The Application of Complexity Theory to Contracting Out Public Health Interventions

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Abstract

The New Zealand government has used a policy approach called *New Public Management* since the 1980s to contract out public health services. Under this approach contracting out works well for public health services that are predictable, stable and controllable. However, the approach does not always work so well for hard to specify, complex to deliver services, where it is challenging to measure whether the right people benefit. Complexity theorists suggest that public services are complex adaptive systems and therefore do not respond in linear, predictable ways. Complexity theorists also suggest *New Public Management* framing of contracting out is too simplistic and overlooks the needs of some important population groups, in its quest for efficiency.

The overall objective of the research was to explore contracting out of public health services using a general complexity framing to see what insights it might add. The research considered: which ideas from within complexity theory might provide a possible frame to examine contracting out practices; how complexity theory might inform contracting out practice for public health services; and how public sector managers might understand the processes and dynamics of contracting out if informed by complexity theory.

A review of complexity and public management literature identified four complexity concepts used to frame interview questions and analyse results for this research: path dependence, emergence, self-organisation and feedback. A small-scale qualitative study used a theory-based approach to test the complexity concepts with public sector managers experienced in contracting out for public health and social services.

This research argues that a framing informed by complexity theory resonated with public sector managers in understanding and working in the messy 'realities' of contracting out. This research observes that contracting out is often not tidy, linear and controllable as suggested by *New Public Management* practices. Public sector managers seeking to try new contracting out approaches, can find the underlying *New Public Management* ethos found in many administrative arms of government hampers them. This research provides insights about why change is hard to achieve, as well as offering public sector managers some alternative ways to think about how they contract out public health services.

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Overview

Opening statement

> *"Contracting out is the primary service model used to provide non-government social services in New Zealand. Government agencies have several thousand service delivery contracts with many thousands of NFP [Not For Profit] and FP [For Profit] providers. Considerable effort is being applied within government to improve contracting. However, this is a work in progress. Providers reported many problems with contracting and saw significant room for improvement" (New Zealand Productivity Commission, 2015a, p. 19).*

This research concerns the challenges of contracting out for public health services. It looks at contracting out through a complexity theory-informed lens in search of new insights into the difficulties and opportunities faced by those responsible for contracting out for service provision.

'Contracting out' is "a service model where a funder (typically a government agency) contracts a third party to provide specific social services" (New Zealand Productivity Commission, 2015a, p. xii). Contracting out is one of many ways public service agencies can commission services (Alford & O'Flynn, 2012; Trebilcock,1995). In-house provision, management contracts, franchising and licensing are other ways to provide services (Trebilcock, 1995).

In the mid-1980s, the New Zealand Government made significant changes in the way it managed and provided government services (Boston, 1995). The drivers of change were a slow-down in the New Zealand economy, high inflation and unemployment, and the government agencies spending more than they could afford (Boston, 1995; Destremau & Wilson, 2017). Politicians and senior bureaucrats, strongly influenced by the Treasury New Zealand, the lead agency for economic and financial policy advice, believed the New Zealand government had become too big, rigid, and rule-bound, and that it ran uneconomically and inefficiently (Boston, 1995). The New Zealand government introduced and adopted a policy approach called *New Public Management* to try to tackle these problems (Hood, 1991).

More recently, the New Zealand Productivity Commission inquiry (2015a) into the delivery of social services including public health services found government agencies made

several assumptions about the feasibility of contracting out. In contracting out, government agencies assumed a degree of stability, predictability and certainty in a controllable environment – as occurs for easily specified and delivered products. However, the New Zealand Productivity Commission's inquiry (2015a) reported that health and social services are often hard to specify, complex to deliver and challenging to measure whether the right people benefit. The needs of consumers of these services change over each person's lifetime and the community was hard to define and complicated to service. The inquiry concluded that contracting out for social services in New Zealand was not always well imagined, carried out or monitored.

These findings confirm other research which identified issues for providers who contracted out for health and social services (Boulton, Gifford, Allport, Research, & White, 2018; Came, Doole, McKenna, & McCreanor, 2017; Cumming, 2016; Dwyer, Boulton, Lavoie, Tenbensel, & Cumming, 2013). Providers needed secure funding to attract and keep a skilled workforce and to continue to develop services that respond to the ongoing and changing needs of the community (Boulton et al., 2018; Came et al., 2017; Cumming, 2016; Dwyer et al., 2013). Annual contracts, the high transaction costs of reporting for accountability and the challenges of securing enough funding all impacted on the ability of providers to operate effectively.

In *New Public Management*, use of contracting out assumed market competition could drive improved services, resulting in more output at the same cost. The focus was on monitoring and accountability oversight, rather than on learning about ways to focus on outcomes and meet community needs (Boston, 1998; Hood, 1991). Haynes (2015) cautioned that "a false and over-simplification of process and outcomes was one feature of [New Public Management] theory" (p. 81). He suggested contract management often focused on counting deliverables – for instance, the number of patients seen, rather than discovering whether participants benefited from the service.

Limitations to contracting out of services have been recognised: the New Zealand government has explored alternative contracting approaches (New Zealand Productivity Commission, 2015a); there have been policy experiments such as Social Investment (Boston & Gill, 2017) and there has also been a move in some instances from classical contracting to relational contracting (Boulton et al., 2018). However, these initiatives still drew on a *New Public Management* perspective (Eppel & Karacaoglu, 2017). Instead, Eppel and Karacaoglu suggest there is a need to design "public policy and public management in a way that faces and incorporates . . . two fundamental facts of social and economic life: substantive complexity and radical uncertainty" (2017, p. 382). Substantive

complexity is the idea that where there are wicked problems (Rittel & Webber, 1973) actors struggle to make sense of information because they do not have a "joint frame of reference" (Klijn & Koppenjan, 2014, p. 63), resulting in difficulty making decisions. "Radical uncertainty" (Hajar, 2003, p. 185) is the notion that in developing policy, decisions are made based on incomplete knowledge. The comments of Eppel and Karacaoglu (2017) suggested complexity and uncertainty is here to stay, and politicians and bureaucrats would benefit from finding new ways to work in fast-changing ambiguous settings.

Outside of New Zealand theorists suggested that complexity theory offered a way of working in human systems in times of confusion, unpredictability and constant change (Castellani & Hafferty, 2009). Theorists suggested that influence rather than total control of human systems was possible (Byrne & Callaghan, 2014). In the past ten years, complexity theorists in New Zealand (Eppel, 2017; Eppel, Matheson, & Walton, 2011; Walton 2014; Tenbensel, 2013, 2015) and overseas (Byrne & Callaghan, 2014; Cairney & Geyer, 2017; Eppel & Rhodes, 2018; Gerritts & Marks, 2015; Haynes, 2015, 2017; Morçöl, 2012; Rhodes & Eppel, 2018; Rhodes, Murphy, Muir & Murray 2010; Room, 2011, 2013; Sanderson, 2009) have begun to apply their ideas to public policy, public administration and public management.

Complexity theorists (Eppel et al., 2011; Eppel & Karacaoglu, 2017; Haynes, 2015) suggest public services are complex adaptive systems, and therefore, complexity theory has the potential to provide new insight to understand them. This research considers contracting out from the alternative perspective of complexity theory.

Within the complexity theory literature, there is little written about the contracting out of public health or social services. The available literature focuses on practice in the United Kingdom (Knight, Lowe, Brossard, & Wilson, 2017; Lowe & Plimmer, 2019; Muir & Parker, 2014). So far, there has been no testing of complexity theory ideas with practitioners responsible for contracting out public health and social services in New Zealand. Hence, this research aims to address the following questions in a New Zealand setting:

- Which ideas from within complexity theory might provide a possible frame to examine contracting out practices?

- How might complexity theory inform contracting out practice for public health services?

- How might public sector managers understand the processes and dynamics of contracting out if informed by complexity theory?

Chapter outlines

Chapter One first describes New Zealand public health and the current legislation governing delivery of public health services. A brief history of how the New Zealand public health system evolved helps offer context, including circumstances in which the Government adopted *New Public Management* and the theories that underpinned it. Against that background, this chapter considers contracting out approaches for the delivery of public health interventions in New Zealand, including strengths and weaknesses.

Chapter Two begins by giving a general background to complexity theory – its origins, the challenges of providing a definition, and some of the different theories' writers draw on when referring to complexity. Next, the chapter briefly covers the use of complexity theory in public administration and public management. Finally, there is a discussion of literature from New Zealand and overseas, which suggests that complexity theory may provide a useful lens for reflecting on contracting out for public health and social services.

Chapter Three describes the methodology used in this project and discusses the epistemological, theoretical, methodological and methods choices made to address the research questions.

Chapter Four provides a literature review of the complexity concepts used to identify ideas from within complexity theory that might provide a frame to examine contracting out practices.

Chapter Five discusses the key themes arising from the interviews with New Zealand public sector managers responsible for contracting out for public health and social services.

Chapter Six links some of the key themes emerging from the interviews with the wider literature to provide insights into new ways managers in government agencies might think about their approaches to contracting out for public health services. The chapter concludes by making recommendations for future research.

Chapter 1: Contracting out for public health interventions

Introduction

This chapter first describes the New Zealand public health system and the current legislation related to delivering public health services. A brief history of the New Zealand public health system helps offer context and includes discussion of the Social Security Act 1938 that brought in universal health care, including preventive health for all. The chapter then shifts to the 1960s and describes the context in which the government adopted *New Public Management* and the theories that underpin it. There is an account of the four significant transitions in public health service delivery from 1978 to 2001. Against the background of *New Public Management*, this chapter considers contracting out approaches for the delivery of public health interventions in New Zealand, including current strengths and weaknesses.

Public health focuses on the health of populations, as opposed to the health of individuals. There are many ways to define public health (Rayner & Lang, 2012) and one definition referred to in New Zealand comes from a British bacteriologist Charles-Edward Winslow (1920):

> "Public health is the science and the art of preventing disease, prolonging life, and promoting physical health and efficiency through organised community efforts for the sanitation of the environment, the control of community infections, the education of the individual in the practices of personal hygiene, the organisation of medical and nursing service for the early diagnosis and preventive treatment of disease, and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of health" (p. 30).

New Zealand's public health system undertakes five roles: "health assessment and surveillance, public health capacity development, health promotion, health protection and preventative interventions" (Williams, Garbutt, & Peters, 2015, p. 16).

Two critical pieces of legislation are relevant to the delivery of public health interventions in New Zealand: the Health Act 1956 and the New Zealand Public Health and Disability Act 2000. The New Zealand Public Health and Disability Act 2000 defines public health as "the health of all . . . people of New Zealand or . . . a community of such people" (2000, p. 12). The Act defines public health services as the "goods, services, and facilities provided for the purpose of improving, promoting, or protecting public health or preventing population-

wide disease, disability, or injury" (2000, p. 12). Under the Health Act 1956, the public health system has a broad jurisdiction, for instance covering: sanitation, safe drinking water, and managing and containing infectious and notifiable diseases. It also regulates environmental health officers, the national cervical screening programme and artificial UV tanning services (Health Act 1956).

The focus of this research is on contracting out to provide health promotion and preventive interventions by health or social services – rather than health protection through, for instance, safe drinking water and sanitation. Health and social services require contracting out for human services, whereas drinking water and sanitation are utilities. Health promotion has many connotations and various definitions (Jolley, 2014). The *Ottawa Charter for Health Promotion* (1987) defines health promotion as:

> "The process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realise aspirations, to satisfy needs, and to change or cope with the environment. Health is, therefore, seen as a resource for everyday life, not the objective of living. Health is a positive concept emphasising social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector but goes beyond healthy life-styles to well-being" (p. iii).

Jolley (2014) suggests good health promotion includes all matters of health, combines multiple partners using multiple strategies, is workable longer term, shares power with communities, is all-inclusive, and fair and just for all. The Ottawa Charter definition of health promotion is the starting point for discussion in this thesis as it includes the notions of shared power and greater fairness (Ottawa Charter for Health Promotion, 1987).

This section of Chapter 1 defined public health and identified the current legislation that drives the delivery of public health services in New Zealand. It explained the different facets of public health. However, to understand the public health system, it is also useful to know the history of public health and how it links with broader government policy and service delivery.

A brief history of the early New Zealand government and public health

The history of early public health in New Zealand goes back to colonial times and the initial development of government. Pierson (2004) suggests some of the early activities of the

New Zealand government in public health set up patterns of governance over service delivery, regional organisation, and financing that continue to this day. These are known as path dependencies (Pierson, 2004). As such, they have influenced the contracting-out practices of today.

The 1840 Treaty of Waitangi is the “source of constitutional government established in New Zealand” (Walker, 1990, p. 98). The Treaty recognised “the relationship between the state and Māori, providing a constitutional basis for efforts to improve Māori health status” (Dwyer et al., 2013, p. 1099).

Containing infectious diseases and improving sanitation in urban areas were essential areas of focus prior to the 1930s (Hay, 1989; New Zealand Department of Health, 1975). During the Great Depression, there was pressure on the New Zealand Government to consider different ways to fund health and provide support for people who needed health services but could not pay for them (Laugesen & Gauld, 2012).

In 1938 the Savage Government passed the Social Security Act (Gauld, 2013). The Act aimed to deliver an integrated system offering health care with a preventive focus that was universally available for all. Gauld wrote that, though the Act was popular with the public, it was unpopular with the medical profession and mainly general practitioners. However, negotiations between the Government and the practitioners eventually led to the Social Security Amendment Bill 1941. New Zealand became the “first western developed country with a market economy to offer public financing for universal entitlement to comprehensive health care” (Preker, 2018, p. 140). The public health service included both public provision through hospitals and private provision through general practitioners (Quin, 2009).

Between the 1930s and the 1960s, the demand for public health services changed with advances in medical science. Through this period, vaccines became available for diphtheria, polio, tuberculosis, whooping cough, and tetanus. As a result, lifespans lengthened and citizens came to expect advanced medical care, including screening and support for conditions such as diabetes, heart disease and cancer (New Zealand Department of Health, 1975; Quin, 2009).

The 1960s to today – broad government changes in the delivery of public health and other services

From the 1960s onward there were fundamental changes in the delivery of public health services in New Zealand. These are listed in Table 1, below, with other government

initiatives that impacted on the delivery of public health services (Cumming, 2016; Easton, 1997; New Zealand Department of Health, 1975).

In political terms, the National and Labour parties had opposing philosophical views on whether to use a centralised (National) or decentralised model (Labour) for public health service provision (Cumming, 2016). As a result, between 1978 and 2001 New Zealand transitioned through four different health service delivery systems (Gauld, 2003). Gauld (2003) comments the New Zealand health sector was the "most restructured health system in the world" (p. 16) through this period.

