to the end of her treatment, the public health nurse contacted the primary care practice, asking the GP to stop the medication. The GP did not respond and medication continued to be present in the client's blister pack. The public health nurse then liaised with the patient's relatives, also asking the practice nurse to put an alert on the patient's file. There was clearly an issue around safe medication here, which the public health nurse, practice nurse and infectious disease team managed rather than pursuing resolution through the general practitioner.

Summary: Moving forward

This chapter and the following chapter considered the second research question of "How do practitioners resolve the main concern of public health and primary care practitioners collaborating at practice level."

The main concern for public health and primary care practitioners at practice level was "thwarted access", as represented in chapter 5, which encompassed concerns ranging from having difficulty in establishing initial contact, through to problems in arriving at mutual understanding in sharing care between the practitioners. "Thwarted access" was mediated through integrated codes of time and geography, knowledge and roles, and power and responsibility, influencing both the concerns and the actions practitioners took to manage concerns.

Practitioners managed their concerns through a process of "clearing the way", which became the core category. Practitioners used pragmatic approaches to managing practical difficulties presented through time, geographical or resource constraints, role and power differences or knowledge barriers. "Clearing the way" involved two processes or categories, each relating to different stages and aspects of the collaboration process. "Controlling workflow" related to ways of gaining access, sharing, receiving and storing information, and managing knowledge. "Navigating responsibility" was the second category, principally concerned with communications undertaken around client care, where there were aspects of shared, influencing or overlapping

tasks. Sub-categories detailed behaviour choices, largely influenced by practitioners' levels of experience, previous encounters, confidence and expertise. This chapter examined this second category, "navigating responsibility". Sometimes this was successful, contributing to enhancing role understanding as well as improving client care.

One significant property was that nurses felt they needed to demonstrate to doctors that they were knowledgeable professionals by proving their expertise or professionalism. Whilst often successful, it also created tension for the nurses, which needed to be considered when planning action. Nevertheless, using this technique meant that interactions were successful in as much as improved client outcomes were usually achieved. Similarly, primary care practitioners thought it was sensible for public health nurses to refer onto paediatricians or infectious disease consultants where appropriate and were comfortable with being advised of the same without needing to be consulted first. Actions involve building systems to allow public health nurses to officially refer directly to medical specialists.

As with the previous chapter, some of the actions undertaken in sub-categories successfully managed an issue for one group of practitioners but may have exacerbated difficulties for other practitioners, and this needed to be acknowledged and resolved in developing the actionable plan. For example, "upping the ante" meant that public health practitioners gained immediate access to primary care practitioners but also potentially interrupted clinic time with patients and was not respectful, thereby creating resentment and undermining collaboration. "Finding another way", which was a property under "balancing responsibility", similarly sometimes created tensions. These needed to be considered and resolved by the action plan.

The following chapter details how the findings from chapters thwarted action, clearing the way and navigating responsibility have been condensed into an action plan using actionable opportunities determined from the findings, recognising how resolving actions overlap between sub-categories and categories presented in these findings chapters.

Chapter Eight: Action Plan

This chapter provides a detailed explanation of the actionable plan using actionable problems and opportunities identified in the findings. As expressed in the findings summary, the main concern was "thwarted access", relating to difficulties in gaining access and in finding productive ways to work together to benefit health outcomes for clients. "Clearing the way" was the core category relating to how practitioners strive to find ways of overcoming difficulties whilst protecting their own work and workloads. Sometimes practitioners had overcome barriers, resolving issues to achieve success for clients' health outcomes, whilst practitioners had navigated a way around the presenting barriers in other situations. This chapter takes a systematic approach to considering what the actionable problems are, relating to the concepts discovered through constant comparative analysis, and then explores desired outcomes. From this analysis, an actionable plan is developed as the basis for an action plan to be implemented over proposed time intervals. Due consideration has been given to the environment and structures of the organisations in which these actions are to be implemented, including identifying action elements at macro and micro levels (Simmons & Gregory, 2003). Necessarily, some of these proposed actions will be outside of the control of the researcher and are therefore framed as recommendations to be considered at macro levels.

Actionable problems, identified using the concepts or categories determined in the findings, were used to map desired outcomes and actions. Summarising the findings, difficulties were managed by categories "controlling workflow" and "navigating responsibility", under the main category "clearing the way". "Controlling workflow" related to how practitioners gained access to other practitioners, and how they managed information coming from other practitioners. This included concepts or sub-categories of "managing bombardment", "channelling information" and "selective knowing". Similarly, "navigating responsibility" focused on what happens when practitioners are communicating and how they manage their responsibilities and roles within those communications.

The following sections explore each stage of developing an actionable plan, drawn from the findings, considering how desired outcomes for the professional groups relate to the challenges posed by the structural, political and social working environments. Matrices are presented summarising outcomes, possible challenges and actions.
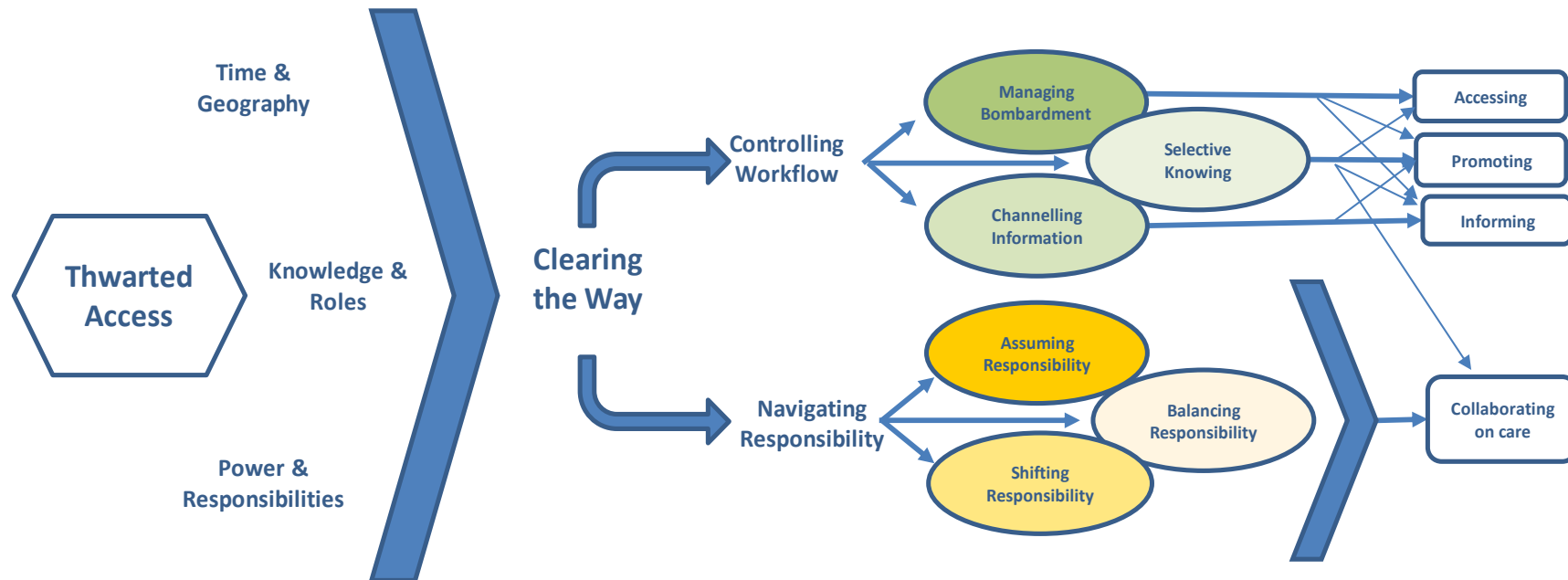
Figure 12: Developing actionable plan from findings

Action problems

This section considers the main actionable problems taken from categories detailed in the previous chapter.

One significant concern was that practitioners had difficulty in gaining access to their opposite practitioners (as detailed under "managing bombardment", from the findings chapter six). Primary care needed to protect their time, making it more difficult for public health practitioners to access primary care practitioners. This dovetails with primary care practitioners managing their time and resources, when balancing patient needs with requests for contact from other professionals, and with information coming from varying sources, under the sub-category "managing bombardment". Concomitant to this, primary care practices rely on a combination funding model, where only a part of their residual costs are met by government funding, and part funding is through applying patient charges, necessitating adoption of business models to ensure they are attending to either making money or saving money in their activities. An example of this is that one PHO uses a central call centre system for incoming calls to all of its associated primary care practices, reducing administrative costs, but exacerbating access difficulties for professionals.

An additional contributing issue for public health nurses is that they may be working across large geographical areas, with many primary care practices located across these areas. They are concerned that it is not possible for them to build relationships with all primary care practices in such large areas. Selecting and prioritising liaison in specific practices may contribute to primary care practitioners' assertions that they do not know about the role of local public health nurses – such assertions may link with those primary care practices where there has been no identified working with public health nurses. In this not knowing, primary care practitioners questioned 'what was the work local public health nurses were doing?' and 'what relevance public health had to them and their clients?'

Combining these action problems led to the development of an actionable concept of "Accessing". As indicated above, "accessing" incorporated actions from "managing bombardment" and "selective knowing" (Figure 12, p.155).

The main actionable problem emerging from the concept "channelling information" was that information processes are inefficient and often use old technology, such as faxing, where doubt existed on whether relayed messages reached the intended recipient. There is little communication between the information systems used by primary care practices and those used by public health practitioners. Use of emails between the practitioners is contentious, partly because of the insecure interface between the organisations, and partly because GPs wish to protect their inboxes from overload. GPs and practice nurses have some difficulty finding and using existing pathways of care, resulting in occasional misdirected referrals or incorrect treatment. The actionable concept here is "Informing", which is influenced by findings from "managing bombardment" and "selective knowing", as well as its main source of "channelling information" (Figure 12, p.155).

The identified main actionable problem under "selective knowing" is a sense of GPs and practice nurses not knowing the role of public health nurses, and more specifically, not understanding how public health nurses can assist with client care. This in turn explained why public health practitioners felt they needed a reason to contact primary care practices (a property under "managing bombardment"). Not understanding or choosing not to access existing information resources such as existing webpages or treatment pathways resulted in practitioners relying on their own systems and knowledge. Some of this difficulty may be influenced by the information provided being unclear, or there being lack of clarity on whether the information is the latest advice. The third contributor to this dichotomy was named "beyond their remit", referring to seldom advising practitioners when they are using the wrong processes. This has therapeutic significance, it delays correct treatment provision and sometimes result in referrals being lost to the system.

"Promoting" is the identified actionable concept, encompassing actions to encourage and facilitate knowledge sharing around roles but also aiming to promote the development of trusting relationships and mutual understanding. Although "selective knowing" is the principle concept from which this stems, both "managing bombardment" and "channelling information" also influence actions in "promoting" (Figure 12, p.155).

The final actionable concept is "collaboration on care" which derives from the category "navigating responsibility", where the main action problem identified is around ensuring correct provision of treatment, or timely referrals. Power differences act as an integrating code here, by having a significant effect on the way practitioners relate to each other. The overlap with collaborating on care comes mainly from the category "selective knowing"; practitioners who have good understanding of the others' roles work more effectively together (Figure 12, p.155).

One of the difficulties in developing a findings based actionable plan is that some of the issues arising are located in more than one category; aspects of the actionable problems are therefore linked. Inevitably, some actions will contribute to resolving more than one actionable problem. Whilst this may be expedient, it does make it difficult to allocate separate actions to specific concepts.

Desired outcomes

As the two broad practitioner groups generally expressed different viewpoints, desired outcomes reflected each group's expressed or perceived position, excepting where there was information suggesting that all of the practitioners were likely to want to achieve the same outcomes (Table 4, p.166). Simmons and Gregory (2003) commented on the ethical and practical importance of achieving balance by ensuring the action plan reflects the desired outcomes of all practitioners. Priorities therefore need to be centred around respecting primary care challenges with the many conflicting demands placed on their time, whilst finding a way for public health practitioners to be able to discuss client issues purposively and contemporaneously with GPs and practice nurses (Table 7, p.179). Communications need to be focused, clearly outlining expectations, and there needs to be professional trust between the practitioners for the concerns to be listened to and actioned appropriately. Timely responsiveness is important to all practitioners and understanding the practice challenges experienced across public health and primary care is likely to enhance this (Table 5, p.170). In addition, information processes need to be user-friendly, easily accessible and preferably include shared resources such as a shared email platform. Contemporary information needs to be available at the point of need (Table 6, p.174). Further investigation might include exploring whether shared documentation is

desirable and feasible; from this research, it would appear there are conflicting opinions on whether shared records would be a positive step forward. Embarking on adopting a shared national documentation system would necessarily be costly and have training implications, but it would also provide an opportunity to provide a planned systems response to the current issues which would allow information coordination across services.

Practitioners need to understand others' roles, understanding best ways of contacting each other. This includes incorporating ways of helping others to know when incorrect processes have been used (Table 4, p. 166).

Challenges – Social and political

Not all desired outcomes can be easily resolved in the community setting by the participants. Current funding of primary care leads to a practice model of care that focuses on reducing ill health and achieving government targets, with less scope for broader aspects of public health such as searching for population health issues (S. Lovell & Neuwelt, 2011; Lovelock et al., 2014). Public health is considered in a focused way regarding prevention of future episodes of the condition clients are presenting with (Neuwelt et al., 2009). Whilst there is limited evidence that changing the funding structure for primary care would result in primary care practices undertaking more population based public health, it is probable that the current funding model has contributed to limiting the funding available for practices to undertake public health initiatives (S. Lovell & Neuwelt, 2011). This in turn may have contributed to the ideological and practice gap between primary care practitioners and public health practitioners (Bradley & McKelvey, 2005).

In the context of planning action, there are also challenges around the way public health nurses are located, which has made it difficult for them to work alongside the relatively larger numbers of GPs across their areas. Familiarity is acquired at least partially by having repeated contact; some of the described experiences within the data revealed that where practitioners have had some success in working together, there has been regular contact (Clancy et al., 2012; Hargreaves et al., 2013). This

regular contact has had an impact on gaining mutual trust, and on improving role awareness (Hargreaves et al., 2013; Monsen et al., 2014; Savage et al., 2006).

Improving GP awareness of public health practitioners' roles and activities could be enhanced in a number of ways. For example, one GP participant, who had immigrated to New Zealand from the United Kingdom, observed that co-location of public health visitors with GPs in the UK enhanced both understanding of their mutual roles and improved collaboration. In this research, public health nurses felt they may be better placed to work with GPs if their work was consolidated in geographic areas rather than being centred around disparate schools in different areas. Whilst it is not within the remit of this research to resource employing enough public health nurses to co-locate in primary care practices, restructuring workloads so practitioners work in a (smaller) defined geographic area would be a possibility. This would pose some challenges and create a need to change the way public health nurses are allocated to schools, but it would mean that there are fewer primary care practices for public health nurses to develop collaborative relationships with. However, public health nurses currently prioritise working with vulnerable families with low health literacy, and with those families who have more difficulty accessing primary care. Demographically, such families are often clustered in certain geographic areas. Areas with fewer people in the priority population groups would inevitably be larger and there would continue to be more primary care practices in those areas.

An alternative approach to making public health practitioners more visible would be to move them into PHOs, or into primary care practices themselves. This research has not examined the viability of such an approach; however, previous research has indicated that public health nurses prefer to remain in the DHBs, as they consider accountability, quality support systems, development opportunities and working conditions to be better (Hansen et al., 2007). Locating public health nurses in primary care practices is likely to subsume core principles of searching for health needs, given that the current business model places GPs as employers, and their emphasis for practices is on providing individual care in response to illness. It is difficult to see how a holistic preventive social or family model of care, based on search for broader health needs, can sit within a business model requiring clients to pay for their healthcare,

given that the health perspectives and discourse are different for primary care and public health (Ayres et al., 1996; Hansen et al., 2007; Martin-Misener et al., 2012; Shoultz & Hatcher, 1997).

Another presenting challenge arose from PHOs who used a call centre answering system to respond to incoming calls to any of the aligned practices, and this was reported to consistently prevent public health practitioners from accessing GPs. There was also a perception that sometimes the clients enrolled with these practices found it difficult to gain access to GPs. One of the advantages of using call centres and consequently reducing administrative costs is that it allows primary care practices to reduce charges to their over-13 years and adult clients, making the practices more affordable to clients (Downs, 2017; Matheson et al., 2015). Although PHOs receive their funding through DHBs, they are separate organisations and DHBs have no real influence on how funding is (Gauld, 2013). Furthermore, most of the practitioners recognise that some way of reducing costs to vulnerable clients must be found (Jatrana, Richardson, Norris, & Crampton, 2015; Loh & Dovey, 2015). Structural changes to primary care, making all healthcare funded through public money, would improve equity in healthcare access (Gauld, 2013; Loh & Dovey, 2015; Matheson et al., 2015). Within the current structures, direct actions with the PHO are limited to advising them of the difficulties practitioners are experiencing in trying to collaborate with practitioners aligned with the PHO. Such actions would need engagement from senior management and funding and planning teams within the DHBs.

As mentioned above, some of the public health practitioners could see benefit in having a shared documentation and information system across the DHB and with primary care practices. If a national shared information system was developed, consideration would need to be given to privacy laws and how client privacy may be protected in an environment where potentially more professionals have access to patient information.

Determining action

Several public health nurses observed that GPs are unaware when a mutual client is involved with public health nurses, whereas public health nurses can easily identify

the mutual client's GP. Consequently, public health nurses anticipate that they need to be responsible for initiating collaboration to benefit individual client care. Furthermore, as primary care practitioners have some difficulties in knowing what public health nurses do, they do not perceive that change is required. There needs to be a shared understanding of mutual benefit, before any change is likely to occur or be sustained (Hargreaves et al., 2013; Sadeghnezhad, Nabavi, Najafi, Kareshki, & Esmaily, 2018). Actions to promote the public health role to primary care practitioners, and to improve their understanding, are paramount to establishing collaboration and feature in contributing to resolving issues through the sub-categories "managing bombardment", "selective knowing" and "navigating responsibility".

Other actions focus directly on accessing practitioners, ensuring information systems are practical to enable informing, and development of protocols and cultures to encourage collaboration on care provision.

Promoting

Public health practitioners need to have a clear understanding of their role, current working priorities and the principles underpinning their role, to offer clear explanations to primary care practitioners (Hargreaves et al., 2013) (Table 4, p.166). General principles of public health internationally are underpinned by WHO principles of promoting equity in accessing healthcare, promoting health and wellbeing, disease prevention or early detection, and encouraging health protective measures (WHO, 2008, 2014). In New Zealand, Maori models of health such as "Te whare tapa wha"(Durie, 1994) operate in harmony with such principles, providing a guiding framework to support public health practitioners. Specific actions undertaken by public health practitioners are necessarily prioritised according to identified local and national need, and government-led priority setting. Although the role varies to encompass different activities at different times, general principles remain focused on promoting health access for those population groups where health access is limited, preventing avoidable hospitalisation, and preventing the spread of communicable diseases.

In New Zealand, public health practitioner understanding of their role is often acquired through "doing" rather than through formal education, unlike other nations such as USA, UK, Ireland, the Netherlands and Canada, who have developed mandated postgraduate qualifications for public health nursing and medicine, with certification or registration required for practice (Mowat & Butler-Jones, 2007). There are public health papers and qualifications available at New Zealand Universities; but they are neither specific to nursing, nor considered preparatory for specific roles. Training for public health nursing, in particular, has been dependent on local nurse educators providing information as nurses are inducted to the role, and as such training is person specific, it is necessarily variable. Professional discussions have promoted developing formal education programmes, but this has not been resourced to date. It could be argued that providing formal skill and education programmes to underpin practice would allow public health nurses to secure greater understanding and appreciation of the principles underlying their practice. To create such education programmes with possible registration would require support of the New Zealand Nursing Council, government and higher education institutions. Consideration would also need to be given to those practitioners who have been working as public health nurses for extended time periods and demonstrate expert skills. There would necessarily be a substantial cost element to both developing such programmes and to resourcing staff training and upskilling.

Regardless of whether such education programmes are developed in New Zealand, practitioners need to be able to clearly explain their activities and their professional interest to their primary care colleagues. Current practice priorities need to be openly defined and communicated which would include developing robust criteria for referrals. Pathways for referrals also need to be accessible, easy to use, and be signposted to primary care practitioners (Storm et al., 2015; Valaitis, Meagher-Stewart, et al., 2018; Valaitis, O'Mara, et al., 2018). These activities should be straightforward and can be achieved at local level, and public health practitioners can take opportunities to discuss role and purpose when they are working with or alongside a GP .

Public health nurses are already selecting certain GP practices to link with; they need support to strengthen these links and overcome any reluctance they may have in introducing themselves to the practices. Prioritising and resourcing establishing relationships with such selected primary care practices would allow day to day practice to shift towards building an expectation of working together. The current position of writing letters to GPs on completion of care would change to more focused attempts to keep primary care practitioners informed as work is progressing, where practicable. Leaders will develop protocols to encourage liaison and identify appropriate circumstances for active collaboration. Public health nurses will routinely make connections and introduce themselves at primary care practice meetings, providing a summary of their role, criteria for referral, and how they may work to support mutual clients. Some PHNs will find this easier than others, but opportunities need to be provided to develop their informal presentation skills to promote their role and facilitate understanding of how collaboration may work. Clinical supervisors also need to be supported and trained in promotional skills to provide the best support for their public health nursing supervisees (Sadeghnezhad et al., 2018). Boston (1995) identified that the redesign of patient-focused care delivery systems often produced initial change which is not sustained, because too little attention is given to the existing working culture. It is important that this action plan addresses the needs of the practitioners. Providing skill training and ensuring that robust systems are in place to support ongoing learning are vital to the success of this action plan and will assist with gaining confidence in advanced communication skills.

Education sessions arranged at PHO education and update evenings could be used to promote collaborative working specific to certain key projects, or to inform primary care practitioners of new information resources. Such sessions provide opportunities for clarifying what PHNs are doing in schools and communities. For example, education sessions were used to inform GPs and practice nurses on public health initiatives during the rapid response campaign to prevent rheumatic fever. This campaign involved early detection and treatment of streptococcal A sore throats in children vulnerable to the disease, as some streptococcal A infections progress to rheumatic fever.