Table 1: Key changes in public health and broader government from 1960s to present

Government in power	Key policy, legislation or structural changes
National Party elected (1960).	• Department of Health review (1969).
Labour Party elected (1972).	• Royal Commission on Social Security (1972) • Introduction of Accident Compensation Corporation Scheme (1974) • A Health Service for New Zealand Review (1975) • Treaty of Waitangi Act 1975.
National Party elected (1975).	• Area Health Boards trialled in Wellington and Northland (1978) • Area Health Boards Act (1983) • The population-based funding formula introduced (1983).
Labour Party elected (1984)	• Treaty of Waitangi Amendment Act 1985 • Health Benefits Review (1986) • *New Public Management* approach introduced (1987) • Hospital and Related Services Taskforce (1988) • State Sector Act 1988 • Local Government Amendment Act 1989: abolished Hospital Boards • Public Finance Act 1989.
National Party elected (1990).	• Health and Disability Services Act 1993: four Regional Health Authorities and Crown Health Enterprises established • Mixed Member Proportional (MMP) Representation introduced (1993)

First National and New Zealand First (1996) Coalition elected.	• Fiscal Responsibility Act 1994 • 1996 First election under MMP National/New Zealand First Coalition • Health Funding Authority (1996) established • Health and Disability Services Amendment Act 1998.
Labour Party and Alliance Party Coalition elected (1999).	• New Zealand Public Health and Disability Act 2000) • Health Funding Authority and Hospital and Health Services disestablished (2000) • District Health Boards established (2001) • The population-based funding formula introduced (2003)
National Party with minority support from United Future, Act New Zealand and Māori Party coalition elected (2008).	• Whānau Ora Taskforce established (2009) • 'Ala Mo'ui – Pathways to Pacific Health and Wellbeing (2010) • Healthy Ageing Strategy (2016).
Labour Party and New Zealand First with confidence and supply from The Green Party coalition elected (2017).	• New Zealand Health and Disability System Review established (2018) • Wellbeing Budget (2019).

Two government reviews of health services (New Zealand Government, 1969, New Zealand Department of Health, 1975) identified growing concern about inequity in service provision available from both public and private services. They also identified a risk of harm to the public from "limited information sharing" (Cumming, 2016, p. 34) between the different organisations – providing fragmented health services to the public.

Around the same time, in September 1975, Labour passed the Treaty of Waitangi Act 1975. This established the Waitangi Tribunal and opened the way for Māori to claim for prejudice resulting from legislation, regulations, policy, practice or acts.

Late in 1975 the newly elected National government commissioned a trial of area health boards and in 1983 passed the Area Health Boards Act (Quin, 2009). This was a "social welfare model" (Ashton & Bautista, 2011, p. 141) of public health services with publicly elected boards, as well as population-based funding. Area health boards provided both hospital and public health services (Cumming, 2016).

In 1984 Labour came to power with a mandate for change. In 1987 Labour embraced a radically different approach to manage and provide government services called *New Public Management* (Hood, 1991). Hood (1991) observed that, "the unique circumstances of New Zealand, the synthesis of public choice, transactions cost theory and principal–agent theory was predominant, produc[ing] an analytically driven [New Public Management] movement of unusual coherence" (p. 6). During these reforms, the government sold many Government assets and entities, and set up several as state-owned enterprises that were required to operate for profit (Boston, 1995). They also contracted out many services instead of providing them from within government agencies (Cumming, 2016).

Scott (2001), the Treasury Secretary during the reforms, wrote that the "building blocks" (p. 11) of public sector reform included: The State Sector Act 1988, the Public Finance Act 1989 – and later, the Fiscal Responsibility Act 1994. The State Sector Act 1988 intended to offer "clear managerial authority, clear organisational objectives and effective systems of accountability" (Scott, 2001, p. 1). The Public Finance Act aimed to "reform the whole financial management of government" (Scott, 2001, pp. 16–17). The Fiscal Responsibility Act "impose[d] a medium- and long-term focus on government expenditure and provide[d] this essential context to the operation of the budget and management cycles under the Public Finance Act 1989" (Scott, 2001, p. 19). The Fiscal Responsibility Act allowed government departments to plan and assign funding for more extended timeframes.

Three essential doctrines or theories of economic behaviour underpinned *New Public Management*. Hood (1991) identified these doctrines as: "public choice, transactions cost theory and principal–agent theory" (p. 6).

Public choice theory dealt with the political considerations of choice (Ostrom & Ostrom, 1971). Supporters of public choice theory maintained that the choices made by people in government were political and not rational and therefore "tend[ed] to be motivated principally by self-interest" (Trebilcock,1995, p. 24). Advocates of public choice theory thought it desirable to separate purchaser and provider roles (Gauld, 2003). A way to create this separation was to run competitive contracts for services (Gruening, 2001).

Transactions cost theory considered the cost of transactions. Adherents of transaction cost theory (Islam, 2015) suggested that all transactions had cost, and at times it was more efficient for the government to contract out services. This reduced administrative costs for government and provided market competition. However, at other times, as Boston (1996) noted, it was better for the government to keep services in-house. This was mainly the case

if the services were hard to specify, delivery was uncertain or where funders had difficulty monitoring performance.

Principal–agent theory addressed the problem of information asymmetry. Followers suggested that in buying situations, one party could have more information than the other (Gauld, 2003). At different times either the buyer or the seller had the advantage. Principal–agent theory suggested that in situations where there was a knowledge imbalance one party might "act opportunistically" and game the system using any one of several strategies "including lying, cheating, stealing or other short-term strategies if they decide[d] to" (Considine, Nguyen, & O'Sullivan, 2018, pp. 1188–1189). According to principal–agent theory, contracting out reduced the opportunities for self-interest and ensured providers delivered services in the quantities and quality agreed to in the contract (Boston, 1995).

Impact of *New Public Management* in the 1980s

The Treasury's *Government Management* (1987) was akin to a "manifesto" for *New Public Management* according to Hood (1991, p. 6). Other writers (Boston, 1995; Gauld, 2003) have reflected that New Zealand's version of *New Public Management* was broad, sweeping and unnecessarily disruptive to the public sector and citizens.

In the late 1980s, Boston (1995) identified three key characteristics of public management practice in the New Zealand government. Many central and local government agencies sourced public services through competitive contracting-out or tendering processes. "Contractual relationships and the language of contract" (Boston 1995, p. xi) prevailed for different types of agreements, including performance agreements between agencies, and contracts between agencies and with providers. At times, contracts were "legally binding, but others [were more like] . . . mutual undertakings" (Boston, 1995, p. xi). Public managers saw relationships through a principal–agent lens and assumed that principals or agents would behave opportunistically if not prevented by institutional and governance systems, processes and procedures (Boston, 1995).

By 1989 the Department of Health had devolved its responsibilities for operations and public health to the area health boards. The Department of Health restructured to develop policy and provide Ministerial advice, in line with the *New Public Management* ethos. The Department set the direction for public health and monitored service delivery by area health boards (Quin, 2009). Between 1987 and 1990 three Labour ministers, Michael Bassett, David Caygill and Helen Clark, held the Health portfolio. They had differing views on the best way to manage health inequities and growing costs, and as a result the health sector

experienced an uncertain time. Each of these ministers produced a “change in [the] direction of a magnitude normally expected of a change in government” (Gauld, 2001, p. 64).

Through the 1980s Māori became increasingly concerned with the inequities and disparities they experienced in many areas of government service provision. The Treaty of Waitangi Amendment Act (1985) allowed claims to be backdated from 6 February 1840 onwards. In 1988, *Pūao te ata tū (Daybreak): The report of the Ministerial Advisory Committee on a Māori perspective on Social Welfare*, described the high prevalence of institutional racism against Māori in the public sector. Described as “landmark”, (Came 2014, p. 215) the report catalogued, amongst other disparities, differences in Māori infant mortality and life expectancy. The authors of Pūao te ata tū remarked:

> “To redress the imbalances will require concerted action from all agencies involved-central and local government, the business community, Māoridom and the community at large” (Ministerial Advisory Committee on a Māori Perspective on Social Welfare, 1988, p. 8).

Māori called on the Government to address the differences. The Minister accepted *Pūao te ata tū*, and the Department of Social Welfare started to address the recommendations. However, by 1999 progress had stalled as the report was considered “difficult to operationalise” (New Zealand Productivity Commission, 2015b, p. 6). Instead, Came (2014) suggested, notions of “personal responsibility” and “cultural deficit theory” (p. 214) dominated in the 1990s.

In 1990 National came to power and set about another radical restructuring of the public health system, according to Ashton and Baurista (2011). National believed service providers should not be decision makers about funding because they were self-serving and therefore unsuitable for the role. The Government also aimed to develop a fairer and more cost-effective health system with new methods of care and modernised health delivery. It wanted to speed up access to surgery, provide a broader choice of services and promote greater health protection. The changes were intended to support the continuing evolution of the health sector as the needs of the population developed. The Government also wanted to improve the health sector as a professional workplace.

In 1993, without warning, the National Government ended area health boards and created a purchaser–provider split (Ashton & Baurista, 2011; Cumming 2016; Quin, 2009), with four regional health authorities delivering public health services. Public hospitals were converted

to 23 for-profit Crown health enterprises, which competed with other providers for regional health contracts. Boards appointed by the Minister, instead of elected representatives, governed both the regional health authorities and Crown health entities. The Department of Health rationalised and became the Ministry of Health. The Government also established the Public Health Commission as a separate organisation to contract for all services.

However, the purchaser-provider split did not work very well in practice. The role of the Public Health Commission was unclear, it had limited accountability and it provided policy advice that was incompatible with advice in other areas (Cumming, 2016; Gauld, 2001). For these reasons it was disliked by the public and professionals, the four regional health authorities and the Ministry of Health took over and shared the buying roles of the Public Health Commission after 18 months (Cumming, 2016).

Cumming (2016) claims there were three fundamental advances to public health during this time. First, the Regional Health Authorities assigned funds to build durable and lasting capacity among Māori and Pacific providers. Boulton, Gifford, Allport and White (2018) agree and credit the regional health authorities with "paving the way for the establishment . . . of the Māori provider sector" (p. 46). Secondly, regional health authorities set up PHARMAC to reduce the cost of medicines. Thirdly, general practitioners organised themselves into buying groups creating better service choices for the public at less cost (Cumming, 2016; Gauld, 2003).

In 1996 the first election under Mixed Member Proportional Representation returned a National and New Zealand First coalition government. This Government favoured a health system with a central purchasing agency and so set up the Health Funding Authority (Ashton & Baurista, 2011). It also sought more collaboration between hospitals, community trusts and general practitioners to produce a more integrated health service. Hospitals became Crown health enterprises and restructured into not-for-profit entities. Some hospital services were contracted out to community providers (Ashton & Baurista, 2011; Cumming 2016; Quin, 2009). Independent practitioner associations started to form, so general practitioners could also negotiate contracts for services (Ashton & Baurista, 2011).

However, the Labour Party did not approve of the central purchaser–provider model (Cumming, 2016). When it came to power with the Alliance Party in 1999, it soon passed the New Zealand Public Health and Disability Act (2000). This brought back 21 district health boards with publicly elected boards, including Māori representation. The Government dis-established the central Health Funding Authority and split purchasing roles

between the Ministry of Health and district health boards (Cumming, 2016). The strategic policy and funding decisions remained with the Ministry of Health (Gauld, 2003).

The New Zealand Public Health and Disability Act (2000) also specifically aimed to reduce the health disparities for Māori (Gauld, 2003). In 2002, *He Korowai Oranga: Māori Health Strategy* (King & Turia) encouraged a whānau-centred approach to improve the health of Māori.

In 2008, the National Party formed a coalition government with minority support from United Future, ACT New Zealand and the Māori Party. This Government introduced Whānau Ora, a kaupapa Māori approach to delivering a range of social and health services to whānau. The Taskforce on Whānau-Centred Initiatives (2010) recommended Whānau Ora services be "integrated and comprehensive" (New Zealand Productivity Commission, 2015b, p. 2). Whānau services were to take a strengths-based approach to aid whānau to work towards well-being (New Zealand Productivity Commission, 2015b).

One critical element of Whānau Ora was that whānau determined their ambitions for the process. The Whānau Ora partners consolidated services for whānau, with a navigator helping them access what they needed. Also, three commissioning agencies each ran different commissioning and purchasing processes to buy services. These commissioning processes were competitive and allowed the agencies to purchase services from providers individually, through provider collectives, or through other Whānau Ora partners – including businesses (New Zealand Productivity Commission, 2015b).

According to the New Zealand Productivity Commission (2015b), the Whānau Ora approach benefited Māori communities as it meant the "agencies have significant reach into their communities, giving them the ability to respond to emerging needs relatively quickly" (p. 15). The New Zealand Productivity Commission (2015b) also noted that these commissioning agencies brought a nuanced and practical approach to detecting needs, procuring efficiently, and realistically tracking what might be considered suitable progress.

The focus of this research is on contracting-out more generally for public health services. Whānau Ora projects are therefore out of the scope of this research project because they are a specific group of projects taking a kaupapa Māori approach. Discussion of Whānau Ora is included in this background section as the contracting approaches and skills providers and navigators brought to the community impact service provision in other areas.

In addition to initiatives for Māori, in 2010 the Ministry of Health and Ministry of Pacific Affairs jointly developed the first version of *Ala Mo'ui – Pathways to Pacific Health and Wellbeing*. *Ala Mo'ui* provided an integrated plan of ways to improve the health of Pacific peoples (Ministry of Health & Ministry of Pacific Affairs, 2010), which was revised and updated in 2014 (Ministry of Health).

The current Labour/New Zealand First coalition government, as at August 2019, continues to search for better ways to provide effective public health services to diverse communities. Three new initiatives may herald further changes in the delivery of public health services in New Zealand. Firstly, in 2017, the Labour Party and New Zealand First coalition came into power with confidence and supply support from the Green Party. In 2018, this Government launched a New Zealand Health and Disability System Review. This review focuses on "wellness, access, equity and sustainability" (New Zealand Health and Disability System Review, 2018, p. 1). It is the first major review of health services since the late 1980s. Reporting is due in March 2020 (New Zealand Health and Disability System Review, 2018).

Two new reports have been published highlighting the inequitable outcomes for Māori and need for change in the health sector. The first report by the Health Quality & Safety Commission (2019) *A window on the quality of Aotearoa New Zealand's health care 2019: A view on Māori health equity* concludes that there is ongoing inequity and institutional racism against Māori in the health sector that must be addressed.

A report from the Waitangi Tribunal (2019), *Hauora: Report on stage one of the Health Services and Outcomes Kaupapa Inquiry* found that the Health and Disability Act 2000 does not comply with the Treaty of Waitangi, nor helps achieve equitable health outcomes for Māori. Relating to the research for this thesis, the Waitangi Tribunal recommended all contracting documents should reference the Treaty. The Waitangi Tribunal also reported that "Māori primary health organisations were underfunded" (2019, p. xiii) and that this has been known for more than ten years. As part of this report the Waitangi Tribunal recommended a methodology be developed to assess the extent of the underfunding Māori primary health organisations and health providers since the introduction of the Health and Disability Act 2000. Further, the tribunal found that in future funding needed to "better align with the aim of achieving equitable outcomes for Māori" (Waitangi Tribunal, 2019, p. xv). There was also concern that "Māori health outcomes are not systematically measured or reported on" (Waitangi Tribunal, 2019, p. xiv) and that data collected was not used productively nor shared with the wider community. The Waitangi Tribunal also found that district health board governance processes were not operating in partnership with Māori, nor were they effective.

Secondly, the 2019 Wellbeing Budget signals an intention to consider the health of "our natural resources, people and communities" along with economic measures (The Treasury, 2019, p. 2) in assessing progress. Areas of health included in the wellbeing indicators are: "life expectancy, health status, mental health and suicide rate" (The Treasury, 2019, p. 10). Ministers will "[assess initiatives] on the difference they would make across a range of economic, social, environmental and cultural considerations, with a long-term view of intergenerational outcomes" (The Treasury, 2019, p. 8). Increased funding has gone into several public health initiatives including: targeting mental health and suicide prevention, rheumatic fever, bowel screening, Whānau Ora, and services provided by district health boards (The Treasury, 2019). The well-being approach to deciding the initiatives funded has the potential to impact on contracting out of public health services in the future because it takes a broader and longer-term view.

Thirdly, the government plans to repeal The State Sector Act 1988 and replace it with a Public Service Act late in 2019. In announcing the changes, the Minister of State Services, Chris Hipkins (2019) said "when it comes to the really big and complex challenges it doesn't work anymore to put a single agency on the job" (p. 1). The new Act aims to create a "modern, agile and adaptive Public Service" (State Services Commission, 2019, p. 1).

In this section, the public health service provision was described within the broader government contexts. The belief system espoused in *New Public Management* was articulated. Next, the strengths and weaknesses of the *New Public Management* approach and the challenges for contracting out are explored. The literature used draws from New Zealand experience and on observations by writers from the United Kingdom.

Contracting out in a *New Public Management* context

This section firstly discusses the origins of *New Public Management*. It then considers the strengths and weaknesses of the approach overall.

New Public Management draws on management approaches from the private and business sectors and applies them to the public service (Eppel & Karacaoglu, 2017; Haynes, 2015, 2017; Knight et al., 2017; Teisman & Klijn, 2008). *New Public Management* supporters assume business and not-for-profit organisations are more competitive and efficient in providing services, including public health services, than government agencies (Haynes, 2015).

Hood (1991) notes that supporters of *New Public Management* suggest it promotes greater accountability, more explicit performance measures and goals, and focuses on performance and results. Supporters suggest a re-organised and decentralised public service can result in efficiency gains – often through purchasing arrangements. Competition is thought to drive a focus to lower costs – and thus reduce service costs more than would be possible in a non-competitive environment.

Haynes (2015) saw similar benefits to Hood (1991) and some additional strengths of *New Public Management*. Haynes (2015) suggested that with shorter to medium-term plans, providers could focus on delivery and what might happen as a result. Delegated decision making meant decisions to allocate resources could rest those with those responsible for managing implementation. Delegated decision making also allowed for a broader range of partnerships between sectors, including the public, non-government and private sectors Haynes suggested.

Theorists have also pointed out the potential weaknesses of *New Public Management* approaches. Hood (1991) claims they privilege private sector management approaches over the public service ethos of service. Several writers (Brunton & Pick, 2014; Eppel & Rhodes, 2017; Haynes, 2015; Knight et al., 2017; Lavoie, Boulton, & Dwyer, 2010) maintain there is value in a public sector that acts for the public good.

Haynes (2015) observes a *New Public Management* approach is, at times, too fixed and does not prioritise human aspects. He maintains a market or private sector approach can adversely affect or impact on public service professionals' confidence in their professional practice. With *New Public Management*, it is possible to lose focus on human rights issues. *New Public Management* also affords less clarity on accountabilities, making it possible for politicians to transfer the blame away from themselves. Other theorists agree with many of these observations (Brunton & Pick, 2014; Eppel & Rhodes, 2017; Haynes, 2015; Knight et al., 2017; Lavoie et al., 2010).

Haynes (2015) also suggests a *New Public Management* ethos creates tension for public service policymakers as to whether to hold responsibility and budgetary control within the central government or devolve it to a local level. While centralisation potentially offers greater control, devolution allows more innovative local solutions to local problems. As noted earlier, New Zealand experienced four significant reforms to the public health system between 1987 and 2001 that oscillated between centralised and decentralised purchasing models before it settled in a decentralised model (Ashton & Bautista, 2011; Ashton, Tenbensel, Cumming & Barnett, 2008).

Haynes (2015) writes that *New Public Management* favours a privatised model of ownership over a public model. But when service provision and quality is not reliable and trustworthy there is a loss of public confidence (Brunton & Pick, 2014). Because of this, Government agencies try to avoid holding poorly performing contracts (Brunton & Pick, 2014; Haynes, 2015).

Haynes (2015) notes another challenge for policymakers is in deciding whether to delegate control of public services to managers or professionals. Haynes sums up the tension well when he says it relates to:

> "the fundamental difference between the business and public service environments. The public service environment is often more complex than the business environment; it does not lend itself easily to market accountability and price-based allocation. The public service environment is characterised by its intricate systems and complex accountabilities. The importing of managerial ideas from business into the public service environment is therefore fraught with difficulties" (p. 15).

A *New Public Management* approach aims to standardise service delivery, believing it is more cost-efficient than customised service delivery (Haynes, 2015). However, a one-size-fits-all approach to service delivery potentially misses some critical subgroups (New Zealand Productivity Commission, 2015a). Also, an approach that focuses on meeting the needs of individuals does not necessarily adapt to providing for groups, such as Māori whānau (Dwyer et al., 2013; Lewis, Lewis & Underhill-Sem, 2009.

Also, a tension exists in *New Public Management* between whether politicians or the market are ultimately accountable to the public for public service delivery (Haynes, 2015). Where central government agencies provide services, citizens know that the minister for each agency holds the final accountability for that service. The government seeks a mandate to continue a policy approach at each election. Where marketisation of services occurs, the market becomes accountable to the customer. Therefore, the *New Public Management* approach potentially devolves the responsibility for public service delivery from politicians to managers.

Haynes (2015) suggests that a *New Public Management* approach can pose a risk for political democracy; a point also made by Grey and Sedgwick (2013). If citizens no longer believe politicians are accountable for public services, there is the potential for them to shift their emphasis to civic involvement in the services that matter to them. Haynes (2015) observes this lack of accountability has the potential to result in lower turnout at elections.

Grey and Sedgwick (2013) suggest that providers who also act as advocates for communities may be "constrained" (p. 3) to speak up if it affects their ability to win contracts for future work.

Contracting out practices for public health interventions in New Zealand

Having explored the possible strengths and weaknesses of *New Public Management*, this next section of Chapter 1 reviews the literature on the current contracting out practices for public health interventions. First a definition of contracting out is provided. Next, the strengths and weaknesses of current contracting-out practices for public health services are discussed.

To define contracting out for this thesis I draw on the work of Alford and O'Flynn (2012). Affiliated with the Australia and New Zealand School of Government, Alford and O'Flynn's text *Rethinking public service delivery: Managing with external providers* is directly relevant to a New Zealand setting. They define contracting out like this:

> Contracting out is the transfer of activity from the public sector to external parties, and involves government organizations entering into contracts with others, usually private or non-profit organizations and in some cases other government organizations. In engaging each party to carry out the activity, government *usually* retains the responsibility for determining what will be provided and the financing for the delivery of the service for function. Contracting out is generally considered a form of privatisation because it involves a reduction in government involvement and an increase in private activity . . . Contracting (with the 'out') refers to the distribution of roles. It is *different* from just 'contracting', which refers to the mode of co-ordination" (Alford & O'Flynn, 2012, p. 86).

Contracting out is a core feature of *New Public Management* both in New Zealand and overseas (Ham, 2008; Petsoulas, Allen, Hughes, Vincent-Jones, & Roberts, 2011). Contracting out is an important method used for arranging public health and social services in New Zealand (New Zealand Productivity Commission, 2015a). The New Zealand Productivity Commission (2015a) also describes six other models for arranging the delivery of services. The "in-house provision" model (p. 11) is where the government agency provides the service; and "managed markets" (p. 11) is where several providers vie for a share of the market. The New Zealand Productivity Commission also identified models that promote more co-operative models of engagement. At times "trust models" (pp. 11–12), which assume providers act honourably for the good of customers, are useful. At other

times “shared goal models” (p. 12) are useful as they encourage providers to collaborate for the common good by jointly providing services. Two other models the New Zealand Productivity Commission considered useful were the “client-directed budget models” and “voucher models” (p. 12) which offer more variety to consumers – provided they are sufficiently able to make those choices.

Alford and O’Flynn (2012) suggest there are three main contract types in contracting out – “classical contracting”, “relational contracting” and “service agency (quasi-contracts)” (p. 103). Each type of contracting type is best suited to certain situations. Classical contracting is used where: a) there are enough potential providers to run a competitive process, b) organisations other than government can deliver a superior or a lower cost service, c) it is possible to describe the required deliverables and assess the progress and quality of delivery, d) there is no strategic reason for government to retain control of the service.

By comparison, Alford and O’Flynn suggest relational contracting is more suitable where: a) there are not enough providers to run a competitive contracting out process, b) if organisations work with government together they can deliver a superior or a lower cost service, c) it is hard to describe the required deliverables and assess the progress and quality of delivery, d) there is no strategic reason for government to retain control of the service.

Alford and O’Flynn observe that service agency (quasi-contracts) are appropriate where: a) it is not possible to run a competitive process, b) there are no organisations who can work with government, c) it is possible to describe the required deliverables and assess progress and quality of delivery, d) there is a strategic reason for government to retain control of the service.

In New Zealand, public health services are contracted out by the Ministry of Health and District Health Boards to a wide range of providers (Williams et al., 2015). In the opening statement, some of the challenges faced by government agencies and providers in contracting out for services were described. As the New Zealand Productivity Commission (2015a) observed, contracting out for health or social services in New Zealand is not always well imagined, carried out or monitored.

Gauld (2003) observes important differences between *New Public Management* and other forms of public sector delivery. He suggests that while *New Public Management* draws from the ideas of business, one of the problems of this approach is that the public sector is

unlike business in many ways. He notes that the *New Public Management* model has tensions with a public sector delivery model in the ways outlined in Table 2.

Table 2: Differences between the business and public sectors

Business sector	Public sector
• Pursues an increase in market share and profitability. Withdraws from the market if not profitable.	• Pursues public good. Meets political and social needs. Necessity drives delivery. Withdrawal of services rare.
• Has self-determined goals; targets key customer groups	• Has politically determined goals, supports democracy
• Controls production, can increase funding if required	• Has limited control of production and less leeway to increase funding
• Has a profit motive	• Has a public duty motive
• Can adjust prices to respond to supply and demand.	• Demand increases waiting times, not price. Often there is a limited range of providers.
• Market competition provides choice	• May be some market competition, but often minimal market choice

Source: Summarised from Gauld, R. (2003, pp. 4–15).

Gauld (2003) asserts there are unique aspects of the public health system that make service delivery and hence contracting out for services difficult. Head and Alford (2015) suggest these could be described as “wicked problems” which are “complex, unpredictable, open-ended or intractable” (p. 712). Gauld (2003) suggests public health includes a range of interdependent interventions that interconnect with other aspects of policy such as housing and education. Identifying the best policy configurations is not clear cut, and often decisions are made with incomplete information. There are sometimes only a few organisations that can provide services, and the health workforce has many unique and specialist skill sets. Further, medical and pharmaceutical professions leverage and influence public health policy and service delivery at times. At the same time, there is an increasing demand for public health services; health care is highly political and often a “crucial” election issue (Gauld, 2003, p. 15).

Issues with contracting out

Some of the challenges that exist for contracting out from the funder’s perspective are longstanding. Back in 1996, Boston pointed out that contracting out could be challenging for those in the public sector to do well. He suggested funders who contracted out for

"human services" (Boston, 1996, p. 108) need to state clearly their service requirements and terms of reference in writing and agreeing on what makes up successful performance. However, time spent trying to agree on the contract requirements and the monitoring process could be costly to both funders and providers. Boston, therefore, recommended that funders determine ahead of time the estimated cost of the contracting out process and management of contracting out.

Boston (1996) observed that demand for services could be unpredictable. Therefore, he cautioned funders against being too specific about contract outputs or relying on certain suppliers. He recommended funders run a genuinely competitive process, check contracting out processes did not create unintended effects for service providers, and ensured the providers delivered cost-effective services. He believed the contracting out processes should be transparent, diligently carried out, genuinely competitive and free of undue influence, and clearly state intellectual property and ownership rights and expectations.

Boston (1996) also thought those with a political responsibility needed to keep a line of sight on contracting out of government services. Also, organisations contracting out for human services needed to preserve the capacity to ensure constant learning for policy development occurred and to retain valuable knowledge about the service.

This section next draws on the work of Came et al. (2018) to describe features of the current system of providers contracting out with the Ministry of Health or district health boards. Their research offers a useful snapshot of the current contracting-out processes and how contracts are managed with many public health providers.

Overall control of the services to be contracted out and the budgets allocated is retained by the Ministry of Health or the district health boards. The Ministry of Health develops an *Annual Plan and Planning Priorities Guidance* (Ministry of Health, 2019) for district health boards to use in their annual planning process. These plans outline the national public health priorities, which district health boards then adapt these to their region. The plans also help district health boards to stipulate and contract out public health services. The contracts described by Came et al. (2018) align with Alford and O'Flynn's (2012) definition of classical contracts for services. Contracts with providers are yearly and were often "rolled-over" (Lovell, Kearns, & Prince, 2014, p. 314). Came et al. (2018) identified that while providers could hold contracts for more extended periods, Māori providers were more likely to hold contracts of less than two years' duration. Shorter contracts made it harder for

providers to plan longer term and to keep or attract staff – and this was particularly so for the Māori workforce (Came et al., 2018; Lovell et al., 2014).

Came et al. (2018) described several steps in the monitoring process for classical contracts that funders and providers took part in to ensure the delivery of services was going according to plan. Contract monitoring usually occurred six-monthly for providers who prepared a report detailing progress. Bigger, more well-known providers produced six-monthly reports by exception – describing anything that had gone well or explaining if they were behind the plan. Instead of six-monthly reporting, these more prominent providers delivered a comprehensive annual report.

Providers sent progress reports to their portfolio manager, who responded either in writing or face-to-face. Providers believed the relationship with and skills of their portfolio manager were “central to their experience of public health contracting” (Came et al., 2018, p. 136). Challenges for providers included the high turnover of portfolio managers and portfolio managers’ heavy workloads which influenced the “frequency and quality of contact” (Came et al., 2018, p. 136).