Unfortunately, in practical terms it can be difficult to procure sessions at the PHO education evenings, as there are only limited sessions each year and the contents of the evenings are protected by the administrators and educators within the PHO. The PHO directors, managers or educators need to understand the purpose and relevance to the GPs and practice nurses. Improving understanding of the benefits of engaging in collaborative practice to leaders and educators in the PHOs may open invitations to participate in the education evenings. However, whilst neither PHO leaders nor primary care practitioners understand the benefits of mutual working between primary care and public health practitioners for their shared clients, there is likely to be limited opportunity for change (Hargreaves et al., 2013; Storm et al., 2015; Valaitis, Meagher-Stewart, et al., 2018; Valaitis, O'Mara, et al., 2018).

Table 4: From actionable problems to action opportunities (AO):- Selective knowing to promoting

	Action Problem	AO	Desired Outcome GPs/PNs	PHNs	Actions	Challenges
Selective Knowing	**GPs/ PNs do not know what PHNs do; "what can they do for us?"**	**Promoting**	Will achieve improved role understanding		• Ensure PHN role clearly defined and information on referral criteria to service easily accessed • PHNs to explain purpose and (specific) role when contacting GP/PN, use contact as opportunity to explain • Education sessions at PHO and practice meetings	Siting of PHNs in DHBs – lack of familiarity, less visible. Need to link with PHO leaders to determine best ways of equipping nurses to create better relationships with practices.
	Practitioners choose not to inform other when something incorrect – "beyond their remit"		Will be informed when incorrect referral or treatment process has been followed Need to take responsibility to inform when process incorrect		• Development of policy or protocols, PHNs/ Child health nurses to inform GP when referrers used incorrect process and treatment delayed • Investigate whether process in place with PHOs for same	
	Reliance on own systems NOT process *No or limited relationship – no day to day contact and limited or no trust*		Information flyers to be sent through PHOs and not directly to practices	GPs follow through with procedures they are required to do	• Ensure processes and pathways are easy to access and Practices are aware of how to access • Selecting practices - Investigate possibility of attending practice meeting when sharing care of client with current needs, or to introduce service and build relationships • Create expectations around communication – develop processes to train and equip nurses to liaise with practices • Supervisors support expectations • PHNs to report progress on liaison at weekly meetings and discuss difficulties encountered	May be person driven – some PHNs more likely to engage with GP practices. Cultural – has stopped being an expectation of role, need to reintroduce expectation and provide support to encourage relationship building. PHNs to take initiative, leaders create new culture. PHNs currently feel ill-equipped to tell GPs what they do.

Accessing

Whilst improving primary care understanding will facilitate public health access to primary care, it will not resolve all the access issues, and further interventions are needed (Table 5, p. 170). Firstly, it is important to recognise that some of the barriers to access arise from current working structures and are not easily changed. GPs and practice nurses need to be able to review clients without interruptions by professionals trying to contact them. Current adoption of practice nurses acting as conduit to the GP works well in practices where there are enough nurses to use a triage system, so that there is generally a nurse available to discuss issues with public health practitioners. Whilst this may not be practical in smaller practices where one nurse is on duty at a time, practice nurses returning public health nursing calls between patient contacts is also fostering access within a reasonable time frame. Improving understanding of roles and advantages of collaboration will enhance practice nurses' responsiveness.

Secondly, practice nurses currently filter issues, sometimes resolving queries posed by public health practitioners so that the GPs do not need to become involved. Public health nurses need to understand that practice nurses do not automatically direct all information to the GPs. Where public health practitioners do need to speak to a GP themselves, they need to explain why this is important, and either obtain timeframes when they may be able to ring the GP themselves or provide a time they can be contacted when the GP may be available. In some practices, it may be possible to begin this negotiation with the receptionist if the practice nurse does not also need to be involved. Any messages left need to provide practitioner contact details, be succinct, clarify the client issue including impact on the client if relevant, and state what is required, so there can be no confusion about expectations. If time frame is important, this should also be clearly indicated within the message.

To support prompt responses, a memorandum of understanding could be created between the PHOs and DHBs, providing guidelines on timescales for responding to professionals contacting primary care practices. This would create an expectation that practitioners work together, allowing recourse to provide feedback to the primary care practices or to the PHOs if phone calls are not returned. However, this may have

limited effect as primary care practices are independent businesses aligned to PHOs rather than employees, so PHOs are unable to act as governing bodies. Hence it becomes difficult to make any action compulsory, unless mandated by the MoH. Whilst there are recommendations that primary care and secondary care (as provided by the DHBs) work in a more closely integrated way, there is no such mandate of practice (MoH, 2016).

Practitioners find it easier to contact people they already know; practice nurses and GPs are more likely to return calls to professionals quickly once a working relationship has been established, as indicated in prioritising under managing bombardment, and from previous research (Monsen et al., 2014; Storm et al., 2015). Some public health nurses working in local teams are currently identifying primary care practices where more of their clients are located, prioritising making contacts with those practices. This pragmatic approach to collaborating can be facilitated by managers allocating local public health nurses in smaller geographical clusters, as discussed in the section on promoting, above. Whilst this will not be practical for the communicable disease public health team, who necessarily work across whole regions, they do have some mandated authority on contact tracing. Using clear messaging, establishing appropriate times to return a call to reach the required public health practitioner, using the practice nurse to gain information, and supporting expectation of responsiveness with the aforementioned memorandum of understanding, will provide the best routes to reducing access barriers. Public health practitioners need to be respectful of when their colleagues are in consultation with clients. If there is some urgency, they may ask for calls to be returned between client consultations, or as soon as the clinic has finished.

The final access barrier was experienced where specific PHOs use call centres to answer all calls for all primary care practices within that PHO. Whilst this allows cost reduction for clients, it frequently meant that calls were not returned later. Practitioners thought there may have been several reasons, such as priority or meaning of the call was lost in transmitting any message, or messages were not passed on to the relevant primary care practitioners, or the open clinics operating at these practices with no fixed appointments meant that clinics went on for too long

and returning professional calls became a lower priority. This barrier to access is difficult to address at a local level. Public health managers need to liaise with senior managers and the funding and planning team at the DHBs to determine the best way of informing senior staff at the PHOs on the difficulties and negotiate a way forward to ensure that necessary communication is achievable.

Table 5: From actionable problems to action opportunities (AO): "Managing bombardment" to "accessing"

	Action Problem	AO	Desired Outcome		Potential Actions	Challenges – Social or Political
			GPs/PNs	PHNs		
Managing Bombardment	**1.Difficulty accessing primary care**	**Accessing**	Will manage their conflicting demands on time use	Will contact practitioner within reasonable time frame	• PHNs select practices for liaison using identified priorities • Create memorandum of understanding with PHOs on timescale to respond	Primary care has limited involvement in assessing population health needs and risks
	Too many demands in primary care practice *What can public health do for GPs or PNs; how is this relevant to their clients?)*		All communication will be relevant to clients, practitioners or practice aims	Will negotiate communication interface	• PHNs identify best time to reach GP or PN	GPs need to make money to cover costs - may be interfering with availability
	Time/ *business model – need to make money or save money*			Contacts will be focused and specify what is required	• Contacts are focused, specific, realistic and purposeful • PHNs provide clear information about role & purpose	
	GPs unaware of role of PHN – do not value the contact?		PHNs will ensure some direct contact to improve understanding and build relationships –	GPs will return PHN calls and will understand	• Engaging with practice meetings • Education sessions on roles • Shared education sessions pre- and post-registration	
	PHOs with call centre system – blocking access			Will establish a pathway for accessing practitioners rather than call centre	• Funding & Planning group to liaise with senior PHO leaders on difficulties	Saves money – cheaper charges for low socio-economic patients
	2. PHNs across wide geographic areas – too many practices			PHNs will prioritise practices according to greatest need	• PHNs to work in geographical clusters, so fewer practices to liaise with	Not enough public health practitioners to work with all practices, need to be selective

Informing

This section examines how organisation of information can be improved to facilitate easier access to information at the point of need. Practitioners experience varying issues with organising information and information systems, ranging from having too much information sent to them, through to not being able to find information as it is needed, or not knowing how to access systems to find referral or treatment pathways (Table 6, p.174). Practitioners describe issues with using old technology and are concerned that information is not reaching individual practitioners, sometimes resulting in duplication of treatment or delayed referrals.

GPs prefer generic directions, such as directions on how to respond in a communicable disease outbreak, to be sent via the PHOs. Directions change rapidly when there is a communicable disease outbreak, and primary care practices may be receiving up to two or three flyers with changing directions, each week. Allocating named people at the PHOs who are responsible for disseminating flyers as they arrive from DHBs prevents confusion, and if more than one person is responsible, there needs to be a method of communication so that flyers are not sent to practices multiple times; feedback from the PHOs indicates that it would help if public health practitioners identify who they have sent flyers to, so there can be some liaison between the people receiving the emails. Similarly, public health practitioners would like someone at each practice to take responsibility for ensuring that the GPs have the latest flyer; this might be the lead nurse, a nominated GP, or the practice manager. Public health practitioners in turn need to ensure that webpages are being updated promptly to reflect changing directions, so there is no confusion; again, this requires a practitioner to work alongside information technology services.

Keeping webpages updated is also important for GPs and practice nurses who want to access treatment pathways or need to make client referrals. To ensure continuing accuracy and immediacy, representative GPs, paediatricians, public health practitioners and information specialists need to be working together to ensure pathways are relevant to all and information is presented in the most logical and accessible form. One of the key difficulties is that currently information systems are disparate; whilst most primary care practices use one software system, the DHBs use a

multitude of systems which do not link well between departments (Downs, 2017). There are only partial links between these systems. Developing coherence with one universal software system across all health units, including primary care, would allow greater freedom and it would be possible for practitioners to view other practitioners' activities. There would be challenges with such an approach, apart from the immediate one of designing software to meet so many varying and complex working environments; there may be time required to train staff in using the system across the DHBs, PHOs and primary care practices, and the cost would be substantial. There are also potential privacy issues for clients with higher risks of privacy breaches of private and personal information. Nevertheless, the gains would also be substantial once practitioners become familiar with mechanisms. For example, there should be less risk of medication being duplicated. However, it should also be noted that not all practitioners may want all client documentation to be shared. One GP stated that this might be too much information for GPs and they may prefer to continue receiving summary feedback of client care provided. The concern for them is learning how to locate and extract the relevant information in a timely manner, whereas accessing and reading a summary that has been sent to them and stored in the clients' computer file is both familiar and relatively quick.

Education on how to access and use webpages needs to be provided in tandem with updating the webpages; this can be done through sending email links and providing updates to education evenings. As all the professional groups will have had representation in the working group to develop the processes and keep them updated, there is more likely to be engagement with each of the professional groups. One of the risks involved in these activities is that it is often easier to establish an initial working group to develop new pathways, than to maintain existing pathways. Working groups need to consider how this challenge is to be resolved moving forward.

In the absence of a shared software system, DHBs and primary care have recently been working together to develop an electronic shared client care platform for clients with complex needs. This is in the early stages but demonstrates possibility; any practitioner working with the client will be able to enter into the client's care plan, and furthermore the client will own their own care plan and will also be able to view who

has entered into the care planning. This enables collaborative working with both the client or family and across a range of health disciplines, with the client or family in control. Such a system provides a vehicle for all practitioners to access and input data, and to read data provided by others, minimising the risk of duplication of action or medication, or of an aspect of care being omitted. It opens an electronic space for discussion and pooling resources. If this system is successful, teams could examine the potential for extending to all clients where there is shared care.

Another potential idea may be to develop DHB emails for GPs and practice nurses to use. Often, GPs are protective of their email addresses and guard them from external agencies, as there is a risk that they will receive too much information to be able to sort easily. However, public health nurses also wish to email information on client treatment or care, rather than sending by fax. Faxes are fragile technology in the sense that there is no confirmation of receipt by the intended recipient, and there is little confidence that faxes reach or are regarded by their intended recipients, resulting in duplication of medication occasionally. If all GPs had DHB email addresses as well as their practice email address, they would be able to receive communications from practitioners from within the DHBs without risking being overloaded in their practice inboxes. However, there is a risk that some GPs would forget to use their DHB email address, and information directed this way may be as vulnerable as the information sent by fax. Further discussions need to be undertaken between DHBs and primary care practices and PHOs on the best ways of sending communications to practices, to ensure the information is accessed and acted upon.

Table 6: From actionable problems to action opportunities (AO): "Channelling information" to "Informing"

	Action Problem	AO	Desired Outcome		Potential Actions	Challenges – social or political
			GPs/PNs	PHNs		
Channelling Information	**Information processes not efficient. Old technology.**	Informing	Systems will be in place so emails can be used as main communication replacing faxes/mail		• Develop DHB-based shared emails for use by GPs and PNs. • Enable GPs to access elements of clinical portal/documentation	• Greater risk of violating client privacy or confidentiality (privacy laws)
	Too much information is coming into practices		Latest information will be provided or available at point of need	Shared records will be further investigated	• Extend shared-care plans programme	• Regional/national structural implications on using shared information systems – cost and training.
	May be difficult to determine whether information is current		Practitioners will provide timely responses to requests for information		• Improve coordination of information – send to specific named people • PHOs ensure named people responsible for sending emails to practices	
	Pathways and websites difficult to navigate		Websites and pathways will be easy to access, intuitive to locate and use	Will gain access to education sessions to demonstrate sites, referral systems and information pathways	• Improve design and accessibility of pathways. • Education on same.	• Not all GP practice staff attend education sessions. • Difficult to book education session unless PHO deem priority
	No direct email access to GP or PN		Systems will be in place to communicate by direct email		• Develop secure email sharing (Link with first box above)	• Practices using generic email system – is information reaching specific GP?
	Wrong process used to refer - delayed entry to service		Practitioners will understand roles, know and use correct referral processes		• Training programme with PHOs to ensure improved knowledge on role of PHNs. • Attending practice meetings, as with Accessing (table 4).	

Collaborating on care

Key issues experienced in navigating responsibility relate to what happens when there is limited trust or understanding between professionals, which then may have a negative impact on the communication taking place, when practitioners are collaborating on care that has been provided or needs to be provided (Table 7, p. 179).

Practitioners working in primary care and public health want the best health outcomes for their clients. However, sometimes public health practitioners need to be able to relay to GPs that incorrect treatment has been provided, or that a referral needs to be made for a mutual client. GPs may be suspicious of professionals they do not know contacting them to adjust medication, and some GPs question why a nurse would be taking that responsibility (Lim, North, & Shaw, 2017). Actions concern both GPs and public health nurses, and need to address both incorrect medications provided, and any reluctance to discuss needed care adjustments.

Practitioners need to know that information they are being given is reliable and that the providers of information are trustworthy (Barrow, McKimm, Gasquoine, & Rowe, 2015; A. E. Powell & Davies, 2012). They need to trust the developed pathways informing care (refer to section on informing). Firstly, information on care pathways is provided through education evenings, which not all GPs attend, and via health information webpages, as discussed above (in section on informing). Secondly, opportunities described in previous sections (informing and promoting) could be used to develop and strengthen understanding between public health nursing and GPs – such as strengthening locality nursing, sharing education opportunities at pre-registration and post-registration levels, and public health nurses visiting practice meetings.

Public health nurses in turn need to develop skills and confidence in approaching GPs when they recognise that care needs to be extended, corrected or when they have other care concerns (Carryer, 2011; Pritchard, 2019). Scripts may be developed for public health nurses to use when incorrect treatment has been provided by the GP, equipping public health nurses to refer to assessments conducted or to appropriate medication guidelines. Training can encourage development of advanced

communication skills. Support for practitioners who have had negative experiences could include supervision, conversing with practice leaders, and using case review processes to enhance practice and encourage nurses to reflect on the situation and on their own practice.

To underpin this process, clearly developed and applied protocols would guide public health nurses in notifying GPs that medication prescribed does not follow current guidelines. Such protocols would include directions on what to do when GPs are not responding, particularly when treatment errors remain uncorrected. Such processes need to be developed with guidance from the PHOs and would include informing key people in the PHOs when GPs consistently do not resolve treatment errors (Storm et al., 2015; Valaitis, Meagher-Stewart, et al., 2018; Valaitis, O'Mara, et al., 2018). This informing is likely to be conducted at a higher level, by team or operational managers.

GPs and practice nurses need to understand what PHNs can do for them (Table 5, p.179) active collaboration on care would assist with this by developing specific working programmes which link together work that is currently being undertaken in primary care practices, and work which is relevant to public health nursing (Clancy et al., 2012). For example, both primary care and public health are concerned with achieving targets on immunisations. Government targets relate to ensuring children under five years old have received their primary courses for immunisations. Public health nurses may be able to support families get their children to primary care, where traditionally families have difficulty in accessing surgeries.

Another initiative was partially indicated during the interview process for this research: practice nurses are only funded to see clients up to four times per year. When a practice nurse is encouraging a family to make different lifestyle choices to improve health, this may be insufficient to address the current issue, embed the health changes, and allow for future relapse in health for the client involved (Hillier-Brown et al., 2014). For example, for children with unstable asthma who are not using their preventer inhalers, the required health change involves encouraging families to provide the child with their preventer inhaler on a daily basis. Supporting such health changes is generally an intensive activity that requires health professionals revisiting the issues with the families and providing regular reminders to the child, alongside

ensuring that inhaler techniques are embedded. Practice nurses would be able to set up the health plan with the family, referring to public health nurses to embed health changes, where the family approved such support. Public health nurses can also connect with schools to ensure that the health action plans are in place in school. They may also be able to talk to the child, and if needed the child's teacher, about using additional inhaler doses prior to exercise if this is needed to stabilise the child's asthma. Over time, the practice nurse and public health nurse may elect to operate conjoint clinics, so that children and their parents may be introduced to public health nurses at that first contact with the practice nurse. The advantage of collaboration here would mean that the clients' asthma is stabilised, and families learn to take control of their child's chronic illness. Practice nurses and public health nurses are also able to achieve mutual goals of promoting health for the child and of keeping children from unnecessary hospitalisation episodes.

A third opportunity may arise when a child has frequent skin sores (usually caused by staphylococci or streptococci bacteria). The GP is often unaware when public health nurses have identified the health issue in schools and have assisted in getting the student and family to the primary care practitioner. However, if they had more awareness, they may also choose to refer children who receive antibiotics for skin infections to public health nurses, where there is a known history of repeated infection. This allows the public health nurse to work with families around ensuring that all the family are protected from infection, and on providing some education in the home on preventing further infection. The public health nurse would be able to check the student at school to ensure that open wounds are dressed and there is no risk of infection spreading to other children, and that the student's skin sore is healing satisfactorily. The GP could then be alerted if the sore did not respond to the medication the GP had prescribed for the family.

Apart from the health benefits to the clients, success in client outcomes, as a result of such collaboration, may enhance primary care practitioner understanding of public health, and will improve relationships (Ayres et al., 1996). This is likely to have an impact on how often GPs and practice nurses consider referring to or collaborating

with public health, and so could be self-replicating once there have been successful outcomes.

Table 7: From actionable problems to action opportunities (AO): Moving from "navigating responsibility" to "collaborating on care"

	Action Problem	AO	Desired Outcomes		Potential Actions	Challenges – Social or Political
			GPs/PNs	**PHNs**		
Navigating Responsibility	**Ensuring correct treatment or referral**	**Collaborating on Care**	Establish correct treatment for clients using existing pathways and treatment protocols		• Education/ support mechanisms for PHNs so they are confident referring to their assessments and regionally agreed treatment pathways • Role modelling of above	
	PHNs wary of informing GPs of incorrect treatment			Effective management of difficult conversations	• PHNs to receive training on communication skills • PHNs to receive ongoing support through practice leaders, case review, supervision	• Shared education opportunities at undergraduate and postgraduate levels – contributes to improve networking and understanding of roles
	GPs may challenge PHNs and refuse to change incorrect treatment		GPs/PNs/PHNs will understand other's role	GPs/PNs/PHNs will understand other's role	• Develop protocols between DHBs and PHOs of what to do when GPs do not respond to requests to amend treatment errors	• Work with PHOs to develop pathway to prevent repeated difficulties
				Professionalism of PHNs is recognised	• Report to PHO if cannot resolve & repeated problem. • Highlight issues to PHO, to discuss policy/protocol development	
	Using authority inappropriately to gain access		GPs will review clients without interruptions	Accessing GPs at the point of need, need responsiveness and calls returned	• Practitioners to reserve interrupting GPs for genuinely urgent issues; prioritising need	• Work with PHOs around improving access • Discuss with practice managers or practice nurse leaders where there are consistent access problems?
	No trust that GPs will respond				• Informing PHOs when constant difficulties in accessing particular PHOs. Shared emails may help here.	• Increase nursing sense of professionalism and confidence. Difficult to change culture

Moving Forward

Achieving change across different organisations is likely to be challenging, particularly as at present, primary care practitioners may have limited understanding of how collaborating with public health practitioners may complement their practice and be advantageous to clients. Identifying desired outcomes and change actions for practitioners is only a starting point for change; beyond this, there needs to be a way of implementing the change across the organisations, requiring support of senior managers in each organisation. Given that primary care practice is composed of multiple single businesses aligned with PHOs, it is always going to be difficult to procure change from within the primary care practices. Instead, this research proposes a dual approach of presenting research findings and proposed actions for discussion at senior management level, whilst at the same time initiating change at ground level, within the public health nursing teams.

Leading change successfully across multiple organisations requires the support of senior management (Hansell, 2018). The findings of this research and proposed action will be discussed at a senior governance meeting, comprising senior general managers and operational managers, paediatricians, GPs, assistant practice directors (nursing, paediatricians, allied health directors from DHBs and PHOs), with view to discussing possible actions and determining how actions may be undertaken in the different organisations. Such a meeting will also identify any further discussions that need to take place; for example, changes to information systems in the DHB will require practitioners working with other departments and being supported by information technology specialists. Furthermore, funding may be required to make such changes and so permission may need to be sought from appropriate funding departments. Decisions taken at these meetings will contribute to determining the limits of the action plan and which of the identified changes will be possible to progress. In addition, it is hoped that such a meeting will generate further interest in the action plan and proposed changes, and will engender organisational change champions (E. K. Shaw et al., 2012). Such change champions will take the need for change within the practices back to the PHOs, as well as facilitating access to education sessions at PHO evenings.