At times, providers described having a high trust relationship with the portfolio manager (Came et al., 2018). In these instances, providers worked with the portfolio manager directly to develop their feedback reports. A few Māori providers experienced positive relationships with portfolio managers. Other Māori providers disliked the distant way monitoring occurred in classical contracts, with a focus on reporting numbers (outputs) rather than results. These providers thought monitoring was “one-sided” and remarked they would prefer a “face-to-face” approach (Came et al., 2018, p. 135). Other authors have also described the monitoring process for providers as “excessive” (Boulton et al., 2018, p. 51).

Sometimes an independent auditor reviewed a provider using a “more formal and rigorous process” (Came et al., 2018, p. 135). The auditing process confirmed financial records and provider activity and was focussed on outputs. Fifty-nine per cent of the generic providers and eighty-five per cent of Māori providers received audits in the past five years. The process was at times challenging to all providers, but Māori found it “burdensome” (Came et al., 2018, p. 134), mainly where they had many contracts requiring several audits. Some Māori providers thought the auditors “lacked empathy” making the experience “quite traumatic” (Came et al., 2018, p. 134). Overall, Māori providers thought the time and money costs to conform with contractual requirements were higher for them than for other providers (Came et al., 2018). Other research has come to a similar conclusion (Boulton et al., 2018).

All providers surveyed said cost-of-living adjustments were made to their contracts and they obtained access to discretionary funding in the past five years (Came et al., 2018). However, providers thought the Ministry of Health and district health boards seemed to contract smaller providers less than previously and contract larger entities more. Providers also felt there was a power imbalance between themselves and funders (Came et al., 2018).

Other authors (Boulton et al., 2018; Lovell et al., 2014) also commented that funding for public health services is inadequate and does not contribute sufficiently to providers administrative costs, a finding recently confirmed by the Waitangi Tribunal (2019) for Māori providers. These researchers (Boulton et al., 2018; Lovell et al., 2014) also found funders used a low-trust approach to contracting out for services, with few opportunities for learning.

Summary

This chapter provided an overview of the history of the public health service and some of the main influencers on delivery. It described the political shift to *New Public Management* and how this had direct impact on the way public health services are delivered. It defined contracting out and described the challenges with contracting out. Government agencies continue to drive decisions about which services to provide and the level of funding allocated. This is despite feedback from both academics and providers that there may be alternative ways to approach service delivery (Alford & O'Flynn, 2012; New Zealand Productivity Commission, 2015a).

In conclusion many of the challenges to contracting out that Boston identified in 1996 are still issues today (Brunton & Pick, 2014; Came et al., 2018; Cumming 2016, Eppel & Karacaoglu, 2017; Lovell et al., 2014; New Zealand Productivity Commission, 2015a). Despite claims that a *New Public Management* approach is "ill suited" (Head and Alford, 2015, p. 719) for dealing with the complexity and uncertainty in the public service, public servants continue to practise many aspects of *New Public Management* to this day (Eppel & Karacaoglu, 2017). Eppel and Karacaoglu (2017) argue there is a need for an alternative approach to *New Public Management* as it does not adequately address the challenges the government faces in "complexity and uncertainty" (p. 380).

Both Eppel and Karacaoglu (2017) and Head and Alford (2015) suggest complexity theory may help public servants to find alternative ways to think through and come up with options to work on wicked problems including ways of contracting out for public health services.

The problem this research aims to explore is whether there might be other ways of thinking about contracting out for public health services, using a complexity theory framing. The next chapter explores complexity theory in more detail.

Chapter 2: Why complexity theory?

This thesis considers contracting out from the perspective of complexity theory (Eppel et al., 2011). Other public service models, besides *New Public Management* that inform contracting out of health and social service interventions in other parts of the world, include governance (Klijn, 2012) and evidence-based-policymaking (Ansell & Geyer, 2017; Geyer, 2012). However, complexity theorists (Eppel et al., 2011; Eppel & Karacaoglu, 2017; Haynes, 2015) suggest public services are complex adaptive systems, and therefore, complexity theory has the potential to provide new insight to understand them.

The chapter begins with a general background to complexity theory – its origins, the challenges of providing a definition, and some of the different theories that writers draw on when referring to complexity. Next, the chapter briefly covers the use of complexity theory in public administration and public management. Finally, the chapter captures writing from New Zealand and overseas that suggests that complexity theory may provide a useful lens for reflecting on the contracting out of public health and social services.

Origins of complexity theory

European thinking about complexity extends as far back as the late 17th century (Nidditch, 1975), even though today it remains a developing and poorly defined field (Eppel & Rhodes, 2018). John Locke, a 17th-century English philosopher and doctor, wrote about simple and complex ideas, noting: “Ideas thus made up of several simple ones put together, I call Complex:– such as Beauty, Gratitude, a Man, an Army, the Universe” (Nidditch, 1975, p. 164).

One of the founders of modern systems science was biologist Ludwig von Bertalanffy (Jackson, 2003) who wrote about systems thinking from 1932. Von Bertalanffy (1950) asserted that biological organisms work as a whole, within an environment. He coined the term “general systems theory” (1950, p. 28) to describe the open systems he saw in biology. He noticed that even where a disturbance occurs, organisms as open systems incline to equilibrium over time. Exchanges within open systems are irreversible and open systems can take many paths to get the same result, in his view. According to von Bertalanffy, feedback helps preserve equilibrium in open systems. He also suggested that general systems theory was transdisciplinary. Many scholars picked up von Bertalanffy’s general systems theory ideas, including academics from the organisational development field (Jackson, 2003).

There are critical differences between complexity theory and general systems theory (Byrne and Callaghan, 2014; Haynes, 2015). Haynes (2015) makes a useful distinction when he proposes that general systems theory assumes systems trend towards equilibrium. Complexity theory, by comparison, focuses on actors and feedback that self-organises and is "prone to periods of unpredictable instability" (Haynes, 2015, p. 23), rather than returning to equilibrium.

Some theorists trace the origins of complexity theory to mathematics, fractal geometry, dynamical systems and chaos theory (Mitchell, 2009). Sociology theorists, such as Castellani and Hafferty (2009, p. 26), suggest complexity theory developed in the 1940s and 1950s from general systems theory and cybernetics. Morçöl (2005) suggests that complexity theory first appeared in writing from the systems sciences and attracted scholars from both the natural and social sciences (p. 298). Urry (2005) describes a "complexity turn" where writing about complexity entered the "social and cultural sciences" (p. 1) during the 1990s. In the 1990s writers such as Capra (1996), Stacey (1996), Byrne (1998) and Cilliers (1998) started writing about complexity theory for human systems.

Today, the study of complexity theory occurs in disciplines ranging from biology and physics, through to health, education, public policy, sociology, education and business (Cairney, 2012; Eppel & Rhodes, 2018; Haynes, 2015; Woermann, Human, & Preiser, 2018). More recently, Byrne and Callaghan (2014) suggest that "complexity theory represents an important challenge to the disciplinary silos" (p. 3).

Within the writing about complexity theory there are different ways to view a system. Meadows (2002), a systems thinker, defines a system through its purpose - as "a set of things – people, cells, molecules, or whatever – interconnected in such a way that they produce their own pattern of behaviour over time" (p. 2). Haynes (2015) suggests complex systems are "unpredictable, while operating within some degree of stability" (p. 47). According to Byrne and Callaghan (2014), complexity is a property of systems. A system is "a set of interrelated elements and that a complex system is one in which, in plain English, the whole is greater than the sum of its parts" (Byrne & Callaghan, 2014, p. 4).

Cilliers (1998) includes relationships, suggesting that "a complex system is not constituted merely by the sum of its components, but also by the intricate relationships between these components" (p. 2). Cilliers (1998) also notes:

> "[C]omplexity is not located at a specific, identifiable site in a system. Because complexity results from the interaction between the components of a system,

> complexity is manifested at the level of the system itself. There is neither something at a level below (a source), nor at a level above (a meta-description), capable of capturing the essence of complexity" (pp. 2–3).

Complexity theorists' links with the philosophy of science

Not only do complexity theorists come from different disciplines, they also explore complexity theory from diverse philosophical lenses (Morçöl, 2012). Morçöl suggests that when reading complexity literature, it is useful to understand the philosophy of science and the different world views (epistemologies), ways of knowing (ontologies), and the theoretical positions that scholars take. Morçöl notes that authors writing about complexity theory in public administration or management adopt many approaches, including: postmodernism and post-structuralism (Cilliers, 1998), pluralism (Mitchell, 2009; Richardson, 2008), phenomenology (Morçöl, 2012; Prigogine & Stengers, 1984), critical realism (Byrne & Callaghan, 2014), and pragmatism (Sanderson, 2009). Different approaches to complexity theory can be useful in public policy (Byrne & Callaghan, 2014; Morçöl, 2001, 2005) or public management settings (Haynes, 2017). Thus, we might think of complexity theory as a platform upon which other theories might be applied or "layered" (Westhorp, 2012, p. 406).

As a starting point, exploring the differences between a positivist approach and complexity-informed approaches is useful because it makes the distinctions more explicit and helps define a complexity approach. Morçöl (2012) compares positivism with the approaches of several complexity theorists (Cilliers, 1998; Mitchell, 2009; Prigogine & Stengers, 1984; Richardson, 2008). Using the criteria of "determinism, certainty, predictability, objectivity, generalisability and contextuality", Morçöl (2012, p. 143) suggests the different epistemological positions transform "the traditional understanding of systems in important ways" (Morçöl, 2005, p. 298). In other words, different world views offer alternative paradigms (Kuhn & Hacking, 2012) and so the meaning, what is in and out, and the voices privileged can change, based on the epistemological perspective taken.

Morçöl (2012) points out that positivism (as in Newtonian science) supports a reductionist approach, which is a belief it is possible to reduce situations down to parts or model situations, and to discover possible alternatives and make predictions. He does not believe that reduction is possible in complex adaptive systems, such as those of public administration and management. Instead, he and others (Byrne & Callaghan, 2014; Cilliers, 1998; Eppel & Rhodes, 2018; Haynes, 2008; Morçöl, 2012; Room, 2011) propose that

complexity theory offers different ways of thinking to help address the uncertain and unpredictable.

Several theorists working with complexity theory in public administration agree that complexity usefully challenges traditional positivist Newtonian science (Byrne & Callaghan, 2014; Cilliers, 1998; Eppel & Rhodes, 2018; Haynes, 2008; Morçöl, 2012; Room, 2011). Ansell and Geyer (2016) assert that *New Public Management* has many of the hallmarks of positivism. Eppel & Karacaoglu (2017) argue there is a need for an alternative approach to *New Public Management* as it does not adequately address the challenges the government faces in "complexity and uncertainty" (p. 380).

A critique of complexity theory comes from Pollitt (2009) who reviewed the other chapters in *Managing complex governance processes: Dynamics, self-organization and co-evolution in public investments (*Van Buuren & Gerrits, 2009). Pollitt saw complexity theory as expressed in that publication as positivist; first, because the theory originated from "the hard sciences of biology and physics" and second, because it "claim[ed] to be uncovering reality" (p. 216) in which governments operate. Pollitt claimed the epistemological roots of complexity theory were unclear. He suggested there was a need for some form of testable hypothesis of how the theory worked, and it should be compared with other theories to see if it really offered value. He also thought there was a need for a wider range of methodologies than case studies and suggested complexity theory might best be combined with other theories. However, Haynes (2015) countered that Pollitt did not understand complexity theory well because he expected it to be "empirically demonstrated" (p. 28), which was itself a concept from Newtonian science.

Defining complexity theory

Given multiple origins and differing perspectives of complexity theory, defining complexity theory is challenging. Theorists agree that a commonly agreed-on definition of complexity theory does not exist (Byrne & Callaghan, 2014; Cairney & Geyer, 2017; Cilliers, 1998; Darking, Haynes, & Stroud, 2018; Eppel & Rhodes, 2018; Haynes, 2015; Morçöl, 2012; Rhodes et al., 2010; Room, 2011; Walton, 2014).

As well as differing epistemological positions or world views, scholars also often combine complexity theory with other disciplinary traditions. In the public policy arena, Morçöl (2012, p. 1) combines complexity theory with public policy and Haynes (2015) with public management. So, as Cairney and Geyer (2017) remark, developing a shared language of complexity theory is difficult because "the danger is that the same words mean different

things in each discipline" (p. 2). Also, within the disciplines, scholars "express major differences of approach and understanding" (Cairney & Geyer, 2017, p. 2). Instead, multiple words and framings describe complexity theory. Words used include: *complexity theory* (Byrne & Callaghan, 2014; Eppel & Rhodes, 2018), *complex adaptive systems* (Haynes, 2015; Sanderson, 2009), *complex systems* (Morçöl, 2012), or *complexity* (Geyer, 2012). At times these terms refer to similar ideas, but also significant differences can exist.

This thesis uses the term *complexity theory* and a definition drawn from Eppel and Rhodes' (2018) recent editorial from a special issue of *Public Management Review*. There are two reasons for selecting this definition at this time. Eppel and Rhodes' paper draws on and agrees with the ideas of several scholars who write about complexity theory (Byrne & Callaghan, 2014; Cilliers, 1998). It aligns with the ideas of complexity theorists currently writing in public policy or public management (Cairney & Geyer, 2017; Haynes, 2015; Morçöl, 2012; Sanderson, 2009; Walton, 2014). Eppel and Rhodes (2018) define complexity theory as follows:

> "Complexity theory explains the way many, repeated non-linear interactions among elements within a whole result in macroforms and patterns which emerge without design or direction. Further, an initial pattern might be disrupted by external events or internal processes and reform into some new pattern . . . The future is a contingent, emergent, systemic, and potentially path dependent product of reflexive non-linear interactions between existing patterns and events. Its variety, diversity, variation, and fluctuations can give rise to resilience and adaptability; is path dependent, contingent on local context and on the sequence of what happens; subject to episodic changes that can tip into new regimes; has more than one future; can self-organize, self-regulate; and have new features emerge" (p. 2).

Many of the non-positivist epistemologies align with Eppel and Rhodes' (2018) definition of complexity theory. This thesis uses a complex realist epistemology, which is described in detail on pages 43-44, because this aligns with the work of several of theorists writing about complexity theory in public management (Eppel et al., 2011; Eppel & Rhodes, 2018; Haynes, 2015; Walton, 2014). Byrne (2011) proposes that complex realism is useful because although complex programmes operate in complex circumstances, he believes it is possible to identify mechanisms that might provide levers for desired change.

Restricted and general complexity

This section now outlines the origins and explores two approaches to complexity – "restricted complexity" and "general complexity" (Morin, 2006). These two approaches are important because theorists supporting each have different perspectives about *how* systems change (Byrne and Callaghan, 2014). Next, the reasons for selecting "general complexity" for this thesis are discussed.

One approach to complexity called "restricted complexity" originated in work done by the Sante Fe Institute, renowned for contributions to artificial intelligence (Castellani & Hafferty, 2009). The Sante Fe Institute has a strong focus on mathematics (Mitchell, 2009) and aimed "to mathematically model complex systems to find the few simple rules that govern system behaviour" (Walton, 2014, p. 124).

However, Byrne explains that one of the challenges of restricted complexity is it assumes there is "no structure, no social, before the micro interactions" (2011, p. 27). Byrne (2011) argues: "this is wrong" (p. 27) maintaining interactions emerge from both the macro and the micro. While Morin (2007) recognises modelling has developed considerably over the years, he agrees with Byrne and also critiques restricted complexity. He suggests one cannot know the past and future events in the system. He cautions against a reductionist approach, which simplifies an understanding of the system, isolates parts of the system to explore them, or generalises about them.

Morin (Gershenson, 2008) suggests "general complexity" is a useful alternative framing. Morin suggests general complexity stresses interactions within a system, so "not only the part is within the whole, but the whole is within the part" (Gershenson, 2008, p. 99), and Byrne agrees (2011). Those who espouse restricted complexity suggest that interactions emerge from the micro, while those who support general complexity believe interactions from the macro and micro simultaneously influence one another (Byrne, 2011; Gershenson, 2008).

One group of theorists who have engaged deeply with the notion of general complexity are from the "British-based school of complexity" (Castellani & Hafferty, 2009). These people drew from the work of academics at Lancaster, Durham and Surrey Universities in the United Kingdom and some European complexity theorist networks (Castellani & Hafferty). Some of the early leading scholars of general complexity were: Byrne, Cilliers, Gilbert, Goldspink, Richardson, Troitzsch, and Urry (Castellani & Hafferty, 2009). Since 2009 this network of scholars has grown, and based on those publishing, now includes the work of:

Befani, Cairney, Castellani, Eppel, Gerrits, Geyer, Matheson, Morçöl, Murphy, Uprichard and Walton.

Several theorists from the British-based school with an interest in public administration (Byrne, 2011; Byrne & Callaghan, 2014; Eppel, 2017; Eppel et al., 2011; Eppel & Karacaoglu 2017, Haynes, 2015; Walton, 2014) suggest that ideas of general complexity can usefully address some of the challenges of public administration (Byrne & Callaghan, 2014; Eppel, 2017; Haynes, 2015; Walton, 2014). This thesis follows general complexity as it has an emerging tradition of being applied in public policy and administration (Byrne, 2011; Byrne & Callaghan, 2014; Eppel, 2017; Eppel et al., 2011; Haynes, 2015; Walton, 2014).

In the following section, the focus now shifts to considering ways complexity theory can be useful in public management and public administration. Finally, the chapter will explore the writing about complexity theory as it relates to contracting out for public health and social services

Applying complexity theory in public management and public administration

Complexity theory has found a place in the study of public administration and public management, and many theorists have embraced complexity ideas (Byrne & Callaghan, 2014; Eppel & Karacaoglu 2017; Eppel et al., 2011; Eppel & Rhodes, 2018; Haynes, 2015, 2017; Morçöl, 2012; Room, 2011; Woermann et al., 2018). There are now regular articles in mainstream public administration and public management journals, such as: *Public Management Review, Public Administration Quarterly, Policy Studies*, Journal *of Health Services Research and Policy* supporting a claim that complexity theory is now established. Haynes (2015) remarks that “complexity theory is no longer an eccentric theoretical approach when taken outside of the natural sciences” (p. xiv). Morçöl (2005, 2012) suggests that insights from complexity theory can provide a useful way for “understanding . . . public policy processes” (Morçöl, 2012, p. xi). Eppel and Rhodes (2018) recommend complexity theory as a useful alternative to existing approaches, offering insights to the challenges of public management. Woermann et al. (2018) also support the use of complexity theory warning that it is not a panacea, but when used modestly and without overclaiming, it is both ethically responsible and necessary. This view is backed up by Cairney and Geyer (2017) who consider complexity theory “the right way to think” (p.3) about policy theory and practice.

Theorists (Byrne & Callaghan, 2014; Eppel & Karacaoglu 2017; Eppel et al., 2011; Eppel & Rhodes, 2018; Haynes, 2015; Morçöl, 2012; Room, 2011) suggest complexity theory offers an alternative way to think about and address complexity in public policy. It can help address uncertainty and unpredictability and face the "wicked problems" of public policy (Head & Alford, 2015, p. 719).

According to Rittel and Webber (1973), wicked problems in public policy are those that are hard to define and need continual planning to find workable solutions that will last for a limited period of time. They point out that wicked problems need different "modes of reasoning" (p. 166). Rittel and Weber observe policy planners' favoured responses may conform to their own beliefs – because there is no right answer; only possibilities to develop within "the ambiguity of their causal web" (p. 167). As wicked problems are hard to define and each is one of a kind, there are limitless possible solutions and there needs to be sufficient "trust and credibility" (p. 164) between policymakers and service users for decision making to occur. Rittel and Webber also observe that wicked problems may be high-level problems and that incremental changes may not effectively address them. Advance testing of solutions is not possible; each is a one-time chance for change with lasting effects.

Muir and Parker (2014), writing for a progressive think tank in the UK, suggest that public services are "failing to tackle the big social problems we face" (p. 1). They note these problems are more complex and expensive to address and "have multiple, non-linear and interconnected causes that feed off one another in unpredictable ways" (p. 1), which makes them difficult for progressive governments to manage. They suggest that approaches that address complexity are "more interconnected" and "allow for more intensive and personalised engagement" (p. 2).

Tenbensel (2015) in reviewing health policy suggests some of the concepts complexity theorists draw on, such as "path dependency, non-linearity and self-organisation", are "old wine in new bottles" (p. 374) for those from policy studies. Tensenbel (2015) concedes that while these concepts are not new, the "recombination of elements" (p. 374) usefully contributes complexity approaches to public management. He further suggests not dismissing ideas such as targets as being a useful policy tool, because they can be helpful when used alongside collaboration and learning. He provides an example of building immunisation levels in children in New Zealand by jointly working towards targets.

Haynes (2015) notes that a view of the public sector from a complexity perspective may differ from that of a positivist or *New Public Management* perspective. Looking from a

complexity theory perspective, Morçöl (2005) views the public sector as an open, non-linear system that is unpredictable and can be far from equilibrium. By contrast, Haynes (2015) suggests a positivist view of the public sector is as that it is a closed, linear, predictable system that is deterministic and tends toward equilibrium. This positivist view aligns with a classical contracting approach in New Zealand, which assumes contracting occurs in an environment of stability, predictability, certainty and controllability (Boston, 1996; New Zealand Productivity Commission 2015a). While classical contracting may work well for easily specified and delivered products, it is not necessarily suitable for complex public health and social services (New Zealand Productivity Commission 2015a). Rhodes and Eppel (2018) observe:

> "[T]he world in which public policy makers and administrators operate is not stable or controllable, and . . . traditional theories, models and management tools assume (to a greater or lesser extent) that it is. The inevitable failures that arise from this mismatch drive dissatisfaction with theory and the search for better models to fit the experience of practitioners and the empirical observations of scholars. There is also an undercurrent of psychological distress mitigation in the motivation for the . . . adoption of complexity perspectives . . . easing the pain of dealing with a rapidly moving, constantly changing environment" (p. 5).

Complexity theorists (Byrne & Callaghan, 2014; Cairney & Geyer, 2017; Eppel & Karacaoglu, 2017; Eppel et al., 2011; Gerritts & Marks, 2015; Haynes, 2015, 2017; Morçöl, 2005, Walton, 2014) see the public sector as a dynamic and changing system. Haynes (2015) suggests "public service managers are sailors navigating an ocean with a mix of unstable and stable weather" (p. 145). Therefore, public service managers need to collaborate with others to achieve change when conditions are favourable and lessen harm when they are not (Haynes 2015; Ryan, Gill, Eppel, & Lips, 2008). Haynes (2015) proposes that there is a high interdependence between the public and private sectors and that complexity theory challenges the public and private sectors to negotiate these interdependencies. Haynes (2015) also suggests there is a benefit in public service managers identifying the interdependencies between the public sector and other parts of a "notional" system that might be important to decision making.

Other complexity writers see the public sector as a nested system with multiple interdependencies between agencies and providers, making it impossible to see the whole system at any one time (Eppel & Karacaoglu, 2017; Eppel et al., 2011). Complexity theorists (Byrne & Callaghan, 2014) ponder, given the uncertain and unpredictable nature of complexity, what are good ways to collect, use and interpret data to understand the

changes taking place. As Eppel and Karacaoglu (2017) remark, “it would be wrong to assume that a macro-level analysis can be segmented among providers in a way that results in a simple addition of the parts to equal the whole” (p. 384). According to Morçöl (2005), complexity theory values capturing the richness of a situation and recognises the “role of the observer in the process of knowing systems” (p. 307). He suggests the observer is part of the system, rather than detached from it.

At times complexity theory scholars combined ideas from different epistemological paradigms, as displayed in the work of Wolf (2018). At other times it is impossible to combine theorists’ work, because they draw from different world views or views about how knowledge is created (Byrne & Callaghan, 2014; Morçöl, 2012; Raisio et al., 2018).

Ways complexity theory might be applied to contracting out of public health services

In looking for ways that complexity theory might be applied to contracting out, the work of Eppel et al. (2011) looked promising. Eppel et al. suggested “principles for practice” (p. 48) in using complexity theory to inform the design and implementation of government policy in New Zealand. These principles include: self-organisation occurs in ways that are not controllable, there is a continuous need to consider and adapt to local history and context; and it is not possible to see the whole system nor have complete knowledge of the system of interest. Eppel et al. drew on both the complexity theory literature and findings from three PhD research projects about New Zealand policy design and implementation. There is congruence between their observations and those of authors writing about contracting out through a complexity lens in the United Kingdom (Knight et al., 2017; Lowe & Plimmer, 2019; Muir & Parker, 2014).

Eppel et al. (2011) suggest that policymakers, funders, providers, and clients all self-organise in ways that cannot be controlled in advance. Therefore, policy managers need to expect the unexpected and be on the constant lookout for change. Because systems and parts of systems self-organise, policymakers may need to be able to continually adapt the design and implementation of policies and programmes. Lowe and Plimmer (2019) recommend that because of tendencies for self-organising, funders should “let go of the idea that they must be in control” (p. 5) of the way providers use resources. Knight et al. (2017) observe that funders and providers benefit if they act as peers – although they note this can be hard to achieve in practice. Lowe and Plimmer (2019) and Knight et al. (2017) consider there is more possibility to meet complex needs if funders build trusted rather than transactional relationships with providers. Muir and Parker (2014) reflect that “deeper

relationships at the frontline . . . allow for more intensive and personalised engagement" (p. 2).

As well, Lowe and Plimmer (2019) suggest funders should draw on providers' expertise and assume providers have intrinsic motivation for performing the services well. They consider it is less useful to rely on "extrinsic motivators", defined by Alford and O'Flynn (2012) as doing work for the money or taking part in monitoring to "avoid sanctions" (p. 64). Knight et al. (2017) agree that extrinsic motivation may not be the primary driver that motivates providers to perform services. Alford and O'Flynn (2012) believe there are other ways to motivate performance, including "intrinsic motivation" (p. 64) where people are self-motivated by the work they do. They observe other forms of motivation include "sociality" (p. 64), where people experience satisfaction in social connection, and "purposive values" (p. 64) where people receive purpose from taking part that goes "beyond their . . . self-interest (p. 64)".

Eppel et al. (2011) note that policy for making interventions must continuously consider and adapt to local history and context. Access to fragmented information means policymakers will often make decisions based on incomplete information. Therefore, the best way to act in ever-changing situations is to be open to continuously learning, including using time-sensitive and iterative evaluation. Lowe and Plimmer (2019) go further and suggest it is desirable to adapt services for "each person with whom they work", rather than offering "standardised" (p. 6) services. Knight et al. (2017) consider it is not only necessary to "view . . . the 'whole' person" (p. 16) but also to join services systemically to meet their needs. They suggest funding to providers should be for learning better ways to improve outcomes, rather than delivering a specified service. Knight et al. (2017) note that taking a learning approach changes the role of funders from "cash machines" to "conveners and influencers" (p. 16) and helps "create effective feedback loops" (p. 16). Lowe and Plimmer (2019) admit that this changes the role of information gathering and remark:

> "this challenges traditional, narrow forms of accountability based on targets and tick boxes. To meet this challenge, organisations are recognising the multiple dimensions of accountability and exploring who needs to provide what kind of account to whom. This process involves dialogue, not just data" (p. 6).

Eppel et al. (2011) take the view that it is not possible for policymakers to see the whole system nor have complete knowledge of the system – and policymakers need to accept this. Eppel et al. suggest, for example, that boundaries are unclear and who or what is included or excluded can shift over time. They propose there is no "best practice" and

always more than one way to address a problem, with reasonable solutions differing over time and with context. Knight et al. (2017) observe that even though it is difficult to achieve, funders have a "strong desire to promote system change" (p. 16). Lowe and Plimmer (2019) suggest that funders and providers can work jointly to produce "conditions for people to achieve better outcomes" (p. 6). In a collective model, funders are "stewards" who provide "care and support" (Lowe and Plimmer, 2019, p. 6). Lowe and Plimmer (2019) believe that good relationships are critical for successful service delivery across the whole system. Knight et al. (2017) agree and suggest "trusting honest relationships and the role of learning as a way to promote success" are at the heart of this systems change. Lowe and Plimmer (2019) encourage funders to shift from a traditional purchaser–provider split model to one of "collective responsibility" to help address the difficulty of incomplete knowledge of the system. Muir and Parker (2014) suggest a more relational model also meets "citizens' . . . demands [for] more relational forms of provision" (p. 2).

Based on the literature, it appears that complexity theory has the potential to inform contracting out practices for public health services. Complexity theory may provide an alternative perspective that advances public sector managers' understanding of the processes and dynamics of contracting out with a view to contracting differently in complex and unknowable settings.

This chapter provided a general background to complexity theory and then briefly discussed the use of complexity theory in public administration and public management. The chapter also proposed that complexity theory provides an alternative lens, which may yield some new insights on contracting out for public health and social services. The next chapter details the research methodology for this thesis.

Chapter 3: Methodology

Introduction

This chapter describes the methodology that guided the research design for this thesis. The theory used for the study is complex realism (Byrne, 2011), which combines critical realism with general complexity (Morin, 2007). In this chapter I describe Byrne's (2011) suggestion that complex realism first helps understand the world ontologically. Then I describe how Byrne sees complex realism as a constructionist epistemology (Byrne, 2011) that assumes knowledge can be created by drawing between people's different perspectives to "construct meaning" (Moon & Blackman, 2014, p. 1172). Byrne (2011) also suggests that complex realism provides a "meta-theoretical framework" (p. 28) for conducting social science research which, he asserts, is similar to Crotty's idea of "theoretical perspective" (p. 19).