However, there are also elements to the action plan which can be undertaken by public health teams. Initially, project champions have been identified from those public health practitioners with more experience and understanding of the desired outcomes. These are practitioners who have worked in other sectors within the community and who are interested in developing collaborative practice; for example, one of the champions has been a practice nurse whilst another has worked closely with GPs when public health nursing in another country. Public health practitioners, organised into geographical cluster groups as described above, will work with champions to identify at least one key primary care practice initially within each cluster. These practices will be those where a significant number of the public health nursing clients are registered, particularly prioritising those clients who have difficulties in accessing primary care or where there are known avoidable hospital admissions. Once the practices are identified, public health nurses will introduce themselves to practice nurses initially. Again, a dual approach may be used, focusing on working with practice nurses and GPs to discuss the care of specific clients, and on procuring invitation to practice meetings, to provide information on how public health nurses work and on how public health nurses and primary care practitioners may be able to work together. It is proposed that initially, public health nurses' liaison with practice nurses will prioritise one of the above illustrated practical examples, such as collaborating on caring for children with asthma, or with skin conditions, or with children requiring pre-school immunisations who are not attending the primary care practice. The practice nurse would be able to identify children who can be referred to public health nursing, and the public health nurses and practice nurses will discuss how they can manage on-going liaison.

To support this initiative, skill training, case review, supervision, and coaching support (from the team leaders and project champions) will provide initial education and opportunities for debriefing and reflection when difficulties are encountered. Scheduled meetings will enable nurses to share examples with their peers and will provide an opportunity to determine if adjustments are needed. Protocols outlining clear expectations also need to be written, including directives on managing situations where public health nurses need to collaborate with GPs around resolving medication discrepancies.

Evaluation needs to incorporate measures to determine whether the action problems have been resolved (Table 4, p.166; Table 5, p.170; Table 6,p.174; Table 7; p.179), as well as whether positive outcomes have been achieved for clients, given that the focus of the action plan is to improve collaboration. This could be achieved by monitoring and collecting data on the following:

- Education/information sessions given at PHO evenings or at primary care practices
- The number of contacts between public health nurses and primary care practitioners
- Numbers of referrals made by primary care practitioners, to public health
- Noting instances of care collaboration and considering outcomes for clients
- Noting issues presented at scheduled feedback meetings, particularly considering what issues are resolving, what new issues might be emerging, and what are practitioners now doing to resolve these?

Increasing numbers of referrals, particularly on the specific areas discussed by the public health nurses and practice nurses, would indicate that primary care practitioners have more understanding of how collaboration might work, and would also suggest some engagement by the practices. Ideally, evaluation of whether clients have achieved outcomes would also be completed collaboratively. Once some engagement from primary care is established, it would be preferable for evaluation of how effective the processes are, to be done together. However, realistically, it is likely that positive change will take some time and evaluation would need to be conducted over an extended period of at least two years.

Measuring effectiveness of any developed information processes would need to be undertaken separately and would depend upon what has been implemented. A combination approach using practitioner surveys, further interviewing to selected users, and monitoring usage could provide information on whether, for example, the information is easy to access, easy to use, and provides the required information to increase understanding.

Summary

Each section of the findings has been used to develop an action plan. Actionable problems were derived from the main concern, "thwarted action", encompassing integrating codes of time and geography, knowledge and roles, and power and responsibility. Time and geography led to the two identified problems difficulty in accessing primary care, and PHNs working across large geographic areas with too many practices to work with. Both time and geography and knowledge and roles contributed to concerns that information processes being used were not efficient. Limited knowledge on roles resulted in incorrect processes being used to make referrals or provide information, and primary care practitioners did not understand how they could work with public health practitioners (refer to Findings 1: Thwarted Action).

Similarly, both desired outcomes and suggested actions have been developed or extended from activities practitioners are already undertaking, including suggestions for improvements practitioners have made. These relate to categories and properties under the main category "clearing the way", and thus progress the findings explaining what is happening into an actionable plan. Four new actionable categories have been developed. Each primarily relates to one sub-category from the findings, providing actions to resolve the action problems identified through the integrating codes; however, each of the actionable categories also has some links with other sub-categories from the findings (Figure 12, p.155). Developing new actionable categories provided a pragmatic resolution to the complex overlapping concepts developed from the findings.

"Managing bombardment" contributes to the desired outcomes of managing priorities and time conflicts, getting past impediments to accessing practitioners, making contacts specific to client need and pertinent to all practitioners, and increasing face to face contact to improve understanding. Actions relating to this have been developed under the first actionable category, "accessing".

The second actionable category, "informing", derives largely from the findings' sub-category "channelling information". Desired outcomes developing from "channelling information" include wanting up to date information available at the point of need,

including current and user-friendly websites and treatment pathways. There is also an identified need for using up to date technology to send information, or even potentially exploring developing shared care platforms. Actions addressing desired outcomes consider portals, information technology, ways feedback is provided, and how systems can be enhanced to facilitate meeting such outcomes. Consideration is given to educational needs on using systems, which also links with the third actionable category – promoting (refer to Findings 2 – Clearing the Way).

"Selective knowing" contributes to the third actionable category of "promoting" – with desired outcomes of identifying improving role understanding, using correct procedures and informing practitioners when incorrect processes have been used. Actions under this actionable category explore how individual and group education can improve role understanding. Attention is also given to ensuring that practitioners take time to explain purpose. The importance of a supervisory framework, strengthening the quality of communication quality, is also emphasised (refer to Findings 2 – Clearing the Way).

The fourth actionable category, "collaborating on care", originates from findings' category, "navigating responsibility" (Findings 3). Desired outcomes include role knowledge, ensuring good care including correct medication or referrals, managing challenging conversations and establishing mutual respect between practitioners.

Some of the proposed activities can only be achieved with joint planning between DHBs and PHOs or primary care practices, and with the endorsement of senior management. To this end, the research findings and proposed sketched actions will be presented to existing governance meetings between such personnel. It is hoped this will generate some discussion around generating an action plan and recruiting champions to further develop processes and to support the practical application of the plan in the DHB and in PHOs. Part of this activity will include developing key people to work with information system designers and technicians, to improve webpages and develop appropriate solutions to the information difficulties identified in the research findings.

Those activities relating to accessing, promoting and collaborating on care have been identified and a plan will be implemented based initially on public health nurses leading interventions to increase GP and practice nurses' awareness of public health nursing

role, and focusing on the advantages of collaborating on care. It is hoped that, if the action plan is successful in overcoming the current actionable problems, primary care themselves will become more active in initiating collaboration. At this time, it is envisaged that there will be joint planning, collaborating and evaluating actions.

Chapter Nine: Discussion

This chapter closes the thesis. The first section explores how the findings and actionable problems relate to current policy and previous research; commenting on how findings determined from this qualitative study using grounded theory/grounded action processes may progress current understanding on collaboration between public health and primary care practitioners in New Zealand. Discussion will include analysis of the implications of some findings. The second section comprises discussion of the actionable plan, including consideration of changes that could be made at local levels and wider levels, to improve collaboration. Challenges anticipated when implementing the action plan are highlighted. My position as an action leader to move collaboration forward informs these considerations, alongside consideration of additional research relevant to the actionable concepts, or actionable problems and opportunities. Limitations of the research and of the proposed action plan are considered. The following section considers methodological and method application tensions in using grounded action processes applied to qualitative description. Finally, this chapter concludes with a section on anticipated benefits and recommendations for broader changes beyond my influence.

The purpose of this research was to determine how primary care and public health practitioners collaborate, and how they are managing this, with view to initiating action to enhance collaboration. The motivation came from my own experiences in public health in the UK and in New Zealand, as I could identify significant differences in collaborative practice, and from a personal perception that MoH (2011, 2014a, 2014c, 2014d, 2016; Pratt et al., 2018) policy directives concerning collaboration did not appear to be substantively followed in any systematic way. As discussed in the introduction, the policy rhetoric of New Zealand assumes that collaboration between healthcare agents is positive for client health, and urges narrowing of identified gaps between primary care providers and secondary care providers to reduce health inequalities (Dew & Matheson, 2008; MoH, 2001, 2011, 2014a, 2014b, 2016).

Overview of the research

As little research had been done on collaboration between primary care and public health in the New Zealand context, it was important to establish the following:

1. What is the main concern of public health and primary care practitioners collaborating at practice level?
2. How do practitioners resolve or manage their concern?
3. What needs to happen to resolve those concerns and enhance collaboration, in an action plan?

This qualitative study used grounded action principles and processes to explore the issues, propose a theory and develop an actionable plan. The actionable plan will be implemented once the research is completed due to time constraints related to thesis requirements for the DHSc programme. The main concern presented by practitioners was "thwarted access", which referred to both the difficulties practitioners have in gaining access to their counterpart practitioners, and communication difficulties once entry to other practitioners was achieved. Practitioners used "clearing the way" as a main action to resolve their concerns, encompassing "controlling workflow" and "navigating responsibility". "Controlling workflow" related to measures taken to manage gaining entry to other practitioners and to balance time and location (geography) pressures. "Navigating responsibility" referred to the way practitioners managed communication when working with mutual clients, reflecting role and power variations. The next section considers how these research findings relate to previous knowledge, in each of the categories determined in the actionable plan.

Findings confirming existing knowledge

When the initial literature search was completed at the start of this research process, there was limited research undertaken specifically exploring collaboration between public health and primary care. Nearly all the research was in health contexts which differed from that in New Zealand, and mostly related to managing specific conditions, rather than focusing on collaborative practice. Other foci considered whether practitioners are co-engaging in individual public health and population public health management, including searching for health issues. More recently, several research

projects have been undertaken and reported on with similar intent of exploring what collaboration is occurring between public health and primary care practitioners. Such research, principally in the USA and Canada, also identified the gaps in knowledge in this area. This section explores and relates findings in this research to findings from these reported research projects and to the initial literature search. Other references have been included where there is some relevance to the findings; this becomes a part of the analysis process whereby additional literature confirms findings extending theoretical sensitivity.

Although previous literature has not specifically acknowledged difficulties practitioners experience in gaining access, there is support for properties found in this research which contribute to access difficulties (refer to "Thwarted access" in Chapter Five and "Managing bombardment" section in Chapter Six). Existing work demands can hinder initiating and continuing collaboration (Akhtar-Danesh, Valaitis, O'Mara, Austin, & Munroe, 2013; Pratt et al., 2018; Storm et al., 2015; Valaitis, O'Mara, et al., 2018), whilst time away from client consultations was also a shared concern for primary care practitioners (Akhtar-Danesh et al., 2013; Pratt et al., 2018). Health funding differs between New Zealand, Canada and the USA, yet there are some similarities which may partly explain links in findings; primary care is either partially or fully funded respectively through private payment by clients, whereas public health is centrally funded by government. Pressure to ensure continued revenue to primary care practices, by conducting client consultations and reducing time spent in other activities, was perceived as a barrier to engagement by public health practitioners in this research and in an American/Canadian context (Akhtar-Danesh et al., 2013; Pratt et al., 2018). Pratt et al. (2018) particularly identified that the use of different business models, where there are client funded payments, makes any collaboration more difficult.

Public health practitioners expected to lead collaboration but reflected that they did not know how to initiate contacts, which echoed previous research (Pratt et al., 2017; Pratt et al., 2018). Another barrier, reflected in existing literature, was that public health nurses were located across wide geographical areas, with too many primary care practices to form significant collaborations (Akhtar-Danesh et al., 2013; Clancy & Svensson, 2009; Ferrari & Rideout, 2005; Monsen et al., 2014; Pratt et al., 2018; Valaitis,

O'Mara, et al., 2018); Ferrari and Rideout (2005) in particular identified that there is enhanced opportunity for relationships, trust and mutual understanding to develop when practitioners work in the same building.

Mutual understanding links to selective knowing, which emerged as a key finding, explaining an absence of primary care led collaboration. Public health practitioners initiated almost all collaboration in this research. Notably, they indicated that they felt any attempts to expand collaboration to improve client care outcomes would need to be led by public health, congruent with earlier research (Akhtar-Danesh et al., 2013; Monsen et al., 2014). This research also confirms previous findings where GPs, and sometimes practice nurses, have limited or no understanding of public health roles, do not understand what possibilities are available for working together, and have little involvement currently in developing population or community based initiatives (Piper, Plescia, Keener, & DeHaven, 2018; Pratt et al., 2018; Valaitis, O'Mara, et al., 2018). As in some other countries, primary care did not discuss engaging in searching for health needs in this study, and population health measures that were raised were limited to providing immunisations or mandated contact tracing for pertussis (Bhuyan et al., 2015; Peckham et al., 2011).

Whilst shared documentation systems were desired by public health practitioners, primary care practitioners were less convinced that this would be useful; their ambivalence differed from previous research which concluded that shared software enhanced collaboration (Levesque et al., 2013; Valaitis, Meagher-Stewart, et al., 2018; Valaitis, O'Mara, et al., 2018). However, practitioners did identify that current, easily understood systems were important to improve knowledge and receive information, congruent with literature valuing expenditure on information technology (Klompas et al., 2012; Levesque et al., 2013; Valaitis, Meagher-Stewart, et al., 2018). As identified in previous research (Pratt et al., 2018), practitioners were frustrated by the extensive number of information software systems across the DHBs and primary care practices, and felt that this created confusion. Documentation systems in DHBs are not cohesive but range across a medley of software which has developed over time, with several systems in use, whereas much of primary care practice uses a universal system across PHOs. Whilst initiating one universal system may enhance communication and provide

more transparency in care provided, it would be an expensive and time-consuming option to develop, and is not being considered at local or ministerial levels at the present time.

In this study, "Navigating responsibility" related to ways of coordinating individual client care between public health and primary care. Previous research has referred to the importance of established relationships, and of negotiating mutual understanding (Clancy & Svensson, 2009; Hargreaves et al., 2013; Piper et al., 2018; Pratt et al., 2018; Serpas et al., 2013; Storm et al., 2015; Valaitis, O'Mara, et al., 2018). Whilst there was some evidence that discussions on patient care were easier to facilitate where there had been prior successful contacts with positive health outcomes, most interactions took place between practitioners with no previous memorable contact. This was clearly different from the established research. Full discussion on this is included in the following section.

Charting New Findings

Whilst previous research has explored benefits and difficulties experienced when collaborative initiatives have been introduced, this research has taken a different approach. By determining what happens at practice level before any change is introduced, it provides a map of the actual foundation on which the change will be constructed. One other study, recently published, has used a social constructivist grounded theory approach to exploring what is happening between primary care and public health, at practice level (Pratt et al., 2018). However, where I have talked with practitioners who are working at ground level, Pratt et al. (2018) conducted phone interviews with service leaders representing the services. They used participants who had familiarity with the other sector and were "paired" with a person from the other sector with whom they had worked. My research selected participants from public health and primary care without such restrictions, and purposeful selection of primary care participants who had worked with public health was only undertaken at the theoretical sampling stage of the research. Arguably, it may be more representative of the New Zealand environment, where some primary care and public health practitioners have collaborated, and others have no or limited experience of this.

One major departure of this research from previous literature centres around the way power differences have impacted on collaboration (refer to Chapter Seven, Navigating Responsibility). Sometimes less experienced or less confident public health nurses have avoided contacting GPs having instead found alternative ways of working. A distinct hierarchy was discovered whereby firstly public health practitioners from the communicable disease team, supported by mandates for certain activities, had priority and could wield power to secure immediate contact with GPs (although more frequently they chose not to do this out of respect for the GPs and recognition of working systems), and could direct primary care practitioners in their management of communicable diseases. Secondly, GPs were regarded as having more authority than either local public health nurses or practice nurses. GPs, as employers, directed the work of practice nurses; thus roles are contained within what the GPs consider is appropriate and scope for initiative or developing services may be restricted within this containment (Carryer, 2011; Crampton et al., 2004). Public health nurses sometimes experienced obstruction when they tried to correct medication that did not follow national recognised pathways of care, as GPs claimed ownership of prescribing. Varying choices were made around how they managed the need to ensure the correct treatment, and what ramifications the rebuttal had for future interactions. These issues relating to the importance of mandates, and potential for crossing role-territorial boundaries to ensure safe care, are considered separately in the following two sections.

Mandates appear to facilitate collaboration, although there is no indication of what happens when mandates are not present, or of how mandates affect the power dynamic in the relationships (Akhtar-Danesh et al., 2013; Martin-Misener et al., 2012; Storm et al., 2015; Valaitis, Meagher-Stewart, et al., 2018; Valaitis, O'Mara, et al., 2018). Nevertheless, this evidence seems to uphold that mandates do have a significant effect in collaboration and can transform nurses' position in the medical-nursing hierarchy, enabling successful direction of others' practice when required to maintain safety.

Whilst the research on collaboration between doctors and nurses in a community setting has not directly considered hierarchical power invested in role activity, there is brief consideration of role distinctions within some of the studies on collaboration between public health and primary care practitioners (Hargreaves et al., 2013; Valaitis,

O'Mara, et al., 2018). Interestingly, research on boundary issues in acute settings found that context of interprofessional relationships is important in determining whether nurses were able to make decisions and recommend care in a field that has traditionally been the province of doctors, such as prescribing (Liberati, 2016; Lim et al., 2017). Power dynamics and role flexibility between doctors and nurses changed according to context, even within one hospital setting (Liberati, 2016). Doctor-nurse relationships also varied according to country, changing over time (Carryer, 2011; Pullon, 2008). These variations validate the need for this research in a New Zealand primary care/public health context.

Nurse practitioners, when they commenced prescribing in New Zealand, highlighted tensions with doctors, highlighting that boundaries required negotiating with respect to roles/professional positions. Prior to undertaking prescribing, nurses described a collaborative-dependent relationship with doctors. (Lim et al., 2017). These nurses used three methods for renegotiation – building trust engendered through repeated positive encounters, discussing patient safety, and negotiating a position of collaborative interdependence (Lim et al., 2017). Other research has similarly determined that proving professional competence is important in securing doctors' respect and in developing the confidence of practitioners (Barrow et al., 2015; Liberati, 2016; Poulsen et al., 2009; A. E. Powell & Davies, 2012), although time is needed to move from respect to trust (Pullon, 2008).

Public health nurses in this research navigated challenging discussions with GPs on medication, client assessment and identification of need, in ways suggesting that less experienced public health nurses were more likely to defer to GPs or find ways of avoiding conflict. Confident practitioners were more direct in their approach, although they also found ways of proving their competency in the way they presented concerns. There is some suggestion here that they use at least two of the three strategies suggested by the research on nurse practitioners' prescribing (Lim et al., 2017), presenting competence, and building trust over time by achieving health outcomes to demonstrate how working together is successful.

In negotiating difficult conversations around incorrect medication, public health nurses presented their comprehensive assessment and concern alongside the validation for

their concern – using research evidence, or recognised treatment pathways. Once the concern and correct direction had been presented, public health nurses then invited GPs to consider what they wanted to do, deferring to their judgement and authority. In doing this, they are continuing the existing professional hierarchy, as they return decisions on actions to the GPs. It is important though to highlight that in this context, doctors were the originator of the incorrect action and therefore perhaps it is fitting for the decision making to be handed back to them. Although there was some unspoken re-negotiation around whether both nurses and doctors can own knowledge around medication, the hierarchical order has not changed (Lim et al., 2017); public health nurses found a way to question the action without threatening the status quo. This is not surprising – traditionally nurses have not had hierarchical power and have had less influence than doctors with effecting change; using persuasion on the importance of change, reinforced by being effective in their actions (Huby et al., 2014; King, Bravington, Brooks, Melving, & Wilde, 2017). In effect, nurses suggested a change was needed, the change was successful, and incrementally respect for nurse knowledge and practice was developed over time. It will be interesting to observe how this silent discourse around medication evolves as public health nurses become more involved in nurse prescribing (Nursing Council of New Zealand, 2017)[1]; this may significantly change the dynamic between GPs and community nurses, and further dialogue may be needed to renegotiate role boundaries for collaborative work (Carryer, 2011, 2017; Huby et al., 2014; Pritchard, 2019).

Power imbalances between doctors and nurses have been explored across centuries and reflect the autonomy and status doctors have acquired in society, commonly presenting doctors as healthcare leaders (Pritchard, 2019). However, with increasing healthcare costs and ageing populations presenting with multiple chronic conditions, re-evaluation of the way healthcare needed to be delivered facilitated the expansion of nurses and other health professionals undertaking a range of activities which were traditionally in the doctors' domain (Carryer, 2017; Finlayson et al., 2012; F. Hughes, 2006). Over the last fifteen years, this has involved legislative changes in several

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[1] A pilot study on nurse prescribing, undertaken in several community teams throughout New Zealand, has recently been evaluated; public health nurses, practice nurses and other community nurses will be able to pursue additional training and processes to become nurse prescribers with focused applied prescribing formularies.

countries to enable non-doctor prescribing, often in opposition to doctors' concerns (Pritchard, 2019). There is little research on how these prescribing changes have impacted on either doctor's understanding of nursing capability, or on how the nurse-doctor relationship is being enacted. Nurse prescribing has so far in New Zealand been limited to nurse practitioner or specialist nursing roles, and there have been significant restrictions to achieving nurse practitioner status and positions compared with other countries, such as the UK, where nurse prescribing has proceeded more quickly and is now present in many primary care and specialist healthcare teams; most UK community district nurses and health visitors (public health nurses) also have limited prescribing rights.

The experience of nurses in this research, where GPs resisted recognising their knowledge on appropriate prescribing regimes, suggests a reluctance by doctors to lose their sole prescribing authority. Until public health nurses can themselves prescribe, the adverse effects of power imbalance may be difficult to address, particularly in an environment where GPs are business owners and have little supervision by higher authority around their actions. However, nurse prescribing alone will not allow nurses to become accepted and equal healthcare partners, as demonstrated by Lim et al. (2017). Nurses need to take ownership of their own knowledge and authority as healthcare professionals; to do this, they need to find alternative ways of challenging others, without handing back authority to GPs (Carryer, 2011, 2017; F. Hughes, 2006; K. Hughes, 2015).

Another consideration resides in GPs' lack of understanding and knowledge of public health nursing roles. This research demonstrated that GPs were not fully aware of the role of local PHNs, with some GPs thinking that PHNs were not qualified nurses. There needs to be more understanding that public health nurses are graduates and have frequently also completed postgraduate qualifications, and they are expert practitioners in their field. Nurses are already ensuring they present a professional front to the GPs; and promoting role understanding has been incorporated into the action plan.

The following section considers challenges encountered in developing an action plan within the practice and political context.

Identifying action challenges

As previously stated, this qualitative study using grounded action methods developed an actionable plan as its final stage, due to time limitations defined by the DHSc programme of study undertaken. The action plan would usually be implemented in action cycles within grounded action method applied to this qualitative study. An alternative approach of developing and discussing the action plan in the practice context has been used. This section explores some considerations in developing an actionable plan operating across agencies in more depth.

Ideological tensions

It is unlikely that all identified desired outcomes can be easily resolved in the community setting by the participants. Current funding of primary care leads to a practice model of care that focuses on reducing ill health and achieving government targets, with less scope for broader aspects of public health such as searching for population health issues. Primary care practitioners perceive public health in a focused way regarding prevention of future episodes of the condition individual clients are presenting with (Neuwelt et al., 2009), or using targeted screening approaches and early intervention for individual clients. There is limited evidence that changing the funding structure for primary care would result in primary care practices undertaking more population-based public health including searching for health needs within local communities, but it seems probable that the current funding model has contributed to limiting time available for practices to undertake public health initiatives (S. Lovell & Neuwelt, 2011). This is turn may have contributed to the recognised ideological and practice gap between primary care practitioners and public health practitioners (Levesque et al., 2013; Martin-Misener et al., 2012). Ideological differences give rise to two difficulties, which are likely to impact on whether primary care practitioners consider change is needed. Firstly, GPs may see public health as a separate entity that they either cannot address within their limited time, or they may consider that this is not a part of their fundamental role. Interestingly, one PHO refused locality permission on the basis that the research topic was not relevant to primary care. This suggested that at least in that PHO, there was an ideology that public health and primary care are unrelated disciplines and primary care does not have to involve itself with public health,

contrary to WHO (2015) recommendations, and to the New Zealand Health Strategy (2016). Practices who believe that public health is not their business may not readily engage in a change programme that involves regular collaboration with public health nurses.

GPs operate a medical-focused model centred on diagnosis and treatment of specific disease, whilst public health nursing is focused on a social model of care encompassing health and well-being as well as illness, within the context of family in society. GPs' discourse of relating to others focuses on what conditions can be referred to whom, and in this context their question is "What specialist knowledge does the public health practitioner have and in what circumstances do I refer to them?" – referral is made usually with a view to passing the health problem onto a specialist. To develop core understanding between the professionals, conducive for change, there needs to be some shared understanding of roles and mutual benefit. Given the limited understanding of primary care practitioners in this research, public health nurses will need to both lead the change process and promote the need for change by ensuring that GPs and practice nurses are aware of potential benefits for individual clients' health. Such a process is likely to be challenging and requires skills in engaging others.

Furthermore, primary care practitioners' limited awareness and understanding of public health roles and activities is likely to compound such ideological differences, as this research has demonstrated that gaining access to practitioners becomes difficult when the value of co-working is not recognised or prioritised. Public health nurse to practice nurse liaisons may be more achievable in a practical sense, providing a way of improving practitioner awareness and understanding. This research did suggest that tensions and lack of understanding eroded when practitioners knew each other and had more experience of the others' work and successes.

Location tensions

One way of making public health practitioners more visible would be to move them into primary care practices, or possibly PHOs, from DHBs where they are mainly located. This research has not examined the viability of such an approach, but previous research has indicated that public health nurses prefer to remain in the DHBs, as they consider

accountability, quality support systems, development opportunities and working conditions to be better (Hansen et al., 2007). Whilst locating public health practitioners in primary care practices would provide opportunity for practitioners to develop positive relationships and may facilitate improved role understanding, there are both challenges and several possible outcomes which may arise.

In New Zealand, there is limited funding allocated to public health and there are relatively few public health practitioners compared to primary care practitioners. Countries such as the UK, other European countries, and Canada, have substantial numbers of public health nurses undertaking work in schools and at homes with children 0-18 and their families. In the United Kingdom and Canada, public health nurses are required to undertake 1 year's postgraduate education and have their own additional registration process. This suggests greater political prioritisation and funding of public health; and may facilitate more potential for co-working with primary care. Specific registration confers some status, and whilst GPs and practice nurses may not fully understand public health roles, they do have some understanding that this is a specialist role. It would be interesting to complete a comparative study on whether such registration does make a difference to the hierarchical relationships between public health nurses and GPs. The other variable to consider is that as there are substantially more public health nurses in the UK, for example, there is more opportunity for those nurses to engage with GPs and for them to be co-located, so most GPs have some relationship with their local health visitor.

 Practically, having fewer public health nurses means that co-location would result in either clusters of public health nurses working within fewer primary care practices or in the PHOs, with most practices being unsupported by public health; or public health nurses working in isolation from other PHNs. This would certainly pose challenges to current systems in place for management of communicable diseases, where public health teams work closely together to facilitate detection of communicable diseases, management and contact tracing and to prevent further spread across large communities. There are likely to be difficulties too in managing the support and supervision needs of practitioners in relation to confronting or exacting situations, such

as situations where local public health nurses need guidance on safeguarding children or themselves.

There are two possible outcomes to co-location. The first would be that primary care practitioners understand and acknowledge benefits of co-working and the practice re-examines its working processes to align more closely with public health values. In an ideal world this could include public health practitioners leading practice development including searching for population health needs, through to co-working with practice nurses and GPs on supporting family lifestyle changes to improve health. Public health nurses would provide primary care with links to local school communities and would continue to identify unrecognised health issues in schools, and to facilitate families who have difficulties in accessing healthcare in enrolling and using primary care. For this outcome to be achieved, public health practitioners would need to retain independent government funding; without which public health nurses may be subsumed into the same time pressures that a fee-dependent system generates, and may be required to generate income by seeing fee-paying clients (Hansen et al., 2007). Furthermore, there is a risk that separating funding for co-located public health nurses and other primary care workers would result in non-acceptance which would not lead to greater work integration or co-operation.

A second and more likely option would be that public health nurses become isolated from their public health nursing peers and are unable to offer the same support across home and schools to children and their families. If public health nurses become employees of GPs, they will not retain the same degree of autonomy (Hansen et al., 2007), which may in turn impact on public health nurses' capacity to facilitate access to primary care and prevent avoidable hospitalisation. They potentially become restricted to continuing primary care practice values of responding to illness and would be unable to offer a wider service. School-based immunisations, currently provided by PHNs, would be compromised as immunisations undertaken in practices generate revenue for the practice. This would be a direct ethical conflict for public health nurses, as school-based immunisations ensure children who traditionally do not access primary care are immunised. Potentially, efficacy of public health nursing practice could decrease. It is difficult to see how a holistic preventive social or family model of care, based on

searching for broader health needs, can sit within a business model requiring clients to pay for their healthcare, given that the health perspectives and discourse are different for primary care and public health (Ayres et al., 1996; Bradley & McKelvey, 2005; Hansen et al., 2007; Martin-Misener et al., 2012; Shoultz & Hatcher, 1997). Furthermore, power differences may become exaggerated by a system where public health operates in the direct employment of GPs and is subject to being directed by them (refer to earlier discussion in this chapter).

Tensions in practice: Promoting the action plan

As a manager within a large DHB, I have found there are inherent challenges in proposing wide scale change crossing multiple organisations, and there are limitations on what I am able to achieve. Whilst it is possible to initiate actions which will be undertaken by public health nurses, other suggested actions in the proposed plan require negotiation with other professionals and organisations. Presenting my findings and action plan to public health nurses, engendered active discussion on whether this action plan needed to operate from a bottom-up approach or top-down; that is, whether it was to be led by public health nurses or management. Constructing a dual approach acknowledges some of the challenges that need to be managed at a higher level. For example, one of the presenting issues was that some practitioners are finding it time consuming to access practices through central switchboards covering all the aligned practices. Advantages of using call centres, with consequent reduction to administrative costs, is that it allows primary care practices to reduce charges making primary healthcare more affordable to clients. Although PHOs receive their funding through DHBs, they are separate organisations and DHBs have no real influence on how funding is administered. Furthermore, most of the practitioners involved in this research recognised that some way of reducing costs to vulnerable clients must be found. Changing the fee-reliant structure would be one option to improve equity in healthcare access and would make such cost choices less necessary but would also necessitate major restructuring of the health service, with government-led intervention. However, within the current health system structure, DHBs can only advise PHOs of the access difficulties practitioners are experiencing with the switchboards. This would require involvement of senior managers within DHBs and

PHOs; achieving any memorandum of understanding at strategic level is beyond my sphere of influence (Ennen & Wachs, 2001).

Similarly, improving information system resources, including information sites, requires inter-departmental and inter-agency coordination and approval and facilitation by senior management. Having a shared information system across all DHBs and primary care agencies is beyond this action plan, and would require major government funding, legislative changes to privacy laws, with practice clauses being developed to maintain privacy protection. Although this would be expensive, time consuming to develop and difficult to administer, advantages may include smoother transfer of information with potential faster and more consistent care for clients between DHBs and primary care. As there were conflicting views on the best approach to take concerning information sharing, further research demonstrating potential benefit may be needed to justify such expenditure.

A further difficulty is that as primary care practitioners do not fully understand the role of public health practitioners, they have some difficulties in conceiving a need to work collaboratively. This minimises opportunities for co-development of any action plan; the action plan therefore would need to emphasise the focus on promoting so that GPs and practice nurses have more understanding of collaborative possibilities. The concern is that operating initially from public health starting point needs to be conducted sensitively so that practitioners can include primary care practices in future modified action plans as they gain insight into possibilities. To be truly collaborative, both agencies need to perceive a need and recognise opportunities for improvement, working together to progress action cycles from modifications determined by subsequent action cycles.

If all public health nurses are to begin the actions in promoting and informing, they need to expand skills in initiating contact, interacting with GPs and practice nurses, managing conversations on therapeutic approaches, and engender confidence and assurance in their own clinical assessments and knowledge. In effect, they need to sell their expertise and negotiate meeting/contact times and personnel to contact with individual primary care practices. There are some similarities to setting up a working plan in schools; however, the limited evidence from this research suggests that there

are additional hierarchical factors which may influence interactions and limit confidence – particularly for those less experienced public health nurses. Managers need to ensure there is a support system in place for the nurses at the point of developing outreach on promoting and informing. Nevertheless, from a local team perspective, this is manageable, can be set up quickly and can be monitored through collective feedback from the nurses. Review of referral criteria and triage processes will be undertaken prior to public health practitioners linking with primary care, to ensure consistent referral systems are in place. Public health nurses need to be clear on their purpose and confident on pathway use if they are guiding practice nurses and GPs to use them. Selection criteria will be set up for which practices are worked with initially, based on higher proportions of mutual clients at those practices, or clients likely to have lower health literacy or have difficulties accessing healthcare. Working from geographical clusters allows more experienced public health nurses with an interest to lead and support nurses developing their skills. The priority here is for the change leaders to promote a culture of openness in encouraging public health nurses to reach out to primary care at any opportunity afforded for shared care or care discussions. Nurses will be supported through regular meeting updates on progress in reaching out to practices, sharing experiences and reflecting on achieving changes and encouraging feedback on when nurses need more support in working in the practices. This work can be described as workstream 1, prioritising the following (roughly undertaken in chronological order):

- Initial education to public health practitioners – on findings from research (November 2018)
- Allocating public health nurses to geographical clusters, each with an appointed collaboration change champion. Collaboration change champions will support and encourage liaison, reporting problems and finding solutions.(November 2018 through to January 2019)
- Identifying key primary care practices to work with initially within each cluster – these will be practices where there are either more shared clients or higher need families attending, or where there are known to be families who have difficulty accessing healthcare and do not traditionally attend primary care. (January 2019 through to March 2019)

- Education and skill training on progressing difficult conversations (October 2018 – March 2019)

- Evaluating referral criteria and ensuring triage systems promote consistency. (commenced January 2019, ongoing)

- Developing letter to introduce public health nurses to identified practices (January – February 2019)

- Public health nurses to make contact with identified practices – discussions may include: range of work which could be referred to public health nursing or situations where public health nurses may be useful to support change management health plans initiated by practice nurses; contact person to liaise with and times/frequency of liaison; whether attendance at a practice meeting would be useful to the practice. As a result of these meetings, GPs and practice nurses requested an e-referral process, which they determined would be more manageable for them. (commenced in February 2019)

- Monthly public health meetings with more regular support fostered by collaboration champions, alongside ensuring all nurses engaged in supervision. This provided opportunity for nurses to discuss anxieties or concerns with progress, and to encourage problem solving when needed (introduced in February 2019).

- Team Leader to encourage public health nurses to feedback to any GPs where there were deviations in care from treatment pathways. A medical officer and community paediatrician provided support with this. (Ongoing)

An advantage of beginning the project with the public health nursing team is that it was local and small changes were immediately accessible to the public health team initiating the project. There was some indication from the findings that familiarity and working experiences assist with collaboration on public health issues, so using cases public health nurses, GPs and practice nurses are already working on simultaneously provides an expansion of this and helps encourage familiarity and role understanding. In a project such as this, the ideal would be to be working on all the workstreams, or to prioritise linking with PHOs first. However, access to the PHOs proved to be difficult initially and took some time to negotiate. This way encompasses a pragmatic approach that is achievable and is based initially on extending solutions that are already being

used, with the addition of a firm support system to provide encouragement and learning and to embed changes. The chief difficulty with such an approach is that there are then no initial overarching education/information explaining what public health nurses can offer; instead focusing on nurses creating and developing relationships in each practice, forming links between work undertaken by public health and primary care.

One of the issues arising from early implementation of the above interventions was that GPs and practice nurses identified they could not readily make referrals to public health nurses until there was an e-referral system in place for this. This feedback was then able to be incorporated into the second work stream – demonstrating both the cyclical nature of using and evaluating action plans, and the benefits of commencing with the actual practices.

The second workstream involves engaging others outside of the immediate project stream, where activities required the expertise of others, or needed to operate at a more strategic level. For example, developing an e-referral system, facilitating referrals to community nurses from primary care practices, required computer expertise to adapt existing referral systems available when GPs refer to doctors in secondary care. Such an e-referral system would operate more efficiently if referral entry includes all community nurses, rather than just public health nurses. This then necessitates conversations between DHBs across the region and between departments, to coordinate a new approach that would work for all community nursing services. Given that primary care practices have stressed this is essential for them to refer, it becomes a development priority, regardless of its complexity. Whilst this work was commenced in March 2019, it has fed into a larger initiative and is ongoing as many of the inter-DHB negotiations have been complex.

Other priorities include:

- developing a safe and confidential e-mail system between the organisations was also considered to be a priority by practitioners in the study, to provide more contemporaneous communication – this was introduced in July 2019 and nurses were provided with initial training. One of the paediatricians provided training

on information required by GPs, and public health nurses have become adept at providing succinct information summaries, which then translate directly into nursing notes. (Ongoing)

- Ensure health profile and other external communication links are updated with current referral criteria, and refine pages so links are easy to find and use (also requiring information system support).(Under current review, reviewed every six months)

- Explore the possibility of linking using other media such as facebook pages to demonstrate roles and referral criteria. (An initial trial is currently being operated with a small paragraph of information on immunising HPV on the DHB facebook page)

- Investigate the appropriateness of developing a memorandum of understanding with the PHOs, encompassing work related expectations and guidelines. A meeting to present research findings and explore strategic opportunities took place between myself and the child woman and family health governance group, in May and July of 2019. However, identified need was directed elsewhere and there was little opportunity to request assistance with investigating the development of a memorandum of understanding. Further discussions are underway with child health management and paediatricians on what needs to happen. However, there is support from community paediatrician and service Medical Officer when GPs are not following pathways and GPs need some direction on appropriate medication for example. This challenge can be further explored in discussions with PHOs.

The third work stream may be undertaken at the same time as the above streams. This involves linking with appropriate people within PHOs to determine development possibilities and further consider needs. Such exploration would include:

- Sharing and disseminating research findings (When opportunities arise through education evenings, and following suggestions made by PHO on what information would be useful to share with practices)
- Identifying lead people in PHO to link with (December 2019 – March 2020)

- Determining what assistance may be provided to gain entry into practices where there are clients public health nurses are regularly working with and promoting primary care, but access to collaboration is more difficult (May – June 2020)

- Discussing what public health developments the PHOs are engaged with in practices and exploring whether benefits would be obtained by working together (May-June 2020)

- Asking for education evenings to extend promoting, providing information on newly developed systems such as e-referrals and use of updated health profile pages and pathways, alongside role exploration and benefits of co-working. (June – December 2020)

PHOs were not contacted as part of the study; however, there may be opportunities to work collaboratively with some specific public health projects undertaken by PHOs – for example, improving the discourse around immunisation uptake between school based immunisations (administered by public health nurses) and those given within primary care practices.

Whilst this considers the immediate workspace of public health nurses and primary care practices working together, it does not address complexities identified in tables 4 through to 7 (p.166; p.170; p.174; p.179). Plans for dissemination of the research include presenting at primary care conferences and public health conferences, and publishing research findings and discussion on issues inhibiting collaboration. Publication will be sought in a journal that reflects the work undertaken, such as the Journal of Primary Health Care or the Journal of Primary Care and Community Health. Some of the DHBs and PHOs who approved participation in the study by some of their employees have also requested a brief summary of the research and findings, which is currently being prepared. This report will also be sent to those participants who requested summary information at the conclusion of the thesis.

In summary, for successful change, action needs to be considered at different levels. Immediate actions are those associated with what can be achieved at a local level, led by public health nurses to promote and engage local practices, which can be initiated and led by the team of PHNs I work with. If this is successful, the next level would be primary care engagement and enhanced collaboration at a local level. Further changes

enacted at DHB and PHO levels require engagement of higher management within both organisation-sets, dependent on successful promotion of the project – this would require key managers to value the potential for such changes and support such development. However, effects may still be limited to small geographical areas, and will be limited by numbers of available public health practitioners. To produce change at national level may include substantial expansion of public health nursing and establishing higher education programmes, possible reorganisation of current health funding models at primary care level, and amendments to current legislation to facilitate greater collaboration.

Limitations of research

The first limitation centred on the significant challenge posed in recruiting participants from primary care, leading to an imbalance between sampling from public health and primary care. Whilst qualitative methods using grounded theory principals and processes mitigates against the impact this might have on the results, as data is collected until saturation is reached, it may be that distortions remained in data collected from primary care. Few of the GPs and practice nurse participants had experienced ongoing work with public health practitioners, and this may have given rise to some distortion of the data and consequent findings. It may be that the GPs and practice nurses who did participate were representative of primary care practitioners, or it may be that generally primary care practitioners have more understanding of public health and greater role awareness. Deliberate selection of primary care practitioners with experience of collaborating with public health practitioners was attempted in theoretical sampling to try to reduce any imbalance, but few participants volunteered or were available at this stage in the sampling. However, the difficulty in obtaining participants itself may be indicative of some of the findings obtained, as primary care practitioners did not have enough understanding or interest to volunteer. Furthermore, as many of the findings echo other research findings, interviewing fewer primary care practitioners may not have had a significant impact. Research undertaken by Pratt et al. (2018) took an interesting perspective by using dyad groups of leaders in primary care and public health who had experienced some collaboration together. Taking a similar approach, with practitioners at practice level who have worked

collaboratively, might answer some of the difficulties in gaining participation in future research. However, as my attempts to directly seek participation from primary care practitioners whom public health nurses had collaborated with were largely unsuccessful, it is equally possible that this approach would not recruit enough participants. Such an approach would be dependent on there being enough frequently collaborating pairs operating at practice level, yet the limited evidence this research presents suggests there are few successful collaborating partnerships between primary care and public health to draw from.

Secondly, there were some tensions between my position as researcher and as a public health leader and manager. Grounded action as propounded by Simmons and Gregory (2003) uses classic grounded theory from which an action plan is devised. Classic grounded theory, grounded action and qualitative descriptive studies all assume a position of discovery, where any prior knowledge of the area is kept on one side so that data can emerge from the participants(Glaser & Strauss, 1967; Sandelowski, 2000; Simmons & Gregory, 2003). Whilst I was mindful of how I interpreted data and attempted to capture and explore all participants' experiences in the findings, my own experiences may have influenced thoughts and interpretations; such bias is generally limited through the process of ensuring participants remain the centre of the research and through constant comparative analysis of the findings. Simmons and Gregory (2003) highlight that a return to practitioners may be needed to complete understanding about the action setting and gain further perspective on structures, social, environmental, financial and political understanding to ensure the action plan is grounded and situational. However, only four primary care practitioners responded to calls to check that the actionable problems were recognisable and appropriate for their situation. By contrast, a significant number of public health practitioners confirmed the actionable problems and considered how an action plan may be appropriate. It is possible this may have biased verification of actionable problems and action plan towards perceptions and opinions of public health practitioners.

Thirdly, this is a relatively small project undertaken in one region in New Zealand. Given that public health operates differently in other regions in New Zealand, findings may not be generalisable to the whole of New Zealand. Furthermore, within this region

there are different models of local public health nursing, including public health nurses located in primary care practices. Unfortunately, there were no volunteer participants from these practices and so it has not been possible to offer an examination of any differences that might arise in collaboration, or in roles undertaken.

Fourthly, the study was limited to practitioners at practice level and public health work undertaken by PHOs directly has not been considered. Some of the larger PHOs may be more involved in undertaking search for community health needs and priorities and for directly undertaking work, or working alongside practices to secure public health initiatives (S. Lovell & Neuwelt, 2011).

Suggestions for further research

As alluded to in previous sections, there is further need of comprehensive research on how primary care and public health inter-relate and collaborate on individual care in other New Zealand contexts. For example, one possibility would be to compare differences with public health nurses located in primary care practices and those in DHBs, to ascertain whether placement models do impact on collaboration in New Zealand, and furthermore to determine if locating public health practitioners in primary care practices within the current structural system does result in limiting public health practice, as postulated in this discussion.