The next section covers the research methodology. I explain the choice of a theory-driven realist approach for this study (Pawson & Tilley, 2008). A theory-driven approach draws on existing complexity theory, in this case from a literature review specifically designed to identify key complexity concepts. The rationale for using a qualitative approach for this exploratory study is then explained. This section also covers why semi-structured interviews were chosen to explore the complexity concepts as they apply in contracting out for public health and social services in New Zealand.

A description of the research methods follows, including descriptions of the participants and the research procedures. This section includes a description of the way ethical considerations were managed for this research. Then the analysis approach is outlined, drawing on the work of Ragin and Amoroso (2019) and Braun and Clarke (2006). The final section of this chapter covers the strengths and limitations of the study.

Philosophical position

An ontology of complex realism guides this thesis. Byrne (2011) combines critical realism and general complexity (Morin, 2007) to arrive at complex realism. Byrne draws on Bhaskar's definition of complex realism, which comes from Reed and Harvey (1992). Byrne (2011) asserts that it is possible to build knowledge of society – and there is some form of reality, but different people will see different realities. Therefore, context matters, and it is important to explore different "historical, cultural and social perspectives" (Moon & Blackman, 2014, p. 1172).

Byrne (2011) also points out that detecting causes of change in society is possible by identifying the interacting context with causal mechanisms. Byrne suggests there are only so many possible causal mechanisms that can occur and these are "influenced in the relation to specific outcomes – by the context . . . of [the] surrounding environment" (p. 23). Causal mechanisms are irreversible, the order of events matter, and mechanisms are only visible intermittently, according to Byrne.

Byrne (2011) also says sometimes different causes will be obvious to different people, and only some but not all causal mechanisms will be observable to all people. However, despite this variation Byrne still believes it is possible to provide accounts that help society understand why change happens. Byrne draws on Bhaskar's definition (Reed & Harvey, 1992) in asserting that some changes in society occur without anyone or anything taking the lead or having control. Again, drawing on Bhaskar, Byrne (2011) warns that we should not assign human traits to non-human entities, nor assume non-human entities have a spirit of some kind when we seek to understand causes.

The epistemology of critical realism, as noted in the introduction to this chapter, is constructionist (Byrne, 2011). Morçöl (2012) agrees with Byrne (2011) that complex realism assumes there are multiple realities in complex human systems and that we build reality socially, rather than assuming there is one objective reality. Any complexity-framed research design needs to allow for the multiple and complex causes present (Byrne & Callaghan, 2014).

Methodology

The previous section explained the theoretical perspective of the study. This section describes the methodology or "strategy . . . behind the choice and use of particular methods" (Crotty, 1998, p. 3) that underpins this study.

In searching for a suitable methodology for this thesis I sought one that would allow me to explore how complexity theory might better inform contracting out practices for public health services. I recognised there would be multiple realities, given the nature of complex adaptive systems in government agencies. Complexity theorists suggest that when exploring complex human systems such as public administration, researchers can use either qualitative or quantitative approaches (Byrne & Callaghan, 2014; Morçöl, 2012; Room, 2011). Byrne (2011) goes further and asserts the need to reconsider traditional "hierarchies of evidence which privileges the quantitative over the qualitative" (p. 31).

I wanted to discover how public sector managers might understand the processes and dynamics of contracting out if informed by complexity theory. Therefore, for this research I sought to better understand what Ragin and Amoroso (2019) describe as the "commonalities" (p. 51) in contracting out across a range of government organisations. As well, they suggest qualitative research is useful for preliminary exploration of a topic, which aligned with my desire to explore a broad range of aspects of contracting out. As Byrne (2011) observes "we need narratives . . . in relation to the construction of any social scientific account relevant to application" (p.30). As well, Knight et al. (2017) also sought to give early voice to contracting out framed from a complexity perspective using a qualitative research approach. Given the need to scope this research for a master's thesis, it was also practical to cover a broad range of topics with a few respondents in key roles that give them visibility of contracting out in government organisations. My goals therefore aligned well with a qualitative methodology (Ragin & Amoroso, 2019; ten Have, 2004).

There has been very little written about contracting out from the perspective of complexity theory, so at the outset I was curious about how the complexity concepts might be identified and used to inform the interviews. Byrne and Callaghan (2014) suggest that when working in complex settings researchers need a different research process for "describing, exploring, modelling and establishing causes" (2014, p. 194). One such approach is a realist approach, which is theory-driven (Pawson & Tilley, 2008). Using this approach, the research theory is developed prior to the interviews. The researcher then interviews the respondent framing the interview through the theory, with feedback from the respondent provides learning about the theory. The respondents' ideas are then applied to the theory which in turn helps the research to refine their research theory further.

This theory development approach aligns with the notion of "sensitizing concepts" (Blumer, 1954, p. 4) that "suggest [the] direction along which to look" (p. 7). Other theorists (Ragin & Amoroso, 2019; ten Have, 2004) have also suggested that sensitizing concepts are useful in social research. Within the qualitative domain, realist researchers suggest "juxtaposing primary data . . . alongside published literature" (Booth, Wright, & Briscoe, 2018, p. 148) can strengthen the research design.

Therefore, a literature review was used to help identify the key complexity concepts. I then applied these ideas as the sensitizing concepts for the interviews. The literature review for developing the sensitizing concepts is described (starting on page 48) and the findings are described in Chapter 4.

This research used individual in-depth interviews to get a depth of information from each participant. In-depth interviewing relies on building rapport with participants to enable the "exploration of ideas" together (Ragin & Amoroso, 2019, p. 111). During in-depth interviews the researcher asks open-ended questions that allow participants to reflect on for instance, their work, and their interactions with others (Cook, 2012, p. 423).

A semi-structured interviewing technique (Ayres, 2012) was used: a conversational approach where the researcher selects a topic for discussion, the participant responds, and the researcher then probes for the areas of interest to the study. The questions for each interview were asked in a different order, and some topics received more detailed coverage than others, depending on the participant's experience and their focus. One benefit of in-depth interviews, according to Cook (2012), is that "within this middle ground between rigid structure and complete uncertainty . . . the researcher [obtains] . . . in-depth information on the topic of interest without predetermining the results" (p. 423).

The sampling approach for this study was selecting key informants (Parsons, 2008) from a range of government organisations who were knowledgeable about and had experience of contracting out for public health and social services. Key informant interviews are typically used for the early exploration of a topic where a "broad, informative overview" (Parsons, 2008, p. 407) of the topic is needed. I aimed to include people from different agencies, at different levels within the organisations and with different types of experience, as well as those who could provide a Māori and Pacific perspective.

The analysis approach used for this study incorporated a thematic data analysis with retroductive reasoning. The analysis used a "contextualist" thematic analysis (Braun & Clarke, 2006, p. 84). A contextualist approach: "acknowledge[s] the ways individuals make meaning of their experience, and, in turn, the ways the broader social context impinges on those meanings, while retaining focus on the material and other limits of 'reality'"(Braun & Clarke, 2006, p. 81).

In thinking through the themes emerging from the analysis I drew on the ideas of several theorists (Byrne & Uprichard, 2012; Fletcher, 2016; Ragin & Amoroso, 2019). These theorists suggest it is useful to combine deductive and inductive reasoning – known as retroduction (Fletcher, 2016; Ragin & Amoroso, 2019; ten Have, 2004). Therefore, three different kinds of reasoning, deductive, inductive, and retroductive reasoning informed this study (Ragin & Amoroso, 2019; Pels, 2001; ten Have, 2004). Earlier on in the analysis both deductive and inductive approaches were used, but later it was useful to include the "two-way reasoning" of retroduction (ten Have, 2004, p. 3). This research used retroductive

reasoning to draw out the key themes of the study, particularly to arrive at the second order themes. The details of the analysis are outlined on pages 56–57.

Method

In this section, a description of the research method follows. This section includes descriptions of the participants, the materials used for interviewing, and the procedure.

Participants

The research was conducted with ten participants responsible for the process of contracting out public health or social service interventions. Each participant had experience of contracting out within the past three years. These interviews explored the experience from a government organisation's perspective.

The participants held mid-level to senior roles in government ministries, Crown entities and local government agencies charged with contracting for public health or social services. Six participants came from four central government agencies, two were from district health boards, one was from local government and another from a Crown entity. Four participants held roles in strategic management, planning, funding, or advice; six worked in programme or operations management including relationship management. Just over half the participants worked in Wellington, which aligns with it being the centre of government, while the remainder came from several different regions. Two participants represented Māori and two represented Pacific peoples in their roles.

Participants' educational backgrounds were diverse with past tertiary study including law, clinical practice, social sciences, business, education, and science. Two participants had legal backgrounds with expertise in public health or social services. Others had some training in contract law (perhaps a law paper in a degree course or a short course) while a few had none. Nine participants were very experienced in contracting, with over ten years' experience, with the other participant having around five years' experience. Half the participants had up to five years' experience in their current organisation, while the rest had five to 15 years' experience.

Participants were all working to drive service change to ensure key groups need received access to services. Many projects actively sought to improve equity for Māori or Pacific peoples. All participants expressed a deep wish to make a difference and each was prepared to try innovative approaches to programme design and delivery to achieve better

outcomes for communities. Innovative approaches included the way contracting out was conceived, set up and operationalised.

Participant selection was based on a “snowball” sampling approach (Patton, 2015; Tolich & Davidson, 2018). Possible candidates were at first drawn from the supervisors’ and researcher’s existing networks. Then, those invited to take part in the research suggested other people they thought had similar levels of experience.

Three other potential participants contacted did not take part in the research. One person made several of the introductions to possible participants. Having at first agreed to an interview they later asked to be excused due to heavy workload. Two people invited were in fact not suitable for inclusion in the study, as on further discussion it became apparent they had contracted for other services but not specifically for public health or social services.

Materials for data collection

As already noted, a gap exists in the literature applying complexity theory to contracting out. The literature review helped to identify key concepts from complexity theory that might provide a useful framework for exploring contracting out of public health and social services with participants. These ideas helped frame a semi-structured interview guide.

Literature review

Drawing on a review of literature on complexity theory and public policy, public administration, public management and public health literature, I identified possible concepts for use as sensitizing concepts within interviews. The review canvassed selected literature, rather than being a systematic and complete review of all available literature, and it includes publications from New Zealand and other Commonwealth countries with similar government structures.

The review at first focussed on peer-reviewed academic journals in English and searches included these databases: Web of Science, Scopus, Medline, Psychinfo, CINAL complete, and Business Source complete.

Searches used the following search terms:

- ("complexity theory" OR "complex adaptive systems") AND (health* OR medical OR medicine) AND (outsourc* OR contrac* OR commission* OR procur*)

- ("complexity theory" OR "complex adaptive systems") AND (government* OR "state sector*" OR "public sector*") AND (outsourc* OR contrac* OR commission* OR procur*)
- ("complexity theory" OR "complex adaptive systems") AND ("public health*")
- “complexity theory” OR “public policy” date range 2007 – 2017 source types academic journals
- ("complexity theory" OR "complex adaptive systems") AND (contract* OR outsourc*)
- (zealand*) AND ("public health*" OR "population health") AND (outsourc* OR contract*).

Only peer-reviewed journal articles on complexity theory from 2004 onwards were included. The last search focused on New Zealand to check for further local articles. The final search, (zealand*) AND ("public health*" OR "population health") AND (outsourc* OR contract*) found five articles dated from 1992–1999, ten articles from 1992 to 2004, and 21 articles published within the past ten years.

In total, the searches conducted in January 2018 identified 215 articles about aspects of complexity theory, public health, and public administration or management or contracting. A review of abstracts reduced the number of possible articles to 40 and a deep reading of articles reduced the relevant articles down to 23. Grounds for exclusion included the article:

- was not relevant to the subject, or the topic did not relate to public policy, public administration, public management, public health interventions, or contracting out or the focus was not relevant
- was a book review
- drew on restricted rather than general complexity theory (Morin, 2007), as discussed on page 36–37
- covered related to research from countries outside the Commonwealth with different government systems (for example, China, Ghana or Turkey).

Of the 23 articles selected, 14 focused on complexity theory and how it might be applied to: policy (7), public management (5), health (8) or implementation (5)[1]. Other articles focused more on public health (13) and its implementation (7). The 14 articles that had a focus on

[1] At times articles referred to several of these aspects.

complexity theory were possible contenders for use in selecting complexity theory concepts. There was only one article (Geyer, 2013) that included complexity theory, *as well as* public health or public administration or public management *and also* contracting out. However, that article was only partially relevant, as it was about general practitioners commissioning for services; not a funders' view of commissioning.

Therefore, I broadened my search to include journals that had run special issues on complexity theory, books by authors writing about complexity theory, and some grey literature that appeared close to the topic of my thesis. The journals that had run special issues or were dedicated to complexity theory included:

- The Leadership Quarterly ("Leadership and complexity", 2007)
- Public Management Review ("Complexity theory and public management", 2008)
- E:CO ("Complexity and Public Policy", 2012)
- Complexity, Governance and Networks, set up in 2014 ("Complexity, innovation and policy", 2017)
- Social Science and Medicine ("Complexity in Health and Health Care Systems", 2013)
- Journal of Policy and Complex Systems
- Public Management Review "Complexity theory and public administration – state of theory and practice", 2018)
- Complexity, Governance and Networks (currently developing a new special issue for 2019 on "Democratic Governance and Complex Systems").

Because there are so many ways keywords are assigned to articles, I used other searches to follow up from articles already identified. From this I located three further articles that might identify complexity concepts (Chandler, Rycroft-Malone, Hawkes, & Noyes, 2016; Notarnicola et al., 2016; Rickles et al., 2007).

A characteristic of the complexity theory literature is that complexity theorists have written books as well as journal articles (Cilliers,1998; Byrne & Callaghan, 2014; Castellani & Hafferty, 2009; Geyer & Cairney, 2015; Morçöl, 2012; Room, 2011). Often referenced, these books make an important contribution to the field of complexity theory in public policy, public administration, and public management. Therefore, I included most of these books in the review. I did not include the work by Geyer and Cairney (2015) as it had only

69 citations in Google scholar, compared with between 139 and 377 citations for the other books published in the past ten years. Instead, I selected an article by Cairney (2012) with179 citations, in order to include his work. Cilliers' (1998) seminal work was also included, as it had 3541 citations.

Given there were few articles or books that addressed my topic, I also searched the grey literature. I found one publication that was close to the topic of my thesis (Knight et al., 2017) in that literature.

A total of 30 articles, books and grey literature were located that included key complexity concepts. I re-read the literature and selected 14 books and articles that appeared to cover a diverse range of complexity theory concepts. I looked for ways each article related to either public policy, public administration, public management or public health services. Where an author had produced more than one publication, I selected the one that was most comprehensive – for instance choosing Philip Haynes' book *Managing complexity in the public services* (2015) for inclusion over two peer-reviewed articles (Haynes, 2007, 2017) on similar topics. In my view the 14 selected publications provided enough coverage and a range of perspectives to meet the task of selecting complexity theory concepts. The findings from the literature review are discussed in Chapter 4 on page 63.

Development of semi-structured guide using complexity concepts

The complexity concepts identified as having possible resonance with contracting out were: emergence, self-organisation, path dependency, and feedback. For the semi-structured interview guide I clustered the topics around each of these concepts. The interview guide first covered the contracting setting. Then the aspects considered when structuring and managing a contract were covered. This series of questions drew out ideas that relate to path dependence. To address emergence, the interview guide contained questions about the extent they contracted out for outcomes or outputs. There were also questions about how providers show they have achieved progress towards desired outcomes. The interview guide also contained questions about how respondents balance the need for providers to deliver specified services while allowing them some freedom to try, discover, create, and innovate. These questions aimed to draw out aspects of self-organising. The interview guide had questions about ways participants focus their attention in contacting out for services. These questions helped capture the ideas related to feedback. Participants also had the opportunity to make general observations about their role in contracting out for public health and social services.

The guide is included in this report in the Appendix. The semi-structured interview guide was piloted with two people prior to using it for the interviews. At first, I intended to describe the complexity terms to participants. Feedback from the pilot interviews indicated that including definitions of the concepts placed an added and unnecessary load on the participants. Instead topics were developed to include each of the complexity concepts without naming them.

Claims of validity and reliability and generalisability for the research

Framing this study as complex realist research leads to some important considerations for the validity and reliability of the study. First, complex realists believe “a real world exists independently of our own perceptions and constructions” (Maxwell, 2018, p. 19). Second they believe “our *understanding* of the world is inevitably our own construction; there can be no perception or understanding of reality that is not mediated by our conceptual ‘lens’” (Maxwell, 2018, p. 19). As this study was exploratory, the research aimed to find out whether viewing contracting out informed by complexity theory might provide added insight to the contracting out process.

To increase the validity of this research, it took the following steps. First, there is a clear a lineage in the complex realism ontology, constructionist epistemology, theory-driven realist methodology and qualitative method used for this research. Second, a theory-driven realist methodology supported the literature review that identified the complexity concepts for this research. The identified concepts were used to develop the research questions which were piloted to ensure they were relevant and relatable. The interviews used a semi-structured approach to ensure critical topics were covered and to allow flexibility in how this occurred. The interviews were all conducted by me, providing consistency in data collection.

The first round of coding and analysis sought to triangulate responses between participants. The coding process was iterative, and I refined the codes several times. I summarised up key aspects and discussed them with my supervisors to gain an alternative view. Next, an extra layer of analysis triangulated the findings from the interviews with the complexity concepts used in this research. The final analysis triangulated the findings from the interviews and complexity theory concepts with the existing literature on contracting out. This final analysis enabled a comparison of a *New Public Management* framing of contracting out and a complexity theory-informed framing, which helped surface some of the key findings for the research.

Reliability is thought of in quantitative research as “the extent to which multiple measurements of the same operationalisation will give the same results” (Besen-Cassino & Cassino, 2018, p. 40). In qualitative research, Leung (2105) suggests “the essence of reliability . . . lies with consistency”. I suggest the consistency in this research comes from the approach I have used, as outlined in the previous paragraph.

The approach to selecting research participants was purposeful: aiming to select people from a range of organisations; with experience contracting out for public health and social services in the past three years; who were known to have tried new approaches. Because I used a purposeful approach to sample selection and interviewed a small selection of participants, the findings are not generalisable. However, as Leung (2015) suggests, “generalizability of qualitative research findings is usually not an expected attribute” (para. 7).

Procedure

The intention was to conduct up to eight in-depth interviews, but in the end ten were conducted. The two extra interviews gave better coverage across different organisation types and helped better represent different communities.

The target group was people with experience in contracting out, who had contracted out for public health or social services within the past three years. Selection of participants was purposive, targeting central and local government and district health boards. Participants came from four government ministries, one Crown entity, one local government agency, and two district health boards.

Early contact with possible participants was made by email on 3 December 2018. In total 13 people received an invitation to take part in the study and were provided with an information sheet and consent form. On receipt of agreement, I followed up by phone to make appointments for the interviews. Participants were told the purpose of the research was to examine how contracting for public health interventions delivered by health and social services might be enhanced through complexity theory concepts. They were told the project aimed to find out:

- How the complexities of contracting out are managed in practice?

- How might the contracting out process be better understood and enhanced through the incorporation of complexity theory concepts?

Participants took part in a face-to-face, semi-structured interview either by video conference or in person that lasted between 60 and 90 minutes. Participants of the interviews did not receive any form of financial inducement to take part in the study. They took part on the basis that they would receive a one-page summary of findings on completion of the thesis and a link to an electronic copy of the master's thesis once examined. At the end of the interview a few participants were interested to know a little more about the complexity concepts used. Therefore, these participants received a brief explanation of the concepts and how they related to the questions.

Rather than focusing on one government agency, this research included managers from several service areas for community-level public health interventions. The research aimed to include insight from other service areas that might be of relevance to contracting out for public health. By undertaking interviews from several agencies, a greater breadth of process was covered (than from solely speaking with people from one agency). To narrow the scope, non-government organisations (NGOs) and philanthropic organisations that contract out for services were excluded from this sample.

The focus was initially on public sector managers contracting out for public health interventions including health promotion. As well as the Ministry of Health and public health units, district health boards and the Health Promotion Agency, similar activities occur across many New Zealand government agencies and NGOs. Examples of other agencies contracting out health promotion or social services include: the Ministry for Social Development, Oranga Tamariki, the Ministry of Education, the Ministry for Primary Industries, the Ministry of Business, Innovation and Employment, and regional and local councils. These organisations all contract out for public health or social services or interventions in community settings. Therefore, the focus of this research was broadened to contracting out of public health (including health promotion) or social services in community settings. By including a range of government agencies in the sample, the research captures the diversity of processes of several agencies and the interview load and research focus were shared across agencies.

As indicated, all participants had experience of contracting out for public health or social services within the past three years. Experience included: being the director or senior manager responsible for a range of projects, or a manager or director being responsible for running a programme of work, or a senior advisor responsible for a specific project. In some cases, participants had oversight of the process; at other times they were directly responsible for administering the process.

Interviews took place between 9 January and 29 March 2019. Seven people were interviewed face-to-face in their office or in one instance at my home. Three interviews were conducted by video conference. Each interview was recorded digitally. No participants sought a copy of the recording. One person requested a transcript for their records, and all requested a copy of the final report. In all instances, the participant's identity remained confidential. To ensure anonymity participants' comments included in the text are not ascribed to an individual. A separate file on a secure computer contained the master file of the names of those interviewed and the identifying pseudonyms.

A professional transcriber, who signed a non-disclosure form before starting work, transcribed all interviews. The transcriber did not include identifying information in the transcripts. The transcriber then confirmed they had deleted the digital recording and the transcript once I received them. I then reviewed the transcript against the original recording. This allowed me to check the transcript accuracy, amend where needed, and familiarise myself with the data. Participants did not seek to review the transcript before the information was included in the research report.

An iterative process was used to analyse the data. First, I got familiar with the information in the transcripts by reading them deeply and making notes. I identified a first round of categories. This included ideas such as "the difference between compliance or relationally driven contracting out", the "contracting out norms of government agency's legal and procurement departments", and the "ways flexible contracting out processes were operationalised through tendering or not" and through the "different approaches to monitoring and reporting". I then coded the data using Nvivo and looked for possible themes, such as when contract managers were relationally driven, what drove that approach? This thinking lead to themes such as "looking to innovate", which included sub-categories with coding labels such as "authorising environment and political will matters", "relationships matter", "proactively develop trust with providers", and "need to find a way to deliver to at-need communities". I then checked that these themes worked across all the interviews. In several instances, I renamed the themes to tell the story better and to get clearer about exactly what each theme covered. I then used a retroductive approach, overlaying the five key themes with the four complexity concepts. I identified five key themes, which were: boundaries of contracting out are broad; adjacent systems are important enablers or constrainers; develop trusting relationships enables collaboration; sponsor a learning environment; and focus on the learning together. There was overlap in the ideas about learning between the last two themes, so I collapsed them into one theme I called "sponsor a learning environment to learn together".

By thinking about the thematic analysis through the lens of the complexity concepts of path dependence, emergence, self-organising and feedback, new ideas emerged. For instance, the notion of creating value with providers – rather than extracting value from them occurred at this stage. The themes at this stage were: “use wide boundaries to frame contracting out for public health and social services”; “adjacent systems can be important enablers or constrainers to contracting out”; “develop trusting relationships to create value with providers”; “sponsor a learning environment”; and “focus on learning about the progress made”. Next, I thought about the implications for contracting out for public health and social services of these themes to see what extra insights this added. This resulted in higher order themes becoming visible, and this helped me to go beyond the descriptive analysis. For instance, a key emerging theme was that contracting out works best when there are trusting relationships, but these can be hard to build. This led me to then consider the conditions that would support building trusted relationships. In developing the report, I chose quotes that best conveyed the ideas to be expressed.

Ethical considerations

This section considers the ethical considerations of undertaking this study.

The Massey University peer review evaluation process was undertaken by my supervisors and the Head of the Public School of Health. They judged this research to be of low risk in that the risks identified could be mitigated. This following text was provided to be included in all public documentation.

> *“This project has been evaluated by peer review and judged to be low risk. Consequently it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named in this document are responsible for the ethical conduct of this research.*
>
> *If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher(s), please contact Professor Craig Johnson, Director (Research Ethics), email humanethics@massey.ac.nz. "*

This research complied with the Massey University Code of ethical conduct for research, teaching and evaluations involving human participants (2017). There are five “universal ethical principles” (Massey University, 2017, p. 4): autonomy, avoidance of harm, benefit, justice and special relationships.

Autonomy

Participants received an information sheet before agreeing to take part in the study. This enabled them to give informed consent to take part in the interview. Participants knew their participation was voluntary and they had the right to pull out of the research before the final report. I got consent before each interview took place. Some participants signed and returned the consent form by email before the Zoom interviews taking place. Most participants gave me a signed form at the time of interview; a few gave verbal consent and sent the signed form later by email.

Avoidance of harm

The information sheet explained what the study was for, the interview process, and the time needed. This meant there was transparency and no possibility of deception. The information sheet described how participants' information would be kept secure and confidential and would not be identifiable to a third party. Before taking part in the interview, participants knew digital recording and professional transcription would take place and that I would complete the analysis and reporting. Participants had the opportunity to review their transcripts to ensure that their comments were an accurate reflection of their views, however none took up this option.

In undertaking similar interviews with funders in the United Kingdom, Knight et al., (2017) remarked that funders felt "exposed and vulnerable" (p. 6) in taking part in that study. In that case, the authors promised anonymity, and this was achieved by not linking comments to any participant which might identify them, nor did they develop case studies of projects or organisations. Since then the researchers in the United Kingdom found that people agreed to take part in research where they are identified (Lowe & Plimmer, 2019). But in the early stages it was important to provide an opportunity for discussion without the added pressure of identification.

Being aware of these challenges, I thought of the possible sensitivities, ahead of conducting the interviews here in New Zealand. I noticed that during the interviews, several participants asked me to turn off the tape at certain points of the discussion or identified comments that should not appear in the final report. A few participants stressed a need for personal and organisational anonymity. One participant commented, "First of all a lot of the stuff I've said today is kind of confidential and sensitive, so I'm sure that you'll keep it anonymous". Several others held similar sentiments. By this I understood they meant it could not be traced back to them as an individual or their organisation.

To be responsive to these sensitivities, in developing the report I took several steps to protect participants' identities. First, I stripped out all identifying information about projects and organisations. Second, in the report I described the participants as participants, their organisation as the agency, and the people they were contracting with as the providers. In doing this some of the detail about the level of an organisation in the public health or social system – whether they be government agencies, local authority providers, district health boards or other organisations was not presented. Third, it became clear that using any kind of identifier, even a number for each participant, could lead to them being identified because the some of the work they were doing was high-profile or easily identifiable. Therefore, I did not use any kind of mnemonic to identify participants – the same approach Knight et al. (2017) adopted in their reporting.

I also checked back with one of the participants who was particularly keen to remain anonymous in the interviews, whom I met face-to-face at a later stage. They said they were happy with the approach I intended taking. A key learning for any future research is to assume, at least initially, that high levels of confidentiality will be required for this kind of research. Second, the researcher needs to be sufficiently credible to participants to undertake the interviews and report on the findings.

Benefit

Once the thesis is completed, participants of the interviews will receive a one-page summary of findings and a link to an electronic copy of the Master's Thesis once it has been examined. There was no other inducement for them to take part in the study.

Justice

The sample selection ensured that no more than three participants from any government agency were interviewed. Participants included a mix of Māori and non-Māori participants. In total two senior participants identifying as Māori were included in the research, with eight non-Māori. This ensured a Māori perspective was present in the research. Of the remaining eight interviews, two participants identified as being from Pacific cultures.

Special relationships

Given I used some of my own networks, three participants were known to me prior to interview. Several people suggested possible participants for the survey, and so there are people who aware of who possible participants might be. However, the names of those who

finally participated remained within the research team, which included myself and my supervisors.

Treaty of Waitangi obligations

During the research I was aware of and observed the Treaty of Waitangi obligations, including principles of Whakapapa, Tika, Manākitanga and Mana. Articles from Māori researchers outlining the challenges of contracting for public health and social services from a Māori perspective were located to inform the study and taken into account in developing the research design (Boulton, 2005; Boulton et al., 2018; Boulton, Tamehana, & Brannelly, 2013; Came et al., 2017; Lavoie et al., 2010).

I sought introductions through my contacts to identify suitable Māori participants and see if they would be willing to take part in the research. Both people approached agreed to be interviewed and interviews were conducted in person (face to face, or kanohi ki te kanohi). In one instance a participant was offered manākitanga and hosted at home so the interview could be conducted on their way home from work. The other interview was conducted at the participant's office during the working day at a time suitable to them.

Role of the researcher

In the *SAGE Encyclopaedia of Qualitative Research Methods* (2012), Leckie describes the two different roles of researchers: tacit and interactionist roles. Tacit roles relate to the way the researcher conceptualizes the research, develops a well-designed research study, and manages the process effectively and to a standard that ensures generation of worthwhile research. I carried out these roles on this academic research project with the support of my supervisors.

The interactionist roles of a researcher (Leckie, 2012) are the ways researchers interact with the participants. In my role as researcher I talked directly in a private setting with each participant about their experiences, observations, and views of contracting out for public health or social services in their organisation.