The power imbalance between nurses and doctors in this study emerged as a significant issue potentially impeding interaction. Whilst nurses have adaptations to manage the difficulties posed by potential power imbalance, further research in the New Zealand context could provide information that would be invaluable to achieving collaboration. Such research may include: does public health nursing specialist registration make a difference to power dynamics between doctors and public health nurses; and would any status conferred by such registration make a difference to practice? Similarly, it will be interesting to monitor and evaluate what happens as nurse prescribing by community nursing becomes more established, particularly around whether this will also make a difference to the doctor-nurse relationship, with view to improving both understanding of nurse roles and offering more recognition of the potential to work with public health nurses in the community.

Methodological considerations

There are tensions emerging from using grounded action principles and processes applied to qualitative description within this study. The first section below discusses tensions arising from the research methods used, whilst the second section considers methodology of grounded action in its epistemological context.

Firstly, the qualitative study informed by principles and procedures of grounded theory/grounded action process in this study developed an action plan to be used in the researcher's own workplace. Ostensibly, this is a coherent approach as grounded action discusses grounding the action in a live context, considering social, structural, political and any other real-life operational constraints alongside the determined findings. Simmons and Gregory (2003) did not specifically discuss how the action cycles operate and who undertakes these. However, the inference is that the researcher gathers data from participants involved in the action cycle implementation process, using regular grounded theory research methods. In this research, actionable problems and opportunities were identified to form the basis of an action plan, which I will implement with my public health team, engaging local primary care practices. The participants interviewed are not those who will be conducting the action; ethical considerations meant that I could not collect data from practitioners who report to me, as their line manager. Logically, the context from which evidence was collected may vary slightly from the context in which the actionable findings will be applied. This should not create tension as the research findings have fit, workability, relevance and modifiability for the practitioners who will be applying the actionable plan. The modifiability allows to be further development within this context, which will be determined by subsequent action cycles. Simmons and Gregory (2003) do assert that participants may change between the grounded theory and grounded action stages; or participants may be included in the action analysis and action cycles of grounded action as the action plan is operationalised. Their perspective is that who participates and at what level is less important than ensuring that the findings and theory are grounded and continue the theory. Nevertheless, from the perspective of an ethics committee, creating separation between the way the research was initially conducted, and the action cycles of the research (stage two) may potentially pose tensions if the action cycles were also subject

to research processes. Submitting further amendments to the ethics committee may resolve this issue.

Secondly, and perhaps more fundamentally, there are possible epistemological tensions to resolve within grounded action applied to a practical setting, where the initial researcher is within the setting. Simmons and Gregory (2003) developed grounded action using Glaserian grounded theory, focusing on participant experiences and keeping any prior knowledge to one side. At the same time, knowledge of the social, structural, financial and political context of the environment in which the action cycles are operationalised is needed to inform development of the operational plan. Developing the action plan from the grounded theory, using participants' further knowledge of the action context, helps to potentially resolve contextual issues. However, if participants are included in the research process as co-researchers, then action cycles become like those developed in participatory action research. One of the key epistemological tenets of action research is that it is embedded in lived experience and ideas of participant actors, or researchers (Gaya Wicks, Reason, & Bradbury, 2008). Grounded action and action research share principles of action sitting within context of an ecology of lived experiences, and of taking pragmatic approaches to securing change, albeit expressing these principles through differing terminology. However, participatory action research fundamentally builds on each actor's understanding and place within the world, using perceptions and interpretations when developing the theory; there is no separation of previous knowledge from knowledge gained during the action cycles, as there is understanding that one progresses from the other (Gaya Wicks et al., 2008). This is quite different from the first stage of grounded action based on Glaserian grounded theory, where the researcher's experience and understanding is kept to one side (Simmons & Gregory, 2003). With Glaserian grounded theory, the understanding is that relative objectivity can be achieved, and that the researcher's own values do not influence the research as the findings and theory emerge from the data.

This then poses the question of whether it is possible to move from Glaserian grounded theory to grounded action using action cycles involving participant-researchers (actors in action research terminology) who are subsequently involved in analysis of the data.

Either there is a shift here in the way knowledge is regarded or keeping knowledge to one side is only considered to be important whilst the initial explanatory and operational theory is developed. Positioning the emphasis in grounded action on grounding new findings from action cycles with the grounded theory does not reduce the significance of epistemological tensions described above. Glaserian grounded theory (Glaser, 1978, 1998; Glaser & Strauss, 1967) claims a methodological approach to determining practical, wide-reaching theories, that is a-theoretical. Similarly, grounded action is intended to be an extension of grounded theory based on systems theory, stressing the importance of method over who can conduct the research (Simmons, 2006). Both research methodologies place emphasis on application to the real social world, yet also prioritise the systematic analysis of participant's reflections and reported experiences to achieve a theory which may uncover tensions and hidden patterns that are not evident to the participants. The question remains whether including participants as co-researchers in the action cycles curtails such grounded analysis of the action cycles. Alternatively, if participants enacting the action cycles are not included in the subsequent analysis of the action cycles, they may have less motivation in fully engaging in the change process (Nystrom, 2009).

Furthermore, Simmons and Gregory (2003) do not comment on why Glaserian grounded theory is used as a basis for grounded action, rather than other evolved forms of grounded theory. The epistemological tensions suggested here may not be present if theory development used a constructivist grounded theory approach (Charmaz, 2006). Constructivist grounded theory acknowledges that the researcher's own experiences, views and perceptions influence interpretation of findings and form a part of constructing the theory. Significance is given to the importance of creating knowledge with research participants to achieve social justice (Charmaz, 2006). This moves closer to the real-world position of actor-researchers in participatory action research, presenting less epistemological conflict in the action cycle stages of grounded action. The principle of positioning the findings, and grounding them in the constructed theory, remains integral to the process.

Dick (2007) discussed the viability of combining action research with grounded action, from the perspective of grounded theory methods providing a robust way of building

theory grounded in and from data. He argued that Glaserian grounded theory (Glaser, 1992) was more appropriate than grounded theory of Strauss and Corbin (1990) as it offered an emergent and less constrained approach, more suited to action research. Dick did not comment on the suitability of using constructivist grounded theory applied to action cycles; most of the studies commented on were conceived as action research studies where grounded action was used to progress the research. This contrasts with grounded action, beginning with grounded theory and moving into action cycles; nevertheless, the same epistemological tensions would need to be considered. However, Dick takes a practical, methods-based view, without detailing any epistemological considerations. Like Simmons (2006), he favours the importance of the process of deriving theory to inform action cycles and refining theory from action cycles.

Redman-MacLaren and Mills (2015) asserted that including participants as co-researchers, involved in enacting and analysing action cycles, increased fit, grab, relevance and modifiability. They identified a critical realist perspective. Critical realists claim that Glaserian grounded theory traditionally risked objectifying those researched, as they became subjects represented by the emergent categories (Gibson, 2007). Using grounded theory and action cycles resolved this issue when participants were included as researchers. Although Redman-MacLaren and Mills (2015) recognised that using participant researchers diverged from traditional grounded theory methods, they propounded that the research was able to capture the participants' lived experiences and develop change with more emancipatory relevance. Furthermore, they posited that inclusion of co-researchers increased theoretical sensitivity of all involved, which further expanded action possibilities.

Perhaps the resolution to these tensions is in recognising that emphasising epistemological considerations offers an imperfect way of regarding research to drive change; conceivably the overarching principle is to achieve research methods that offer flexibility to move with the changes. Urquhart (2013) emphasised that grounded theory operates independently of any specific ontological approach, resonating with Glaser's (1998; 2004) view that any theoretical position can be taken. Grounded action embeds grounded theory in a change model based on systems theory and emphasises the

importance of practical and pragmatic decision making, over considerations around who the researchers are (Simmons, 2006; Simmons & Gregory, 2003). Furthermore, the nature of grounded theory encompasses change with its intent to be modifiable. Qualitative studies using grounded theory/grounded action principals and procedures also facilitates pragmatic application that Dick (2007) ascribes to glaserian grounded theory, whilst producing detailed findings foundation from which actionable plans can be developed and cycled (Sandelowski, 2010; Sandelowski & Barroso, 2003).

Conclusion

Although the WHO and the New Zealand MoH exhort collaboration between public health and primary care practitioners to enhance public health, by improving health prevention, early intervention, and promoting health equity, in practice this research demonstrates that there is limited collaboration between the practitioners (MoH, 2001, 2008, 2011, 2016; WHO, 2002, 2008, 2014). Such collaboration centred around individual care provided to clients rather than searching for population health needs or health prevention within communities. Predictably, public health practitioners generally initiated contact, as primary care practitioners have no way of determining whether public health practitioners are involved with their clients. Exceptions to this were when primary care practitioners were seeking specific information or advice on health programmes such as immunisations or communicable disease management.

Practitioners were concerned about difficulties in accessing the other practitioner, and in gaining understanding and achieving working agreements when they were able to access their colleagues. Structural working arrangements created access tensions ranging from primary care practices prioritising time for client contacts rather than inter-professional collaboration, through to public health nurses working across large geographical areas , with resulting reduced capacity to engage with each primary care practice in their areas. All practitioners acknowledged some limitations to their understanding of their colleague's roles, although primary care practitioners emphasised their lack of knowledge around public health practitioner roles and responsibilities. This may have contributed to initial access difficulties and may further impede collaboration on care once access has been gained. Power and responsibility also became evident when public health practitioners were collaborating with GPs on

care for clients. All nurses were aware of perceived hierarchical influences and conscious of presenting concerns accurately using medical terminology, described as needing to prove themselves professionally. Some nurses were rebuked for presenting concerns, particularly where their concerns reflected suggestions for changes to treatment regimes.

Practitioners found a way of working around such barriers to collaboration through "clearing the way". "Controlling workflow" was the way practitioners managed obtaining initial access and managing information flowing between practitioners; using "managing bombardment", "channelling information" and "selective knowing". Time and geography were particularly important properties influencing responses within managing bombardment. Knowledge and roles similarly influenced decisions taken around channelling information and selective knowing. Practitioners resolved collaborating on care through "navigating responsibility", adopting varying behaviours ascribed to "assuming responsibility", "shifting responsibility", or "balancing responsibility". Power and responsibility influenced practitioners' actions and responses in resolving communication issues around care coordination for individual clients; with practitioners' experience levels and personal confidence also being important factors in the way they presented and discussed difficulties with other practitioners.

An action plan was devised using the categories and sub-categories determined from the identified actionable problems and opportunities, contextualising findings within the work places where the action plan will be undertaken. To avoid repetition and embrace analysis of existing successes and difficulties, actionable codes were used to construct the action plan: namely promoting, accessing, informing and collaborating on care. Specifically, promoting addressed the need to ensure that practitioners are aware of others' roles, and understand the benefits of working together on public health and health promotion issues. Accessing used existing ways practitioners are gaining access within more formalised and systematic approach, accepting the time and geographical limitations presenting. Informing devised a plan based on practitioners wishes for change encompassing information system ideals alongside achievable targets. Collaborating on care promoted respectful communication, again considering current barriers and limitations. Although the action plan is grounded in the findings

determined in this study, there will be limitations to implementing actions, as some of the issues identified relate to the current employment and educational structures within the New Zealand context, and are beyond my influence. Furthermore, initially the action plan will need to be implemented by public health practitioners, as primary care practitioners do not currently understand or acknowledge the need for collaboration on health care provision; they also have multiple priorities across many health fields, whilst public health practitioners are governed by fewer health policies and initiatives. These limitations have been incorporated into the action plan, with the hope that the action plan will be revised to incorporate collaborative ownership of the action plan between both public health and primary care as the plan moves forward into future cycles, once promoting and informing have achieved their effect. At this point, collaboration may become more of an entity in the practical context.

Reference List

Achora, S., & Matua, G. A. (2016). Essential methodological considerations when using grounded theory. *Nurse Researcher, 23*(6), 31-36. https://doi.org/10.7748/nr.2016.e1409

Akhtar-Danesh, N., Valaitis, R., O'Mara, L., Austin, P., & Munroe, V. (2013). Viewpoints about collaboration between primary care and public health in Canada. *Biomedical Central Health Services Research, 13*(311), 1-14.

Annells, M. (1996). Grounded theory method: Philosophical perspectives, paradigm of inquiry, and postmodernism. *Qualitative Health Research, 6*(3), 379-393s.

Annells, M. (1997). Grounded theory method, Part I: Within the five moments of qualitative research. *Nursing Inquiry, 4*(2), 120-129.

Ashton, T., Mays, N., & Devlin, N. (2005). Continuity through change: The rhetoric and reality of health reform in New Zealand. *Social Science and Medicine, 61*(2), 253-262. https://doi.org/10.1016/j.socscimed.2004.07.004

Association, A. N. (2015). *Code of ethics for nurses with interpretive statements*. Retrieved from https://www.nursingworld.org/~4af078/globalassets/docs/ana/ethics/ethics-and-human-rights-protecting-and-promoting-final-formatted-20161130.pdf

Ayres, P. J., Pollock, C. T., Wilson, A., Fox, P., Tabner, T., & Hanney, I. (1996). Practical public health in a primary care setting. *Journal of Management in Medicine, 10*(4), 36-48. https://doi.org/10.1108/02689239610127798

Baggot, R. (2011). *Public health: Policy and politics* (2nd ed.). Basingstoke: Palgrave Macmillan.

Barrow, M., McKimm, J., Gasquoine, S., & Rowe, D. (2015). Collaborating in health care delivery: Exploring conceptual differences at the "bedside". *Journal of Interprofessional Care, 29*(2), 119-124. https://doi.org/10.3109/13561820.2014.955911

Bhuyan, S. S., Chandak, A., Smith, P., Carlton, E. L., Duncan, K., & Gentry, D. (2015). Integration of public health and primary care: A systematic review of the current literature in primary care physician mediated childhood obesity interventions. *Obesity Research & Clinical Practice, 9*(6), 539-552. https://doi.org/10.1016/j.orcp.2015.07.005

Boston, C. (1995). Cultural transformation. *Journal of Nursing Administration, 25*(1), 19-20.

Boychuk Duchscher, J. E., & Morgan, D. (2004). Grounded theory: Reflections on the emergence vs. forcing debate. *Journal of Advanced Nursing, 48*(6), 605-612.

Bradley, S., & McKelvey, S. D. (2005). General practitioners with a special interest in public health; At last a way to deliver public health in primary care. *Journal of Epidemiology and Community Health, 59*(11), 920-923. https://doi.org/10.1136/jech.2005.034405

Bryant, A., & Charmaz, K. (2007a). Grounded theory in historical perspective: An epistemological account. In B. A. & K. Charmaz (Eds.), *The Sage handbook of grounded theory* (pp. 31-57). London: Sage

Bryant, A., & Charmaz, K. (2007b). Grounded theory research: Methods and practices. In A. Bryant & K. Charmaz (Eds.), *The Sage handbook of grounded theory* (pp. 1-28). London: Sage.

Brydon-Miller, M. (2008). Ethics and action research: Deepening our committment to principles of social justice and redefining systems of democratic process. In P. Reason & H. Bradbury (Eds.), *The Sage handbook of action research: Participative inquiry and practice* (Second ed., pp. 199-210). London: Sage.

Calman, N., Hauser, D., Lurio, J., Wu, W. Y., & Pichardo, M. (2012). Strengthening public health and primary care collaboration through electronic health records. *American Journal of Public Health, 102*(11), 13-18 https://doi.org/10.2105/AJPH.2012.301000

Carryer, J. (2011). Collaboration between doctors and nurses. *Journal of Primary Healthcare, 3*(1), 77-79.

Carryer, J. (2016). Draft health strategy: Good intent but short on action. *Nursing Review, 16*(1), 32-32.

Carryer, J. (2017). Releasing the potential of nursing. *Royal New Zealand College of General Practitioners, 9*(3), 197-199. https://doi.org/10.1071/HC17063

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London: Sage.

Clancy, A., Gressnes, T., & Svensson, T. (2012). Public health nursing and interprofessional collaboration in Norwegian municipalities: A questionnaire study. *Scandinavian Journal of Caring Studies, 2013*(27), 659-668. https://doi.org/10.1111/j.1471-6712.2012.01079

Clancy, A., & Svensson, T. (2009). Perceptions of public health nursing practice by municipal health officials in Norway. *Public Health Nursing, 26*(5), 412-420 419p. https://doi.org/10.1111/j.1525-1446.2009.00799.x

Clarke, A., & Friese, C. (2007). Grounded theorizing using situational analysis. In A. Bryant & K. Charmaz (Eds.), *The sage handbook of grounded theory* (pp. 363-397). Los Angeles, CA: Sage Publications.

Coffey, A., & Atkinson, P. (1996). *Making sense of qualitative data. Complementary research strategies.* London: Sage Publications.

Colorafi, K. J., & Evans, B. (2016). Qualitative descriptive methods in health science research. *Health Environments Research & Design Journal, 9*(4), 16--24. https://doi.org/10.1177/193758671514171

Covan, E. K. (2007). The discovery of grounded theory in practice: The legacy of multiple mentors. In A. Bryant & K. Charmaz (Eds.), *The sage handbook of grounded theory* (pp. 75-93). Los Angeles, CA: Sage Publications.

Crampton, P., Perera, R., Crengle, S., Dowell, A., Howden-Chapman, P., Kearns, R., . . . Southwick, M. (2004). What makes a good performance indicator? Devising primary care performance indicators for New Zealand. *The New Zealand Medical Journal, 117*(1191), U820-U820.

D'Amour, D., Ferrada-Vidella, M., San Martin Rodriguez, L., & Beaulieu, M.-D. (2005). The conceptual basis for interprofofessional collaboration: Core concepts and theoretical frameworks. *Journal of Interprofessional Care, May* (Supplement 1), 116-131.

de Silva-Sanigorski, A. M., Bell, A. C., Kremer, P., Nichols, M., Crellin, M., Smith, M., . . . Swinburn, B. A. (2010). Reducing obesity in early childhood: results from romp & chomp, an Australian community-wide intervention program. *American Journal of Clinical Nutrition, 91*(4), 831-840 810p. https://doi.org/10.3945/ajcn.2009.28826

Denzin, N. K., & Lincoln, Y. S. (1994). Entering the field of qualitative research. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks, CA: Sage.

Dew, K., & Matheson, A. (2008). Health, justice and politics. In K. Dew & A. Matheson (Eds.), *Understanding health inequalities in Aotearoa New Zealand* (pp. 9-16). Dunedin, NZ: Otago University Press.

Dick, R. (2007). What can grounded theorists and action researchers learn from each other? In A. Bryant & K. Charmaz (Eds.), *The sage book of grounded theory.* (pp. 398-416). London: Sage Publications.

Downs, A. (2017). *From theory to practice: The promise of primary care in New Zealand*. Retrieved from https://www.fulbright.org.nz/wp-content/uploads/2017/09/DOWNS-From-Theory-to-Practice-The-Promise-of-Primary-Care-in-New-Zealand-.pdf

Durie, M. H. (1994). *Whaiora: Maori health development*. Auckland: Oxford University Press.

Durie, M. H. (1999). *Te pae mahutonga*. Retrieved from www.health.govt.nz/system/files/documents/pages/maori_health_model_tepaemahutonga_0.pdf

Ennen, K. A., & Wachs, J. E. (2001). Shaping the future of practice through political activity: How nurses can influence health care policy. *American Association of Occupational Health Nurses Journal, 49*(12), 557-570.

Families Commission: Komihana a Whanau/Innovative Practice Fund. (2010). *Paths of victory: Victory village (Victory Primary school and Victory Community health centre) - A case study*. Retrieved from http://www.superu.govt.nz/sites/default/files/paths-of-victory.pdf

Ferrari, A., & Rideout, B. (2005). The collaboration of public health nursing and primary care nursing in the development of a nurse managed health center. *Nursing Clinics of North America, 40*(4), 771-778, xii. https://doi.org/10.1016/j.cnur.2005.08.006

Finlayson, M. P., Sheridan, N. F., Cumming, J. M., & Fowler, S. (2012). The impact of funding changes on the implementation of primary health care policy. *Primary Health Care Research & Development, 13*(2), 120-129. https://doi.org/10.1017/S1463423611000363

Gardner, G., Chang, A., & Duffield, C. (2007). Making nursing work: breaking through the role confusion of advanced practice nursing. *Journal of Advanced Nursing, 57*(4), 382-391 310p. https://doi.org/10.1111/j.1365-2648.2007.04114.x

Gauld, R. (2013). Questions about New Zealand's health system in 2013, its 75th anniversary year. *New Zealand Medical Journal, 126*(1380), 68-74.

Gaya Wicks, P., Reason, P., & Bradbury, H. (2008). Living Inquiry: Personal, political and philosophical groundings for action research practice. In P. Reason & H. Bradbury (Eds.), *The Sage Handbook of Action Research* (pp. 15-30). London: Sage.

Gibson, B. (2007). Accomodating critical theory. In A. Bryant & K. Charmaz (Eds.), *The Sage Handbook of Grounded Theory* (pp. 436-453). London: Sage.

Gibson, B., & Hartman, J. (2014a). Introduction. In B. Gibson & J. Hartman (Eds.), *Rediscovering grounded theory* (pp. 1-23). London: Sage Publications.

Gibson, B., & Hartman, J. (2014b). *Rediscovering grounded theory*. London: Sage Publications.

Giske, T., & Artinian, B. A. (2009). Learning glaserian theory by doing it. In B. A. Artinian, T. Giske, & P. H. Cone (Eds.), *Glaserian grounded theory in nursing research* (pp. 49-72). New York, NY: Springer Publishing Company.

Glaser, B. G. (1978). *Theoretical sensitivity*. Mill Valley, C.A.: Sociology Press.

Glaser, B. G. (1992). *Basics of grounded theory analysis: Emergence vs. forcing*. Mill Valley, CA: Sociology Press.

Glaser, B. G. (1998). *Doing grounded theory: Issues and discussions*. Mill Valley, CA: Sociology Press.

Glaser, B. G. (2002). Grounded Theory and gender relevance. *Healthcare for Women International, 23*(8), 786-793.

Glaser, B. G. (2012). Constructivist grounded theory? *Grounded Theory Review, 11*(1).

Glaser, B. G., & Holton, J. (2004). Remodeling grounded theory. *Forum: Qualitative Social Research, 5*(Art.4 May).

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for research.* NY: Aldine: Hawthorne.

Gosling, R., Davies, S. M., & Hussey, J. A. (2016). How integrating primary care and public health can improve population health outcomes: A view from Liverpool, UK. *Public Health Research and Practie, 26*(1:e2611602), 1-5. https://doi.org/http://dx.doi.org/10.17061/phrp2611602

Grant, B. M., & Giddings, L. S. (2002). Making sense of methodologies: A paradigm framework for the novice researcher. *Contemporary Nurse, 13*(1), 10-28.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). Thousand Oaks: Sage Publications.

Hansell, V. (2018). Identifying the prevalence of influential factors on middle managers' abilities to lead organisational change within the context of comunity nursing and therapy services. *International Journal of Health Care Management, 11*(3), 225-232. https://doi.org/10.1080/20479700.2017.1315037

Hansen, C., Carryer, J., & Budge, C. (2007). Public health nurses views on their position within a changing health system. *Nursing Praxis in New Zealand, 23*(2), 14-26.

Hargreaves, M. B., Honeycutt, T., Orfield, C., Vine, M., Cabili, C., Morzuch, M., . . . Briefel, R. (2013). The healthy weight collaborative: Using learning collaboratives to enhance community-based prevention initiatives addressing childhood obesity. *Journal of Health Care for the Poor and Underserved, 24*(2, Supp), 103-115 113p.

Hillier-Brown, F. C., Bambra, C. L., Cairns, J., Kasim, A., Moore, H. J., & Summerbell, C. D. (2014). A systematic review of the effectiveness of individual, community and societal-level interventions at reducing socio-economic inequalities in obesity among adults. *International Journal of Obesity, 38*(12), 1483-1490. https://doi.org/10.1038/ijo.2014.75

Holton, J. A. (2007). The coding process and its challenges. In A. Bryant & K. Charmaz (Eds.), *The Sage handbook of grounded theory* (pp. 265-289). Los Angeles: Sage.

Holton, J. A. (2012). The autonomous creativity of Barney Glaser: Early influences in the emergence of classic grounded theory methodology. In V. B. Martin & A. Gynnild (Eds.), *Grounded theory: The philosophy, method and work of Barney Glaser* (pp. 201-223). Boca Raton, Florida: Brown Walker Press.

Holton, J. A., & Walsh, I. (2017). Foundational pillars of classic grounded theory. In J. Holton & I. Walsh (Eds.), *Classic Grounded Theory: Applications with qualitative and quantitative data*. Thousand Oaks, CA: Sage Publications

Huby, G., Harris, F. M., Powell, A. E., Kielman, T., Sheikh, A., Williams, S., & Pinnock, H. (2014). Beyond professional boundaries: Relationships and resources in health services' modernisation in England and Wales. *Sociology of Health and Illness*(36), 400-415.

Hughes, F. (2006). Nurses at the forefront of innovation. *International Nursing Review, 53*(2), 94-101 108p.

Hughes, K. (2015). Challenging government health rhetoric. *Kai Tiaki Nursing New Zealand, 21*(5), 2-2 1p.

Jatrana, S., Crampton, P., & Richardson, K. (2011). Continuity of care with general practitioners in New Zealand: results from SoFIE-Primary Care. *New Zealand Medical Journal, 124*(1329), 16-25.

Jatrana, S., Richardson, K., Norris, P., & Crampton, P. (2015). Is cost-related non-collection of prescriptions associated with a reduction in health? Findings from a large-scale longitudinal study of New Zealand adults. *British Medical Journal Open, 2015* (5), 1-10. https://doi.org/10.1136/bmjopen-2015007781

10.1136/bmjopen-2015-007781

Kelle, U. (2007). The development of categories: Different approaches in grounded theory. In A. Bryant & K. Charmaz (Eds.), *The sage handbook of grounded theory* (pp. 191-213). London: Sage Publications.

Kelly, S., & Swinburn, B. (2015). Childhood obesity in New Zealand. *New Zealand Medical Journal, 128*(1417), 6-7.

Kim, H., Sefcik, J. S., & Bradway, C. (2017). Characteristics of qualitative descriptive studies: A systematic review. *Research Nursing Health, 40*(1), 23-42. https://doi.org/10.1002/nur.21768

King, N., Bravington, A., Brooks, J., Melving, J., & Wilde, D. (2017). "Go make your face known": Collaborative working through the lens of personal relationships. *International Journal of Integrated Care, 17*(4), 1-11.

Klompas, M., McVetta, J., Lazarus, R., Eggleston, E., Haney, G., Kruskal, B. A., . . . Platt, R. (2012). Integrating clinical practice and public health surveillance using electronic medical record systems. *American Journal of Preventive Medicine, 42*, S154-162 151p. https://doi.org/10.1016/j.amepre.2012.04.005

Kuo, A. A., Etzel, R. A., Chilton, L. A., Watson, C., & Gorski, P. A. (2012). Primary care pediatrics and public health: Meeting the needs of today's children. *American Journal of Public Health, 102*(12), e17-e23. https://doi.org/10.2105/AJPH.2012.301013

Kvarnstrom, S. (2008). Difficulties in collaboration: A critical incident study of interprofessional healthcare teamwork. *J Interprof Care, 22*(2), 191-203. https://doi.org/10.1080/13561820701760600

Laszlo, E. (1996). *The systems view of the world: A holistic vision for our time*. New York: Hampton Press.

Lawlor, D. A., Keen, S., & Neal, R. D. (2000). Can general practitioners influence the nation's health through a population approach to the provision of lifestyle advice? *British Journal of General Practice, 50*, 455-459.

Laws, R. A., Kirby, S. E., Powell Davies, G. P., Williams, A. M., Jayasinghe, U. W., Amoroso, C. L., & Harris, M. F. (2008). "Should I and can I?" A mixed methods study of clinician beliefs and attitudes in the management of lifestyle risk factors in primary health care. *BMC Health Services Research, 8*, 44. https://doi.org/10.1186/1472-6963-8-44

Leeman, J., & Sandelowski, M. (2012). Practice-based evidence and qualitative inquiry. *Journal of Nursing Scholarship, 44*(2), 171-179. https://doi.org/10.1111/j.1547-5069.2012.01449.x

Levesque, J.-F., Breton, M., Senn, N., Levesque, P., Bergeron, P., & Roy, D. A. (2013). The interaction of public health and primary care: Functional roles and organizational models that bridge individual and population perspectives. *Public Health Reviews, 35*(1).

Liberati, E. G. (2016). Separating, replacing, intersecting: The influence of context on the construction of the medical-nursing boundary. *Social Science and Medicine, 172*(2017), 135-143.

Lim, A. G., North, N., & Shaw, J. (2017). Navigating professional and prescribing boundaries: Implementing nurse prescribing in New Zealand. *Nurse Education in Practice, 27*(2017), 1-6.

Loh, L., & Dovey, S. (2015). Who attends Dunedin's free clinic? A study of patients facing cost barriers to primary health care access. *Journal of Primary Health Care, 7*(1), 16-23.

Lomborg, K., & Kirkevold, M. (2003). Truth and validity in grounded theory - A reconsidered realist interpretation of the criteria: Fit, work, relevance and modifiability. *Nursing Philosophy: An International Journal For Healthcare Professionals, 4*(3), 189-200.

Lovell, S., & Neuwelt, P. (2011). The health promotion shift into Primary Health Organisations: Implications for the health promotion workforce. *Journal of Primary Health Care, 3*(1), 41-47 47p.

Lovell, S. A., Kearns, R. A., & Rosenberg, M. W. (2011). Community capacity building in practice: Constructing its meaning and relevance to health promoters. *Health*

Soc Care Community, 19(5), 531-540. https://doi.org/10.1111/j.1365-2524.2011.01000.x

Lovelock, K., Martin, G., Cumming, J., & Gauld, R. (2014). The evaluation of the better, sooner, more convenient business cases in Midcentral and West Coast District Health Boards.

Markey, K., Tilki, M., & Taylor, G. (2014). Reflecting on the challenges of choosing and using a grounded theory approach. *Nurse Researcher, 22*(2), 16-22.

Martin-Misener, R., Valaitis, R., Wong, S. T., Macdonald, M., Meagher-Stewart, D., Kaczorowski, J., . . . Austin, P. (2012). A scoping literature review of collaboration between primary care and public health. *Primary Health Care Research and Development, 13*(4), 327-346. https://doi.org/10.1017/S1463423611000491

Matheson, D., Reidy, J., Tan, L., & Carr, J. (2015). Good progress for children coupled with recalcitrant inequalities for adults in New Zealand's journey towards universal health coverage over the last decade. *New Zealand Medical Journal, 128*(1415), 14-24

McKinlay, E., Mackie, S., Arcus, K., & Nelson, K. (2012). Work and wellness hand-in-hand: The role of he PATHS program nurse in improving health and employment outcomes *Rehabilitation Nursing, 37*(4), 185-194.

Mills, J., Chapman, Y., Bonner, A., & Francis, K. (2007). Grounded theory: A methodological spiral from positivism to postmodernism. *Journal of Advanced Nursing, 58*(1), 72-79. https://doi.org/10.1111/j.1365-2648.2007.04228.x

Ministry of Health. (2000). *New Zealand Health Strategy*. Retrieved from http://www.health.govt.nz/system/files/documents/publications/newzealandhealthstrategy.pdf

Ministry of Health. (2001). *The primary health care strategy*. Retrieved from http://www.health.govt.nz/system/files/documents/publications/phcstrat.pdf

Ministry of Health. (2006). *Good oral health for all, for life: The strategic vision for oral health in New Zealand*. Retrieved from http://www.health.govt.nz/system/files/documents/publications/good-oral-health-strategic-vision-2006.pdf

Ministry of Health. (2011). *Better, sooner, more convenient health care in the community*. Retrieved from http://www.health.govt.nz/system/files/documents/publications/better-sooner-more-convenient-health-care_0.pdf

Ministry of Health. (2014a). *Ala Mo'ui: Pathways to Pacific health and wellbeing 2010-2014*. Retrieved from http://www.health.govt.nz/system/files/documents/publications/ala-moui-pathways-pacific-health-and-wellbeing-2010-2014

Ministry of Health. (2014b). *Equity of health care for Maori: A framework*. Retrieved from http://www.health.govt.nz/system/files/documents/publications/equity-of-health-care-for-maori-jun14.pdf

Ministry of Health. (2014c). *He Korowai Oranga: Maori health strategy*. Retrieved from http://www.health.govt.nz/system/files/documents/publications/mhs-english.pdf

Ministry of Health. (2014d). *Taeao o Tautai: Pacific public health workforce development implementation plan 2012-2017*. Retrieved 11.10, 2015, from http://www.leva.co.nz/library/leva/taeo-o-tautai-pacific-public-health-workforce-development-implementation-plan-2012-2017

Ministry of Health. (2016). *New Zealand Health strategy: Future direction* (Report No. 978-0-947491-87-1 (online)). Wellington, New Zealand. Retrieved from http://www.health.govt.nz/system/files/documents/publications/new-zealand-health-strategy-future-direction-apr16_1.pdf

Ministry of Health. (2019a). *Annual data explorer 2017/18 New Zealand health survey [Data file]*. Retrieved 1/6/2019, from https://minhealthnz.shinyapps.io/nz-health-survey-2017-18-annual-data-explorer

Ministry of Health. (2019b). *Annual update of key results: New Zealand health survey 2018/2019*. Retrieved from https://www.health.govt.nz/publication/annual-update-key-results-2018-19-new-zealand-health-survey

Ministry of Health. (2019c). *New Zealand health survey*. Retrieved 16.2.2020, from https://www.health.govt.nz/nz-health-statistics/national-collections-and-surveys/surveys/new-zealand-health-survey

Monsen, K. A., Attleson, I. S., Erickson, K. J., Neely, C., Oftedahl, G., & Thorson, D. R. (2014). Translation of obesity practice guidelines: Interprofessional perspectives regarding the impact of public health nurse system-level intervention. *Public Health Nursing, 32*(1), 34-42 39p. https://doi.org/10.1111/phn.12139

Mowat, D., & Butler-Jones, D. (2007). Public health in Canada: A difficult history. *Healthcare Papers, 7*(3), 31-36.

Nathaniel, A. K. (2012). An integrated philosophical framework that fits grounded theory. In V. B. Martin & A. Gynnild (Eds.), *Grounded theory: The philosophy, method and work of Barney Glaser* (pp. 187-200). Boca Raton, FL: Brown Walker Press.

Neergaard, M. A., Oleson, F., Anderson, R. S., & Sondegaard, J. (2009). Qualitative description - The poor cousing of health research. *BMC Medical Research Methodology, 9:52*, 1-5. https://doi.org/10.1186/1471-2288-9-52

Nelson, K. M. C., S, Aspros, B., McKinlay, E., & Arcus, K. (2011). Adding value to stretched communities through nursing actions: The Wellington South nursing

initiative. *Contemporary Nurse, 40*(1), 87-102.
https://doi.org/10.5172/conu.2011.40.1.87

Neuwelt, P., Matheson, D., Arroll, B., Dowell, A., Winnard, D., Crampton, P., . . .
Cumming, J. (2009). Putting population health into practice through primary
health care. *New Zealand Medical Journal, 122*(1290), 98-104.

Norton, L. (1999). The philosophical bases of grounded theory and their implications for
research practice. *Nurse Researcher, 7*(1), 31-43s.

Nursing Council of New Zealand. (2017, 18.11.2018). *Guideline for registered nurse
prescribing in community health (trial and evaluation 2017): May 2017*.
Retrieved November 18, 2018, from
http://www.nursingcouncil.org.nz/Nurses/Nurse-Prescribing/Registered-nurse-
prescribing-in-community-health

Nussbaumer, A., & Merkley, W. (2010). The path of transformational change. *Library
Management, 31*(8), 678-689. https://doi.org/10.1108/01435121011093441

Nystrom, M. (2009). Characteristics of health care organizations associated with
learning and development: Lessons from a pilot study. *Quality Management in
Health Care, 18*(4), 285-294. https://doi.org/10.1097/QMH.0b013e3181bee19e

O'Neil Green, D., Cresswell, J. W., Shope, R. J., & Plano Clark, V. L. (2007). Grounded
theory and racial diversity. In A. Bryant & K. Charmaz (Eds.), *The sage handbook
of grounded theory* (pp. 472-492). Los Angeles, CA: Sage Publications.

Peckham, S., Hann, A., & Boyce, T. (2011). Health promotion and ill-health prevention:
The role of general practice. *Quality in Primary Care, 19*(5), 317-323 317p.

Piper, C. N., Plescia, M., Keener, S. R., & DeHaven, M. (2018). The Mecklenburg County
interlocal agreement between medicine and public health. *Journal of Public
Health Management and Practice, 24*(1), e1-e7.
https://doi.org/10.1097/PHH.0000000000000531

Poulsen, A. A., Bush, R., Tirendi, J., Ziviani, J., Abbott, R., Macdonald, D., . . . Leong, G.
M. (2009). Research around practice partnerships: An example of building
partnerships to address overweight and obesity in children. *Australian Journal of
Primary Health, 15*(4), 285-293 289p. https://doi.org/10.1071/PY09005

Powell, A. E., & Davies, H. T. O. (2012). The struggle to improve patient care in the face
of professional boundaries. *Social Science and Medicine, 75*(2012), 807-814.
https://doi.org/10.1016/j.socscimed.2012.03.049

Powell, S., Towers, A., & Milne, P. (2008). The public health view on closing the gap
between public health and primary care. *Family Practice, 25 Suppl 1*, i17-i19.
https://doi.org/10.1093/fampra/cmn092

Pratt, R., Gyllstrom, B., Gearin, K., Hahn, D., VanRaemdonck, L., Peterson, K., & Baldwin,
L.-M. (2017). Primary care and public health perspectives on integration at the

local level: A multi-state study. *Journal of the American Board of Family Medicine, 30*(5), 601-607. https://doi.org/10.3122/jabfm.2017.05.170034

Pratt, R., Gyllstrom, B., Gearin, K., Lange, C., Hahn, D., Baldwin, L.-M., . . . Zahner, S. (2018). Identifying barriers to collaboration between primary care and public health: Experiences at the local level. *Public Health Reports, 133*(3), 311-317. https://doi.org/10.1177/0033354918764391

Pritchard, M. (2019). Analysis of interviews to uncover the effects of nurse-prescribing on the doctor-nurse relationship. *Australian Journal of Advanced Nursing, 36*(2), 35-43.

Procter, S., Brooks, F., Wilson, P., Crouchman, C., & Kendall, S. (2015). A case study of asthma care in school age children using nurse-coordinated multidisciplinary collaborative practices. *Journal Of Multidisciplinary Healthcare, 8*, 181-188. https://doi.org/10.2147/JMDH.S71030

Pullon, S. (2008). Competence, respect and trust: Key features of successful interprofessional nurse-doctor relationships. *Journal of Interprofessional Care, 22*(2), 133-147. https://doi.org/10.1080/13561820701795069

Rawaf, S., Allen, L., Dubois, E., Majeed, A., Cichowska Myrup, A., Raheem, M., . . . A., R. (2018). *Primary health care: Closing the gap between public health and primary care through integration*. presented at the meeting of the Global conference on primary health care, Azana, Kazakhstan. Retrieved from https://www.who.int/docs/default-source/primary-health-care-conference/public-health.pdf?sfvrsn=2ca0881d_2

Reason, P., & Bradbury, H. (2008). Introduction In P. Reason & H. Bradbury (Eds.), *The sage handbook of action research: Participative inquiry and practice* (pp. xii - 720). London: Sage.

Redman-MacLaren, M., & Mills, J. (2015). Transformational grounded theory: Theory, voice and action. *International Journal of Qualitative Methods*. Retrieved from https://www.researchgate.net/profile/Michelle_Redman-MacLaren/publication/279535016_Transformational_Grounded_Theory_Theory_Voice_and_Action/links/5596393308ae793d137b4813.pdf/download?version=vtp

Redman-MacLaren, M., Mills, J., Tommbe, R., MacLaren, D., Speare, R., & McBride, W. J. H. (2017). Implications of male circumcision for women in Papua New Guinea: A transformational grounded theory study. *BMC Women's Health, 17*(53), 1-10. https://doi.org/10.1186/s12905-017-0406-y

Richardson, R., & Kramer, E. H. (2006). Abduction as the type of inference that characterizes the development of a grounded theory. *Qualitative Research, 6*(4), 497-513.

Sadeghnezhad, M., Nabavi, F. H., Najafi, F., Kareshki, H., & Esmaily, H. (2018). Mutual benefits in academic-service partnership: An integrative review. *Nurse Education Today, 68*, 78-85. https://doi.org/10.1016/j.nedt.2018.05.019

Sandelowski, M. (2000). Focus on research methods: Whatever happened to qualitative description? *Reserach in Nursing & Health, 23*, 334-340.

Sandelowski, M. (2010). What's in a name? Qualitative description revisited. *Research in Nursing and Health, 33*, 77-84. https://doi.org/10.1002/nur.20362

Sandelowski, M., & Barroso, J. (2003). Classifying the findings in qualitative studies. *Qualitative Health Research, 13*. Sandelowski2003. https://doi.org/10.1177/1049732303253488

Savage, C. L., Xu, Y., Lee, R., Rose, B. L., Kappesser, M., & Anthony, J. S. (2006). A case study in the use of community-based participatory research in public health nursing. *Public Health Nursing, 23*(5), 472-478 477p.

Serpas, S., Brandstein, K., McKennett, M., Hillidge, S., Zive, M., & Nader, P. R. (2013). San Diego healthy weight collaborative: A systems approach to address childhood obesity. *Journal of Health Care for the Poor and Underserved, 24*(2, Supp), 80-96 17p.

Shaw, E. K., Howard, J., West, D. R., Crabtree, B. F., Nease, D. E. J., Tutt, B., & Nutting, P. A. (2012). The role of the champion in primary care change efforts: From the state networks of Colorado ambulatory practices and partners (SNOCAP). *Journal of the American Board of Family Medicine, 25*(5), 676-685.

Shaw, S., White, W. L., & Deed, B. (2013). *Health, wellbeing and environment in Aotearoa New Zealand*. Melbourne: Oxford University Press.

Sherwood, N. E., Levy, R. L., Langer, S. L., Senso, M. M., Crain, A. L., Hayes, M. G., . . . Jeffery, R. W. (2013). Healthy homes/healthy kids: A randomized trial of a pediatric primary care-based obesity prevention intervention for at-risk 5-10 year olds. *Contemporary Clinical Trials, 36*(1), 228-243. https://doi.org/10.1016/j.cct.2013.06.017

Shoultz, J., & Hatcher, P. A. (1997). Looking beyond primary care to primary health care: An approach to community-based action. *Nursing Outlook, 45*(1), 23-26 24p.

Silva, M., Cashman, S., Kunte, P., & Candib, L. M. (2012). Improving population health through integration of primary care and public health: Providing access to physical activity for community health center patients. *American Journal of Public Health, 102*(11), e56-e61. https://doi.org/10.2105/AJPH.2012.300958

Simmons, O. E. (2006). Some professional and personal notes on research methods, systems theory, and grounded action. *World Futures*(62), 481-490. https://doi.org/10.1080/02604020600912772

Simmons, O. E. (2011). Why classic grounded theory. In V. Marton & A. Gynnid (Eds.), *Grounded theory: The philosophy, method and work of Barney Glaser* (pp. 15-30). Boca Raton, FL: Brown Walker Press.

Simmons, O. E., & Gregory, T. A. (2003). Grounded action: Achieving optimal and sustainable change. *Forum: Qualitative Social Research, 4*(3), 87-99.

Star, S. L. (2007). Living grounded theory: Cognitive and emotional forms of pragmatism. In A. Bryant & K. Charmaz (Eds.), *The sage handbook of grounded theory* (pp. 75-93). Los Angeles: Sage.

Stillman, S. (2006). Grounded theory and grounded action: Rooted in systems theory. *World Futures, 62*(7), 498-508. https://doi.org/DOI: 10.1080/02604020600912830

Storm, I., van Gestel, A., van de Goor, L., & van Oers, H. (2015). How can collaboration be strengthened between public health and primary care? A Dutch multiple case study in seven neighbourhoods. *BMC Public Health, 15*(1), 1-15 15p. https://doi.org/10.1186/s12889-015-2307-z

Strandmark, M. (2015). Method development at Nordic School of Public Health NHV: Phenomenology and grounded theory. *Scandinavian Journal Of Public Health, 43*(16 Suppl), 61-65. https://doi.org/10.1177/1403494814568598

Strauss, A. L., & Corbin, J. M. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park: Sage Publications.

Strubing, J. (2007). Research as pragmatic problem-solving: The pragmatic roots of empirically-grounded theorizing. In A. Bryant & K. Charmaz (Eds.), *The Sage book of grounded action* (pp. 580-601). London: Sage Publications.

Sykes, J. B. (1977). *Concise Oxford Dictionary* (sixth ed.). Oxford: University Press Oxford.

Tenbensel, T., Cumming, J., Ashton, T., & Barnett, P. (2008). Where there's a will, is there a way?: Is New Zealand's publicly funded health sector able to steer towards population health? *Social Science and Medicine, 67*(7), 1143-1152. https://doi.org/10.1016/j.socscimed.2008.06.008

Teram, E., Schachter, C. L., & Stalker, C. A. (2005). The case for integrating grounded theory and participatory action research: Empowering clients to inform professional practice. *Qualitative Health Research, 15*(8), 1129-1140.

Theodore, R., McLean, R., & Te Morenga, L. (2015). Challenges to addressing obesity for Maori in Aotearoa/New Zealand. *Australian and New Zealand Journal of Public Health, 39*(6), 509-512. https://doi.org/10.1111/1753-6405.12418

Tibby, S. (2011). GAIHN- Greater Auckland Integrated Health Network Symposium conducted at the meeting of the Australasia Long Term Health Conditions Conference Retrieved from

http://assets.healthnavigator.org.nz/2011/04/GAIHN-Greater-Auckland-Integrated-Health-Network-.pdf)

Toscano, P. M. (2006). The study of global solutions: A postmodern systems thinking view of grounded theory/grounded action. *World Futures, 62*(7), 505-515. https://doi.org/10.1080/02604020600912848

Tracey, J., & Bramley, D. (2003). The acceptability of chronic disease management programmes to patients, general practitioners and practice nurses. *New Zealand Medical Journal, 116*(1169), 1-8.

Urquhart, C. (2013). *Grounded theory for qualitative research: A practical guide.* London: Sage Publications.

Valaitis, R. K., Meagher-Stewart, D., Martin-Misener, R., Wong, S. T., MacDonald, M., O'Mara, L., & The strengthening primary health care through primary care and public health collaboration team. (2018). Organizational factors influencing successful primary care and public health collaboration. *BMC Health Services Research, 18*(420), 1-17. https://doi.org/10.1186/s12913-01803194-7

Valaitis, R. K., O'Mara, L., Wong, S. T., MacDonald, M., Murray, N., Martin-Misener, R., & Meagher-Stewart, D. (2018). Strengthening primary health care through primary care and public health collaboration: The influence of intrapersonal and interpersonal factors. *Primary Health Care Research & Development, 19*(4), 378-391. https://doi.org/10.1017/S1463423617000895

Vandevijvere, S., & Swinburn, B. (2015). Getting serious about protecting children against unhealthy food marketing. *New Zealand Medical Association, 128*(1417), 36-40.

Walker, L., Clendon, J., & Nelson, K. (2015). Nursing roles and responsibilities in general practice: Three case studies. *Journal of Primary Health Care, 7*(3), 236-243. https://doi.org/10.1071/hc15236

Weckowicz, T. E. (1989). *Ludwig von Bertalanffy (1901-1972): A pioneer of general systems theory*. Retrieved from http://richardjung.cz/bert1.pdf

Westbrook, L. O., & Schultz, P. R. (2000). From theory to practice: Community health nursing in a public health neighborhood team. *ANS. Advances In Nursing Science, 23*(2), 50-61.

Whitehead, M., & Dahlgren, G. (1991). What can be done about inequalities in health? *Lancet (London, England), 338*(8774), 1059-1063.

Wilson, D. B., Johnson, R. E., Jones, R. M., Krist, A. H., Woolf, S. H., & Flores, S. K. (2010). Patient weight counseling choices and outcomes following a primary care and community collaborative intervention. *Patient Education and Counseling, 79*(3), 338-343 336p. https://doi.org/10.1016/j.pec.2010.01.025

Wood, P. J. (2008). Professional, practice and political issues in the history of New Zealand's remote rural 'backblocks' nursing: The case of Mokau, 1910-1940. *Contemporary Nurse: A Journal for the Australian Nursing Profession, 30*(2), 168-180. https://doi.org/10.5172/conu.673.30.2.168

World Health Organization. (1978, 6-12 September 1978). Declaration of Alma-Ata*World Health Organisation.* Symposium conducted at the meeting of the International conference of primary care, USSR. Retrieved from https://www.who.int/publications/almaata_declaration_en.pdf

World Health Organization. (2002). *The World health report 2002: Reducing risks, promoting healthy life*. Retrieved from http://www.who.int/entity/whr/2002/en/whr02_en.pdf?ua=1

World Health Organization. (2008). *The World health report 2008 - primary health care (now more than ever)*. Retrieved from http://www.who.int?entity/whr/2008/08_index_en.pdf?ua=1

World Health Organization. (2014). *Universal health coverage.* Retrieved from http://www.who.int/universal_health_coverage/universal-health-coverage-access-pr-20141212.pdf?ua=1

Wynn, A., & Moore, K. M. (2012). Integration of primary health care and public health during a public health emergency. *American Journal of Public Health*(102), e9-e12. https://doi.org/10.2105/ajph.2012.300957

Yarwood-Ross, L., & Jack, K. (2015). Using extant literature in a grounded theory study: A personal account. *Nurse Researcher, 22*(4), 18-24.

Glossary of Terms

Accessing is an operational category relating to how practitioners approach or access other practitioners to liaise or collaborate on health issues or client care.

Assuming responsibility is where practitioners raise client healthcare needs with practitioners who would normally be responsible for initial treatments or referrals onto other services.

Balancing responsibility alludes to practitioners taking other actions to organize those treatments or referrals to other services, without raising the issues with the primary care provider who would usually be responsible for initial treatments or referrals onto other services.

Channelling information is where practitioners organize sending, receiving ands storage of information coming into the service. It includes all e-information on treatment pathways, service provision, and referral to the service.

Clearing the way refers to the ways practitioners overcome presenting barriers to gaining access to other practitioners and work together to provide care for clients.

Client describes a person who is seeking investigation, care, preventative advice or screening on health-related issues, whether the client is well or ill. Client denotes a relationship to a healthcare professional, for example Mrs. Someone is Dr. Anybody's client.

Collaboration is the process whereby professionals from different organisations or the same organisation form an alliance or work agreement on health related issues or healthcare provision.

Collaborating on care is an operational category relating to how practitioners will work in partnership to address patient-care health needs.

Controlling workflow alludes to ways practitioners adjust their working practices to accommodate limitations of time and geography, in order to meet the desired work outcomes.

District Health Boards (DHBs) are government funded organisations providing secondary and tertiary healthcare to large populations, mainly through hospital and clinic services. DHBs also provide some outreach community services such as community paediatric clinics, community mental health nurses, district nurses and public health nurses through clinics, schools and home visiting. They also fund some non-government organisations contributing to health or social care.

General Practitioners (GPs) are primary care doctors who are generally the first point of contact for people seeking health advice or healthcare.

Informing is an operational category governing how practitioners will systematise and review information processes to ensure clarity and ease of use for partner organisations.

Integration refers to professionals of different disciplines who are working together in a shared physical space, or who are colleagues situated within the same wider organisation.

Managing bombardment is the way practitioners control how they access other practitioners, within limits imposed by time and geographical tensions.

Navigating responsibility is concerned with how practitioners prioritise and manage communication with other practitioners to enhance clients' health outcomes.

Non-government agencies (NGOs) are generally non-profit-organisations contributing to health, or social welfare for clients. They may receive partial government funding via DHBs contracts, but are generally dependent on contributing client fees and/or donations. In other countries, such organisations may be known variously as charities or voluntary organisations.

Patient is an unwell person seeking diagnosis and/or treatment for their presenting condition.

Practice nurse is a registered nurse working in primary care practice and is usually employed by the GPs and practice manager to operate nursing clinics, triage patients,

arrange screening and clinical tests, and liaise with health professionals from other organisations.

Primary care is the point of entry to health services, usually consisting of a range of health professionals including GPs, practice nurses, receptionists and practice manager. Potentially there may be other health professionals within the practice, such as nurse practitioners, occupational or physiotherapists, counsellors or pharmacists. In New Zealand, primary care operates from a partial business model with funding from government and directly from patients.

Primary health care describes broad health aims relating to improving health outcomes for populations and for individuals, using universally available health systems. This embraces primary care practices and other organisations such as private health services in the community (for example, physiotherapists), NGOs, alongside all community and public health provision provided through DHBs.

Primary Health Organisations (PHOs) ensure the provision of primary health care services, through general practices and other contracted health providers, to people who are enrolled with the PHO. They are funded by district health boards (DHBs).

Promoting is an operational category seeking to ensure practitioners become cognisant with the roles and responsibilities of other practitioners, by putting initiatives in place to disseminate information in mutually acceptable ways.

Public health is concerned with the health and well-being of populations focusing on the organized prevention of disease and promotion of health, including health protection, prevention and education, encompassing principles of equity of access to healthcare provision (WHO, 2002).

Public health nurses (PHNs) are registered nurses engaged in ensuring public health provision in communities, school settings, homes and clinics. Activities include providing immunisations in school based programmes, managing communicable disease, providing prophylactic treatment, screening, and early intervention of disease to prevent avoidable hospitalization such as managing skin conditions or facilitating client access to primary care. PHNs are also involved in organized programmes

responding to local or national public health crises, such as screening for H1N1 during the 2009 endemic.

Public health practitioners refers to all health professionals working within public health teams, including, but not limited to, public health nurses and public health medical officers.

Selective knowing is concerned with information practitioners choose to know and includes both how practitioners acquire knowledge on roles and responsibilities, and what information they choose to share around correct processes, roles and responsibilities.

Shifting responsibility is where practitioners choose to divert a challenging communication task to a more experienced nurse, or to a manager or a doctor. Practitioners devolving such communication may have met with negativity on previous attempts at discussing health concerns with primary care providers, or their liaison may have been unsuccessful.

Te pae mahutonga is a Maori public health/ health promotion model, based on the Southern Cross constellation used to guide early sea navigation, and a fundamental force running through Maori culture and folk history. It represents four stars of Waiora, Mauriora, Te orange and toiora, with two pointers of Te mana whakahaere and Nga manukara, listed below:

- Te mana whakahaere, or autonomy (pointer)
- Nga manukara – leadership (pointer)
- Waiora – representing care in/of physical environment
- Mauriora – cultural identity
- Te oranga – participation in society
- Toiora – healthy lifestyles (Durie, 1999), (Appendix K, p.254).

Te whare tapa wha – is an earlier Maori model of health, used widely within the health service in New Zealand (Durie, 1994):

- Taha Wairau – spiritual well-being

- Taha Hinenharo – mental and emotional well-being
- Taha tinana – physical well-being
- Taha whanau – family and social well-being (Appendix K, p.254).

Thwarted access alludes to difficulties practitioners have in gaining entry to another practitioner within their service, and to communication barriers imposing on collaboration to discuss aspects of client care.

Treaty of Waitangi alludes to an agreement on governance between the incoming English and the Maori people. Maori were not a collective homogenous tribal group prior to the British imposing their governance, but were a number of different tribal groups, iwi, divided into hapu (groups of families in established area boundaries) and whanau (extended families), with each iwi having their own established governance system. The initial treaty comprised of two differing document versions; the British signed the English version, and the Maori signed the Maori version; first signed in 1840. In more recent times, the intention understood by Maori has been raised politically and attempts have been made to repurpose the treaty to embrace the agreement signed by Maori. There are three central principles to the Treaty:

- Partnership, which reflected a sharing of power where the British would form a government to maintain peace and order, giving them the right to govern, with an obligation to protect Maori interests (kawanataga).
- This included unifying the interests of all iwi, respecting the right of iwi to govern their own affairs, keep their lands and sell their lands to the British when no longer required (tribal rangatiratanga).
- Protection – Maori consented to government of the queen, and the queen protects Maori people of New Zealand from encroachment, giving same rights and protection to them as to the people of England (oritetanga).
- Participation – guaranteeing equity of access and participation in decisions.

Appendix A: Ethics Acceptance

AUTEC Secretariat

Auckland University of Technology
D-88, WU406 Level 4 WU Building City Campus
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

19 October 2016

David Healee
Faculty of Health and Environmental Sciences

Dear David

Re Ethics Application: 16/335 Enhancing collaboration to improve population and individual health outcomes: How do Primary Care and Public Health Practitioners, working with children collaborate at practice level?

Thank you for providing evidence as requested, which satisfies the points raised by the Auckland University of Technology Ethics Committee (AUTEC).

Your ethics application has been approved for three years until 18 October 2019.

As part of the ethics approval process, you are required to submit the following to AUTEC:

- A brief annual progress report using form EA2, which is available online through http://www.aut.ac.nz/researchethics. When necessary this form may also be used to request an extension of the approval at least one month prior to its expiry on 18 October 2019;

- A brief report on the status of the project using form EA3, which is available online through http://www.aut.ac.nz/researchethics. This report is to be submitted either when the approval expires on 18 October 2019 or on completion of the project.

It is a condition of approval that AUTEC is notified of any adverse events or if the research does not commence. AUTEC approval needs to be sought for any alteration to the research, including any alteration of or addition to any documents that are provided to participants. You are responsible for ensuring that research undertaken under this approval occurs within the parameters outlined in the approved application.

AUTEC grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to obtain this.

To enable us to provide you with efficient service, please use the application number and study title in all correspondence with us. If you have any enquiries about this application, or anything else, please do contact us at ethics@aut.ac.nz.

All the very best with your research,

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

Cc: Hilary McCluskey, hilary.mccluskey@waitematadhb.govt.nz; Ellen Nicholson

Appendix B: Patient Information Sheet

Participant Information Sheet

AUT
TE WĀNANGA ARONUI
O TĀMAKI MAKAU RAU

Date Information Sheet Produced:

31 August 2016

Project Title

Enhancing collaboration to improve population and individual health outcomes: How do Primary Care and Public Health Practitioners, working with children, collaborate at practice level?

An Invitation

I am Hilary McCluskey, a Registered Nurse, who is interested in hearing about your experiences and perceptions of collaboration between Primary Care and Public Health Practitioners. I am seeking answers to questions about collaborative working, experiences of this, and the benefits you have identified related to working with colleagues in primary care/ public health. By talking with you, I hope to gain an understanding of how primary care/ public health work together.

What is the purpose of this research?

This research aims to discover how primary care and public health practitioners work together to improve health outcomes for local populations. The study also aims to learn what activities are being undertaken collaboratively. This study is to determine what works well, and how practitioners manage problems that occur in collaborative working. The information will be used to inform and facilitate the development of a project to improve local collaboration between primary care and public health at individual and population health levels. Findings from the study will be disseminated to practice settings.

This research will form a part of a professional doctorate in Health Science (DHSc).

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

You are invited to participate in this research as you work within the public health or primary health care sector. You were identified through your work setting and as a person who could contribute to the research project.

How do I agree to participate in this research?

You will contact the researcher via an e-mail address. On receipt of the email you will be sent a consent form to participate in the study. Any questions you may have will be asked either via email or in person prior to an interview.

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?

Once you have returned the consent form, you will be contacted to confirm your participation in the research and to arrange a time for us to meet.

Interviews will be in a place, local to your workplace. Interviews will take up to 1 ½ hours initially, and will be digitally recorded with your consent. Information from interviews will be analysed and themes emerging from the data will be compiled, you may be asked to do a brief (no more than 30 minutes) second interview to confirm these themes. This process will be used to generate a theory. Both the theory and findings from the interviews will be used to develop an action plan for how collaboration between primary care and public health can be improved.

What are the discomforts and risks?

There are no anticipated discomfort or risks to the interview and research process. Information you give at interview will not be linked back to you. Your employers will not be given information on who has participated in the study and your confidentiality will be maintained.

Interviews will be digitally recorded and field notes may be made in the interview or after the interview. All recordings will be deleted once transcripts or field notes have been made. Your identity will only be known to the primary researcher as a coding identifier will be used to ensure your anonymity. Every effort will be made to ensure that you are comfortable with the interview process and you will reserve the right not to answer questions that make you feel uncomfortable.

What are the benefits?

The potential benefits of the research are to increase international and local knowledge on the factors required for effective collaboration between primary care and public health. An action plan to disseminate the findings will be developed to improve primary care and public health collaboration. Potentially, the information gained may contribute to policy development.

The research material and findings will be published in relevant journals, and may be presented at conferences.

How will my privacy be protected?

Your information and identity will be kept secure and confidential. Your interview information will be allocated a unique code which will be used in transcripts, field notes, and memos or other information. Access to the interview information, codes and other material will remain with the primary researcher. Interviews may be transcribed by another person, however, that person will sign a confidentiality agreement and will only have the allocated unique code identifying the script.

Your consent forms and interview information will be kept in separate locked storage, and on password secure memory sticks. All of this information will be destroyed at the end of six years.

What are the costs of participating in this research?

There are no costs to participating in this study. Your time to attend an interview (1 ½ hours) will be all that is required. You may be asked for a follow-up interview, which should take approximately 30 minutes, if you agree to participate.

What opportunity do I have to consider this invitation?

You will have up to two months to consider whether you wish to participate in this research.

Will I receive feedback on the results of this research?

Feedback will be provided by e-mail if requested.

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, David Healee; E-mail david.healee@aut.ac.nz , Tel.: -09 9219999 ext. 7642

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEC, Kate O'Connor, E-mail *ethics@aut.ac.nz* , Tel.: 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:

Hilary McCluskey: hwz9651@autuni.ac.nz, 0223273407.

David Healee: david.healee@aut.ac.nz , 09 9219999 ext. 7642

Ellen Nicholson: ellen.nicholson@aut.ac.nz , 09 9219999 ext. 7742

Researcher Contact Details:

Hilary McCluskey:. hwz9651@autuni.ac.nz

Project Supervisor Contact Details:

David Healee: david.healee@aut.ac.nz , 09 9219999 ext. 7642

Ellen Nicholson: ellen.nicholson@aut.ac.nz , 09 9219999 ext. 7742

Approved by the Auckland University of Technology Ethics Committee on *04 October 2016*, AUTEC Reference number *16/335*.

Appendix C: Consent Form

Consent Form

Project title: Enhancing collaboration to improve population and individual health outcomes for children: How do Primary Care and Public Health Practitioners collaborate at practice level?

Project Supervisor: David Healee and Ellen Nicholson

Researcher: **Hilary McCluskey**

○ I have read and understood the information provided about this research project in the Information Sheet dated 31st August 2016.

○ 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 they 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's signature: ....…………………………………………………

Participant's name: ....…………………………………………………

Participant's Contact Details (if appropriate):

…………………………………………………………………………………………..

…………………………………………………………………………………………..

…………………………………………………………………………………………..

…………………………………………………………………………………………..

Date:

***Approved by the Auckland University of Technology Ethics Committee on** October 4th 2016 **AUTEC Reference number** 16/335*

*Note: The Participant should retain a copy of this form.*Consent Form

Appendix D: Transcriber Confidentiality Agreement

Confidentiality Agreement

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

Project title: Enhancing collaboration to improve population and individual health outcomes for children: How do primary care and public health practitioners collaborate at practice level?

Project Supervisor: David Healee,

Ellen Nicholson

Researcher: Hilary McCluskey

- ☑ 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: ....

Transcriber's name: MICHELLE BAVASTRO

Transcriber's Contact Details (if appropriate):
(021) 045 2811

Date: 1 /5/2017

Project Supervisor's Contact Details (if appropriate):

Approved by the Auckland University of Technology Ethics Committee on type the date on which the final approval was granted *AUTEC Reference number* type the AUTEC reference number

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

2 July 2015   page 1 of 1   This version was last edited in July 2015

Appendix E: Initial Manual Sorting of Codes

Photo taken June 2017

Appendix F: First thoughts – August/September 2017

Codes Sketch — Section 1

Upping the ante—exaggerating

Resolving

Priority   Urgency

1. Getting connection through previous experiences

Claiming authority

Thwarted access

Practice nurses conduit to GP

Gatekeeping   Communication breakdown

Receptionists   Call centre administrators   Not trusting info getting through   Ignoring, not responding

Filtering

PHO structure filtering   Too busy

Different priorities, not understanding role requirements

To filter unnecessary/ protecting time/ funding demands

Core Activity—providing information, seeking information, [care coordination]

Appendix G: Coding Memo

Coding groups identified with potential categories

No:	Coding groups	? Categories
1	Proper process	Processing information
	Right information at the right time	
	Seeking information	
	Providing information	
	Not trusting - doubting	
2	Bombarded, overloaded	Being bombarded,
	Ignoring – not responding	Blocking
	Not understanding	Thwarted access
	Diverting, nurse as conduit	
	Not connecting	
3	Proper process/ wrong process	Processing information
	Right information at the right time	Choosing not to know
	Seeking information	Getting on in own way – doing
	Providing information	own thing
	Not trusting - doubting	Not knowing
	Differing priorities	
	Not knowing	
	Forget if not used frequently (Process)	
	Easier to ring or do own thing	
4	Bombarded, overloaded	Being bombarded,
	Gatekeeping	Blocking
	Ignoring – not responding	Thwarted access
	Not understanding	
	Diverting, practice nurse as conduit	
	Delaying	
	Not connecting	
	Driven by time and funding	
	Controlling workload	
5	Getting connection – using positive experience	Linking/Investing/ Navigating
	Building links	
	Needing a reason	
	Claiming authority – using authority to gain access	
	Upping the ante – authority as traction	
6	Using roles	Knowing/ Not knowing
	Understanding roles	
	Not understanding roles	
	Judging, questioning	
7	Practice nurses – limited autonomy	Managing limitations?
	Driven by funding	Regretting?
	Conduit to GP	
	Want bigger picture, not able to access bigger picture	

	Patients/ families defer to GP, want GP	
	Regretting	
8	Siloing – working separately	Barriers/ Disconnect
	Doubling up – treatment, systems	
	Geography matters	
	Too busy	
	Self-directing	
	Not understanding roles	
	Not respecting	
9	Directing care, providing advice	Care coordination
	Proving professionalism	Navigating responsibility
	Accessing through patient, letter to patient, advocating	
	Leave authority with GP	
	Referring on	
	Responding	
	Working together increasing effectiveness, working together works	
	Doubting - ? follow through with action	
	Correcting actions	
	Coordinating care	
	Assuming responsibility	
	Seeking information	
	Educating	
	Prioritising road blocks	
	Power imbalance	
10	Reducing risk	Wish list - wanting
	Integrated systems – work and computer	
	Patient to access own health information	
	Improving staffing in primary care	
	Wanting to improve health literacy (clients)	
	Wanting to improve role understanding	
	Want to know, does general practitioner follow directions?	
	Want someone responsible, ie accountable	
	Want to know is the information useful to receiver?	

Memo (October 2017):

3 or 4 main activities: Seeking information/ direction, providing information, giving information or directing care, referring on. How does this relate to above?

Need to separate concerns from what practitioners do to try to manage/ resolve their concerns.

Seems to be some linking groups here – obvious links between groups 1 and 3 - to do with how information is managed, and what practitioners know and don't know and what they want to know

or don't want to know. Sometimes seems to be easier not to know because they can do their own thing and don't have to take time to look up the process. Want to do things their way.

Giving information: GP reactions to public health nurse giving information:

1. Not trusting – Is GP reading written information provided? Following directions? GP thinks they know better.
2. GP – Listens and acts this time, does not retain information over time (don't remember unless critical incident i.e. they got it wrong)
3. Practice nurse is conduit – receives and provides information. Does the message get passed on?

Directing/ adjusting treatment: Used when treatment is incorrect or when referral wanted. Power issues, GPs more powerful, nurses reluctant to challenge care GPs are providing.

1. Assuming responsibility – proving professionalism: big deal, need to prove self. Present assessments well, use medical language to frame assessments. Present treatment pathway, research recommendations., advise of correct treatment.
2. Suggest changes, leave authority to decide with general practitioner.
3. Sometimes claim authority – general practitioners recognize authority in regional public health nurses and medical officers, ? because of government mandated activities.

Avoiding Responsibility (sidestepping):

1. Going everywhere else first, GP last resort
2. Getting someone else to tell GP
3. Providing patient/ family with alternative directions

Shunning Responsibility:

1. Don't return patients to GP to make referrals, make referrals themselves.
2. Skirting around information? Not their responsibility if another practitioner has it wrong e.g. don't tell the practitioner when they get the process wrong.
3. Not following up with the correct process with the GP

Appendix H: Activities vs. Barriers Memo November 2017

7.11.2017

Activities	? Barriers or Disconnect	
Seeking Information Immunisations Previous treatment/ history Infections Contacts Family structure Demography – address or contact details	**Access Barriers** Patients accessing GP – PHNs transporting to appointments Explaining need, improving health understanding, Persuading receptionists and addressing barrier issues (Cost, transport, priority, getting appointments) **Getting through to GPs** Messages unreturned – losing control of messages left Receptionists are gatekeepers Practices too busy, no-one to talk to Perceptions: – 1. Practice driven by funding – patient outside GP concerns if not in 15 minute slot. 2. Driven by targets or funding **Resolving :–** Raise the issue priority with receptionist to get past Claiming urgency and/or importance Claiming authority Using role for traction to gain control (Communicable disease team, especially MOs) **Using previous connections/ positive experiences:-** Developing professional expectations, a previous PHN may have created some links and practice then develops positive regard **Connecting with PNs** Easy to get through to, conduit to GP Getting through relies on trust?	
Seeking Direction Disease management/ treatment advice on contact tracing		
Giving Information Disease diagnosis/ management Informing of end of treatment, summarising interventions Education Correction of processes Contact tracing Informing re role responsibilities	**Public Health** 1. Provided by fax, telephone, discharge/ progress letters, letters given to patients to advocate when go to GP 2. Not trusting: • Is GP reading information • Is GP following directions? • ? GP thinks he knows better? 3. Listens and acts this time, does not retain info for next time 4. Practice nurse is conduit – receives and provides information. Is the information getting through?	**GP** a) Too much information b) Ignoring or discounting information c) Not understanding or too difficult May not remember unless get it "wrong" with consequences

Activities	? Barriers or Disconnect
Linking/ Co-ordinating Care Providing information on bigger picture - e.g. Home environment, family, connections to community v. isolation Connecting home with primary care? Networking, referring on Collaborating eg repeating prescriptions Linking between services Placing care in order – linking first with GP	

Directing Care/ Adjusting Treatment
Correcting processes
Correcting treatment
	GPs not following pathways (for treatment)
	
	Power –
	Inbalance – Communicable disease team MOs carry most power. PHNs may assume some power in communicable disease teams, status given through "special" knowledge and ministry direction, but not universal, and if GPs don't like, they will try to talk to MO instead. GPs have more power than Practice nurses or PHNs in local teams. Nurses wary of assuming power in nurse:doctor interaction.
	
	Assuming Responsibility:
	1. Proving professionalism and knowledge – need to prove
	    Preparing assessments and presenting in medical model format
	    Providing letters to give to GP, to advocate for parents
	
	2. "Suggesting" changes – authority to decide left with GP (eg this is what we do)
	    Informing GP of revised/ corrected process
	    Using research/ pathway to reference/ authorise corrections
	
	3. Claiming authority (Communicable disease team)
	    Communicable disease team have gained some recognition of their discrete roles, recognised as the ones with the knowledge
	    Regional Public health doctors have the most authority
	
	Avoiding Responsibility (sidestepping):
	1. Trying everywhere else first, GP last resort
	2. Providing patient/ family with alternative directions for treatment/ care
	
	Shunning Responsibility:
	1. (GPs) avoiding responsibility – refer onto others - trying to pass issue on
	2. Skirting around information – ignoring problem
	3. Not following up correct process/ treatment with GP
	
	Balancing:
	Involving GP but PHN providing treatment – analysing story, balancing facts, presenting the balance

GP/Practices not connecting with local PHNs
1. Not knowing – not understanding role
   Not understanding relevance
   Limited awareness/ no awareness of PHNs mobilising clients to primary care
2. Not understanding structures – PHNs "floating" – do not recognise as part of DHB, think they are same as school nurses or somehow connected?
3. Forgetting services – different priorities

PHNs connecting with GP/ practices
1. Need a reason to see GPs – can't just "drop in"
2. Need to prove worth
3. Perceive – GPs/PNs lack of understanding of role is a barrier/ impediment to care
4. Use previous positive relationships with GP to build up relationship
5. Time and frequency of contact important
6. Use clients in common to build up trust and understanding
7. Via PN, easier to access
8. Changing philosophy, from going alone to working with GPs (but GP philosophy hasn't changed)

Communication impediments
1. Not feeding back information when requested v. not expecting feedback
2. Paper processes don't work
3. Not following pathways, using websites or healthpoint (PHN/MO perception of GP practices)
4. Not following advice – too much information coming in
5. Ignoring or disregarding sent information (PHNs/MOs) – v. what is current? (GPs)
6. GP practices too busy

Programme design – No liaison, not working together. No expectation of liaison. No population work even mentioned.

Practice Nurse Regrets and limitations
– finance, only allowed 4 contact per year per patient. Not best for changing lifestyles.
1. Balancing
2. Don't understand home situation – have to rely on what parents/ patients are telling them - one PN who had understanding of PHNs recognised they could be bridge between practice and home life of patients.
3. Not able to wrap around – leaving gaps. Dependent on patient responding to letters, and they only respond if ill, so not able to prevent onset of chronic disease episodes eg asthma management
4. Patients have to pay and would prefer to see GPs

Questioning Quality/ Perceptions
- GPs not respecting colleagues
- PHNs/ MOs questioning quality of any contact tracing GPs do (little trust) – identifying time as a barrier but also motivation.
- Questioning whether GPs read letters/ information leaflets/ updates
- Expressing uncertainty making decisions

Wish List:
Changes need to be driven by PHN
Need to consider usefulness (of any changes) to receiver
Needs to be purposeful
Make someone accountable –   to know GPs are keeping up to date
                              To know GPs are following directions
                              Should this be practice managers?
Improve staffing at GP practices
Improve education in GP practices – particularly around process and available resources and pathways
Improve technology –   shared electronic records and database, one system
                        Patients have access to own records
                        Address privacy challenges
Linking schools with GP practices - ? PHN role

Appendix I: Root-Cause Analysis February 2018

General Practitioners/ Practice nurses – bombarded with calls and information

A: Controlling Workflow   **B:**   **C: Channeling Information**

What?
> (Receptionists) Blocking access to GP

> Direct calls to practice nurse

> Information not needed now

> When information is needed, want to know has it come through proper channels?

Why?
> Protect GP time

> Practice Nurse – conduit to GP

> No value unless related to patient situation now

> How to access information?

Why?
> GP bombarded – Too much information

> GP with patients

> Resolves or filters queries, passes messages to GP

> Information – need to know when relevant

> Care pathways

> Call

Why?
> GP choose when/ if respond to practitioners

> Unless common

> Websites

Why?
> Remain in control of time

> Uninterrupted time with patients

> Balances practice time, allows a form of communication

> Too many patients/conditions to manage, cannot consider all conditions all of the time

> Access information when required

> Manage patients in 10 – 15 minute time slots

> Way funding is organised

Practice nurses would prefer to have an allocated triage nurse who can take calls and deal with them, rather than trying to manage calls around the rest of their work.

Selective Communication - Issue: Geographical Issue
Public Health Nurse → Practice Nurse / General Practitioner

What?

A: Work with PN/GP on specific cases as needed

B: Focus on certain Practice(s)

Why?

i. Greater potential urgency/ severity (outcome for client)

and/or

ii. Medication/treatment needs adjusting / investigation

and/or

iii. Patient/parents lower health literacy, need advocacy

and/or

iv. Getting those who have difficulty accessing primary care to GP

Why?

Desire to improve outcomes (patient/family)

Help parents/clients understand health options & encourage health changes

Why?

Prevent hospitalisation

Why?

Better client & family outcomes

Why?

Government targets < 4 years

Reducing DHB costs

DHB interest in hospitalisation

Limits time needed – takes too much time to work with all surgeries

Why

May not need to work with same surgery again for a long time

a) GPs/PNs more likely to engage

Why

Understand how PHNs work & how they can help

Why

GP/PN previous positive experience working with a PHN

b) More clients with high needs clustered at this practice

Why

Practice may offer reduced fees or cultural specificity

PHN builds relationship with PN → ↑ health choice

Coordinating Care / Engaging

PH → GP / PN.

Navigating / Negotiating / Reconciling Responsibility.

A. Assuming Responsibility.
↳ Always Nurses

i) Proving professionalism
- assessments, medical terminology, referencing physiology / research.
- evidencing changes to be made + why

Why
↓
to direct treatment

↓ to be credible to the GPs

Worry that authority will be challenged / will not be taken seriously / will be disregarded + possibly GP will take "professional offense"
↓   ↓
previous experience   heirarchial beliefs cultural, professional power differences

ii) Claiming Authority / or Urgency / or Priority → Upping the ante to get through)

Usually M.Os.

to get direct access to GP, get around receptionist / PN (usually mo)

Navigating power.
N.B. -ve experience stop nurses "challenging" GPs treatment [incorrect] + encourages them to find another way.

B. Shifting Responsibility
GP Last resort; provide patient with alternative treatment / care

Why?
↓
Often -ve experience with A.   Expedient   Do not think GP will listen.

Ask MO to liase with GP to adjust treatment.   Paediatrician

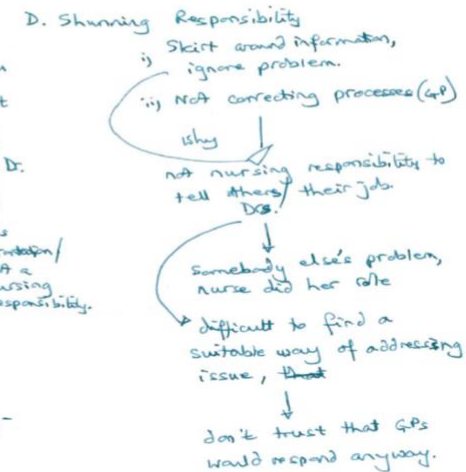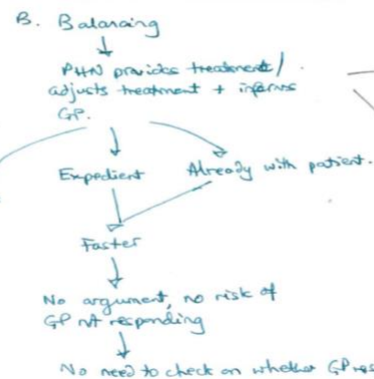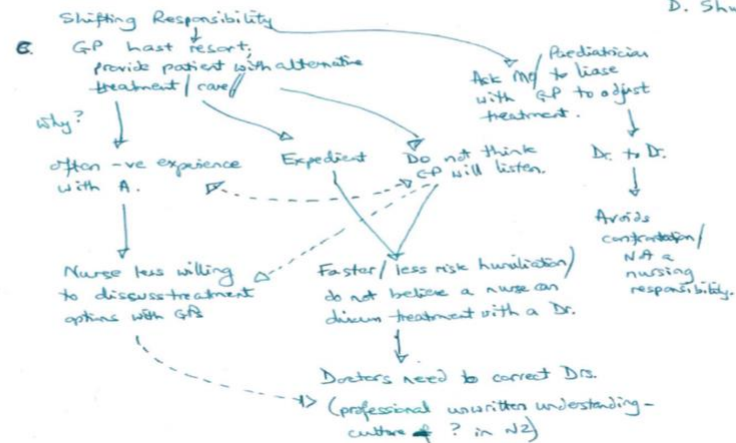Dr. to Dr.

Avoids confrontation / NA a nursing responsibility.

Nurse less willing to discuss treatment options with GP   Faster / less risk humiliation) do not believe a nurse can discuss treatment with a Dr.
↓
Doctors need to correct Drs.
↳ (professional unwritten understanding - culture of ? in NZ)

B. Balancing
↓
PHN provides treatment / adjusts treatment + informs GP.
↓
Avoids risk of conflict with GP   Expedient   Already with patient.
↓
Faster
↓
No argument, no risk of GP nt responding
↓
No need to check on whether GP responded → Patient has correct treatment + GP aware

POTENTIAL

Usually works "under standing orders, need to get special direction to adjust medication (from MO, Nurse practitioner)

patient aware nurse has given different directions

patient to trust Nurse + lose trust in GP → (treatment is free).

Not go to GP next time but relies on PHN

PHN cannot provide treatment if not under scope SOs.

Patient delay in getting treatment next time

D. Shunning Responsibility
i) Skirt around information, ignore problem.
ii) Not correcting processes (GP)

Why
↓
not nursing responsibility to tell others / their jobs. DOs.
↓
Somebody else's problem, nurse did her role
↳ difficult to find a suitable way of addressing issue, that
↓
don't trust that GPs would respond anyway.

Not knowing

PN/GPs - What do PHNs do and how is that of use to our patients?

A. Don't consider referring
- reliance on own systems
  or refer to others.

Why ↓

Don't know - what PHNs do,
how help.

a) Don't know value

Why ↓

No previous +ve experience
working with PHN

Why ↓

PHN has not
contacted
GP/PN

Why ↓

PHN may
not have
been involved
with GP's
patients

Why ↓

PHN involved but
under radar

(b) don't know
difference between → don't think
PHN + school Nurse   in health
                      system
↓
? where to refer to?

PHNs mostly
not in pathways

Why ↓

different focus
(not medical)
- more holistic/
family based

doesn't
easily
slot into pathways

**B. Refer to others using
pathways/web-sites for
info**

Why ↓

Identify relevant pathway
for specific conditions,
to refer

Why ↓

Allows provision treatment
easily within allotted patient
time

Why ↓

Already thinking of next
patient once 15 minutes is
finished
↓
Pressure on time because
of ? funding
? structure of surgery
? patient expectations
+ caseloads.

ARDS - Communicating info on current communicable
disease risk.

A. Website
↓
current info
uploaded

**B. ~~Promotion~~
Pathways +
Instructions**

why ↓

Send to PHOs +
sometimes GP
practices

why ↓

keep practise informed

↓

waiting GPs to
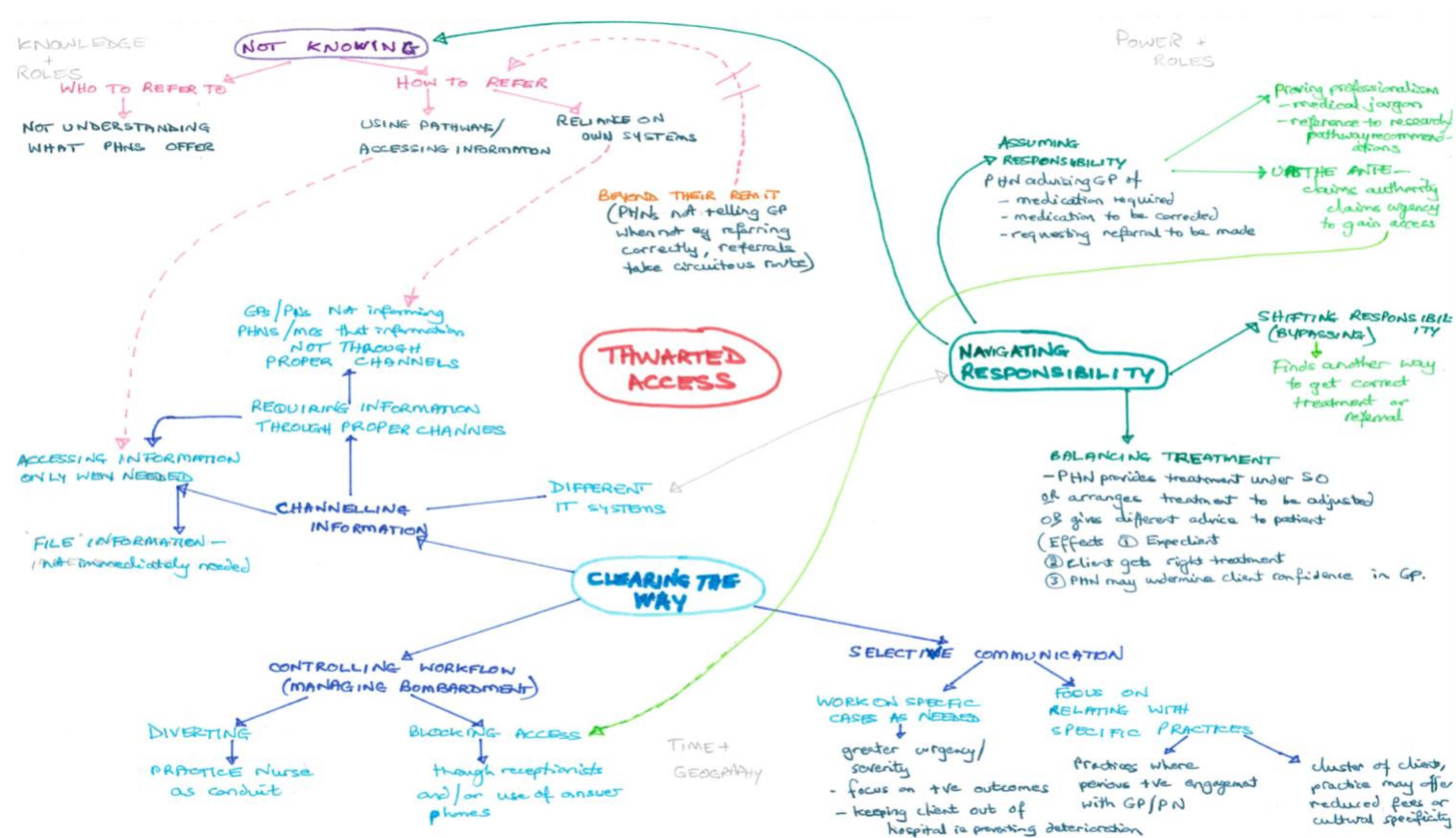follow ~~respond~~ to advice
to minimise
outbreak

**C. ~~Pathways~~
~~instructions~~
Phoneline**

↓

info as
requested,
can direct
back to
website

↓

provide
immediate
answers +
correct info.

Divert treatment
info → infectious
disease consultant

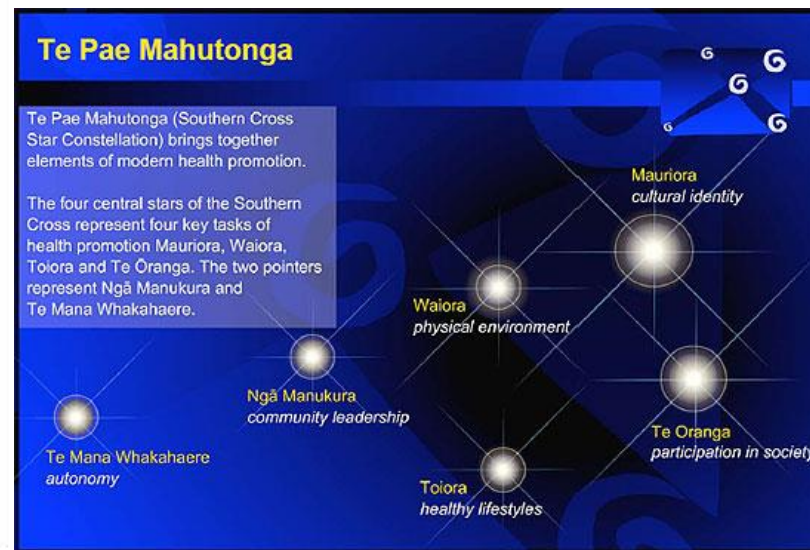Note: Mistrust - don't think info
getting through

Appendix J: Evolving Theory April 2018

Appendix K: Maori Models of Health

Te Pae Mahutonga (Durie, 1999)