I believe participants considered me an "outsider" (Leckie, 2012) in that I was not a government agency employee with contracting out experience from the funder side. I suggest that my own professional identity as an experienced researcher and business owner helped create the credibility that led to some participants taking part and being open

in their comments during the interviews. For example, one potential participant who helped with the snowballing process described my experience in an email to others like this:

> *"Judy does a lot of evaluation in the social sector and is very experienced in the space between community and government".*

In one instance, I met with a potential participant who became an intermediary to two other interviews. That person had a deep interest in contracting out but was working in a policy role without direct responsibility for contracting out. Once that person had established my background and genuine interest in the topic, they introduced me to two senior participants in the study.

As well, some participants knew my supervisors. I believe their involvement also helped set up the credibility for this project and their professional reputations helped build trust that the research would be conducted and reported with care.

Many participants said they thought the topic of the interview was important and that is why they agreed to take part. However, they were interested in how I might present the information usefully while keeping their identities safe. I was sensitive and open to their concerns, which I suggest created trust at the interview stage. Some participants reiterated the trust they had placed in me during the interview, making comments at the end of the interview such as:

> *I trust you because you've been doing this for a really long time, so you know about sensitivity. (Participant comment)*

From this I suggest researcher credibility is important in getting participants to take part in the study and reassuring them during the process. Research design needs to allow for care of participants, enabling them to discuss the topic in ways that do not breach their need to retain confidences, whilst providing useful information. Researchers also need to consider how they will report findings in ways that does not identify their sources or the projects they discussed, until such a time that participants do not feel exposed.

Strengths and weaknesses of methodology

This research gained access to highly experienced government officials with considerable experience in contracting out for public health and social services.

Because little there is writing about applying complexity theory in relation to contracting out, I drew from nearby theory looking at the way public administration and public management applies complexity theory. Drawing from the complexity theory literature in public administration and management, this research used a theory-driven approach to develop up a theory, test it in the interviews with participants and then reflect on it in analysing the results. The theory developed was that it is possible to gain different insights about contracting out through a complexity theory-informed frame of path dependence, emergence, self-organisation and feedback. This was a small-scale study aimed to look for commonalities among participants.

Adopting a theory-driven approach added rigor to the research because although the participants did not discuss complexity theory, they discussed their ways of working from a complexity informed perspective. I suggest this produced richer data than would have occurred without the theory-driven framing.

The sample for this research is small – ten semi-structured interviews using a qualitative methodology. However, they covered a broad range of topics and provided a rich picture of the environment in which those contracting out for public health and social services operate. The semi-structured approach allowed me to cover key topics while allowing for flexible responsive conversations. By interviewing participants from several organisations, I obtained greater breadth in the contracting out experiences than would have occurred if I had only interviewed participants from, for instance, the Ministry of Health and district health boards. While participants were from several organisations and at different levels within their organisations, the study does not claim to reflect the views of all public sector managers, instead it provides a small-scale depiction of their views.

At the analysis stage, thematic data analysis was coupled with retroductive reasoning to create second order themes. This took the analysis beyond being merely descriptive. I suggest that in framing the analysis through complexity theory helped incorporate the complexity ideas into the findings.

It is not suggested that this research is generalisable because it is small scale. However, it may provide insights that can be explored further both in New Zealand and in other countries contracting out for public health and social services.

There are several other groups of people who were not included in the sample:

- senior policy managers who assign resources for contracting out during planning but have no responsibility for contracting out were not included
- providers subject to contracting out were not included
- representation from Māori and Pacific people's perspective on contracting out at the funder, provider and community level
- those involved in Whānau Ora projects.

A reference librarian with experience in public health supported me to develop the search terms for the literature review. However, the literature is very fragmented, uses a wide range of key words, and the concepts are expressed in many ways. Therefore, while not obvious at this stage, there may be some other search terms we could have considered.

The other limitation of this research is that as a master's level thesis, the literature review scanned selected literature. The literature review included publications from New Zealand and other Commonwealth countries with similar government structures, and European countries where some of the complexity theorists in the British school came from. Therefore, it was not a systematic and complete review of all available literature.

Chapter 4: Review of the complexity literature to identify complexity concepts

Introduction

This chapter provides results from a review of selected literature to identify complexity concepts that might provide an alternative framing to *New Public Management* for contracting out public health services. The review is of selected literature rather than a systematic and complete review of all available literature. The review includes publications written in English by authors from Commonwealth countries with similar government processes, and also authors from within the European Union who are aligned with the British-based school of complexity (Castellani & Hafferty, 2009).

This chapter first describes how the literature was selected to identify the complexity concepts. For a detailed description of the literature review process, see pages 48–51 of the methodology section of this thesis. Next, a list of the range of complexity theory concepts identified in the selected literature is provided. Third, the process for choosing the final concepts is described. Fourth, each of four complexity concepts selected for framing the interviews is described in more detail. Some of the important differences between theorists' views about complexity concepts are noted, and where needed choices of approach for this thesis are made.

Identifying suitable literature

From the literature review 30 peer-reviewed articles and well-cited books were identified, as well as one work from the grey literature that directly related to the topic of this thesis. From this pool, 14 resources were selected to identify the complexity concepts for this thesis. Two types of literature were used to identify complexity ideas. One area of literature featured writers who are the theory builders of complexity theory within social science and public administration (Byrne & Callaghan, 2014; Castellani & Hafferty, 2009; Cilliers, 1998; Morçöl 2012; Rickles et al., 2007; Room, 2011). The other area of literature featured writers who applied complexity theory to public policy, public administration, public management and public health issues (Chandler et al., 2016; Eppel et al., 2011; Knight et al., 2017; Rhodes et al., 2011; Trenholm & Ferlie, 2013).

I identified a gap in the literature, as I found few sources that considered contracting out in public health through the lens of complexity theory. Instead, I explored the literature applying complexity theory to public policy, public administration, public management, and

public health issues to see if it might provide a form of scaffold to inform contracting out of public health services.

A spreadsheet of complexity concepts was developed, noting their similarities and differences as well as the various ways authors described these concepts. There was both variation and consistency in the ideas expressed. Thirty-six different expressions of the concepts were identified. The following table summarises the key complexity concepts mentioned by the selected writers. The concepts in bold below are those that were eventually selected as concepts for inclusion in the final selection.

Table 3*:* Key complexity concepts identified in the selected writing

	Authors	Complexity concepts
Publications with theoretical examples	Cilliers, P. (1998) 3541citations	Dynamic, far from equilibrium, **feedback loops**, **have histories**, ignorant of behaviour of whole system, interconnected – short range, non-linear, open, rich interaction.
	Rickles, Hawe & Shiell (2007). 266 citations	Attractor, criticality, dynamical, **emergent, feedback**, interactions, non-linear, order parameter, **path dependent**, phase space/transition, scaling, **self-organising**, sensitivity to initial conditions, universality.
	Cairney (2012) 179 citations	**Emergence, feedback**, interaction, interdependent, non-linear, **path dependence**, punctuated equilibria, sensitive to initial conditions, strange attractors.
	Byrne, & Callaghan (2014) 377 citations	Adaptation, attractor, bifurcation, chaos/ catastrophe theory, dynamic, **emergence**, equilibrium/far from equilibrium, evolution, **feedback**, interaction, interdependent, non-linearity, open, **path dependent,** phase space, **self-organising**.
	Castellani & Hafferty (2009) 310 citations	Adapt, dynamic, **emergen**t, far from equilibrium, holistic, large number of interacting agents, **self-organising,** situated within larger environment.
	Morçöl (2012) 134 citations	Co evolution, dissipative structures, **emergence, non-linearity, self-organisation**, power laws.

	Room (2011) 210 citations	**Emergence,** far from equilibrium, **path dependency, self-organisation.**
	Haynes, (2015) 273 citations	Attractors, dynamic, edge of chaos, **emergence, feedback**, interaction, networks, scale, **self-organisation.**
Publications with applied examples	Rhodes, Murphy, Muir & Murray (2011) 69 citations	Adaptation, bifurcation, **emergence, path dependency, self-organisation.**
	Eppel, Matheson & Walton (2011) 26 citations	Attractor, **emergence**, far from equilibrium, **feedback, have histories**, multiple levels/nested, non-linear, open boundaries, **self-organising**, system can appear chaotic.
	Trenholm & Ferlie (2013) 29 citations	**Emergence**, non-linearity, **self-organisation,** distributed leadership (absence of a single leader**).**
	Chandler, Rycroft-Malone, Hawkes, & Noyes (2016) 41 citations	**Emergence**, interaction, **self-organisation, system history**, temporality.
	Notarnicola et al. (2016) 3 citations	Adaptation, dynamics, embedded, **emergency**, evolution, **feedback,** homeostasis, interaction/ interactive agents. learning, non-linear, open/close systems, parodoxic, **self-organisation**, unpredictability
	Knight et al. (2017) 4 citations	**Emergence**, only partial understanding possible, **path dependence,** unpredictability (**self-organisation**).

Selecting the concepts

Once the concepts were assembled, the next stage was to discover which complexity concepts might best relate to contracting out of public health services. This next section discusses how the key complexity concepts were selected for this research.

A multi-stage approach helped identify concepts of most relevance to understanding contracting out of public health services from the long-list of 36 concepts. First, the most common concepts across the 14 sources were identified. These were: emergence, self-organising, interaction and relationships, feedback, non-linear, dynamic, path dependence,

attractor, open and closed systems, far from equilibrium, and adaptation. This is a similar finding to a review of complexity concepts in health services research undertaken recently by Thompson et al. (2016).

Next, closely related complexity concepts were merged into broader categories. For instance, Byrne and Callaghan (2014) state that "the blunt point is [that] non-linearity is a product of emergence" (Byrne & Callaghan, 2014, p. 6). This suggested that I could include non-linearity within the emergence category.

From this exercise it was possible to summarise the most commonly discussed complexity ideas within five key concepts. The five concepts were: path dependence, emergence, self-organising, feedback, and attractors – as shown in Table 2. However, ideas within the five main concepts overlapped, and in the end the attractor concept was not selected.

Table 4: Possible key complexity concepts and their relationship with other concepts

Concepts finally selected	Concept	Other related concepts and examples of authors who discuss them
Yes	Emergence	Non-linear (Byrne, & Callaghan, 2014), bifurcation (Byrne & Callaghan, 2014), evolution (Byrne & Callaghan, 2014), scale (Haynes, 2015), unpredictable (Knight et al., 2017).
Yes	Self-organising	Interaction (Cillers,1998), dynamic (Byrne & Callaghan, 2014), adaptation (Byrne & Callaghan, 2014), ignorant of behaviour of whole system (Cillers,1998), absence of single leader (Trenholm & Ferlie, 2013), far from equilibrium (Byrne & Callaghan, 2014).
Yes	Feedback	Open boundaries (Eppel et al., 2011), interconnected (Cillers,1998), interdependent (Byrne & Callaghan, 2014), networks (Haynes, 2015), learning (Notarnicola et al., 2016).
Yes	Path dependence	Sensitive to context/initial conditions (Rickles et al., 2007), have histories that can influence the future (Eppel et al., 2011), order parameter (Rickles et al., 2007).
No	Attractor	Phase space, which can also link with emergence (Byrne & Callaghan, 2014), episodic equilibria

		(Cairney, 2012) can also link with feedback, temporality (Chandler et al., 2016), can also link with path dependence, paradox (Notarnicola et al., 2016), can also link with self-organising, edge of chaos, which can also link with self-organising (Byrne & Callaghan, 2014).

The four complexity ideas finally selected to frame the interview questions about contracting out of public health and social services were: emergence, self-organisation, feedback, and path dependence. The reasons for selecting these concepts are now outlined.

As most theorists discuss emergence and self-organisation, it suggests these are important complexity theory concepts. Emergence is about the interactions between people and "things" that inform, enable or restrict what they do (Haynes, 2015, p. 29), so this research includes emergence to frame contracting of services.

From a contracting perspective, self-organising speaks to the unknowable that occurs in complex contracting settings (Lowe & Plimmer, 2019). Self-organising can occur without leaders or planning and emerges from repeated interactions (Chandler et al., 2015; Eppel et al., 2011; Notarnicola et al., 2016; Trenholm & Ferlie, 2013). Therefore, self-organising challenges the traditional notions of being able to see the whole picture (Haynes, 2015) or preserve control in contracts (Lowe & Plimmer, 2019). This requires decision making to take place with incomplete knowledge (Eppel et al., 2011). Thus, self-organising is also relevant to frame contracting of services.

Frequent mentions in the selected literature of feedback, path dependence and attractors suggest these are also important concepts. There were two further reasons to include feedback as a concept. First, feedback takes multiple forms that are relevant to contracting out, including communication, behaviour, or other changes due to changes in the system (Haynes, 2015). Second, Haynes (2015) and Eppel et al. (2011) discuss the usefulness of feedback in public management and policy implementation. In their discussions these theorists showed ways feedback might appear in contracting out, such as in ways of learning, and to explain via positive or negative feedback why change does or does not happen. Therefore, this research also includes feedback as a way of framing contracting out.

Selection of path dependence was partly due to frequent mentions by theorists. But also, the idea that a complex human system's history affects the future, resonated as a framing for research on contacting out. Many authors writing about contracting have commented that contract delivery can be affected by providers' contexts (Came et al., 2018; Boulton et al., 2018; Lovell et al., 2014). As well, Knight et al. (2017) applied path dependence to their research on contracting out. Knight et al. (2017) found that even when providers delivered programmes with fidelity, different outcomes occurred. These differences could be explained by path dependence.

There were two reasons attractors was ultimately not selected as a complexity theory concept. First as noted above, the other four all contribute to the attractor state. Second, theorists (Byrne & Callaghan, 2014; Haynes, 2015) suggest that attractors can be stable for long periods and therefore may not be observable in the short-term. As this is a small research project that focuses on activities within the one to five-year contract time frame, attractors were thought to be less relevant to contracting out than the other concepts selected for this research. However, attractors are likely to be important in longer-term policy development (Haynes, 2015). Further research may wish to adopt a broader scope and consider the impact of attractors on contracting out.

Having described selecting the complexity theory concepts, the next section gives details of each idea. While each of these concepts is discussed separately in practice the concepts are closely interrelated and there is considerable overlap in the way they present within complex systems. As well, this section explores the different perspectives theorists hold about each concept. And finally, this section includes a working definition of each selected complexity concept. This helps clarify the way complexity theory concepts will be used in this thesis. The concepts are discussed in this order: emergence, self-organising, feedback, and path dependence.

Emergence

The common phrase "the whole is greater than the sum of the parts" is generally attributed to emergence. Rickles et al. (2007) describe emergence as occurring when:

> "the interactions between the sub-units of a complex system *determine* (or *generate*) properties in the unit system that cannot be reduced to the sub-units (and that cannot be readily deduced from the sub-units and their interactions)" (p. 934).

However, because complexity theorists contest the ideas that make up emergence (Byrne & Callaghan, 2014), a brief description of the argument is outlined here. Haynes (2015) simple definition of emergence is:

> "people in complex systems are, to some extent, independent and local operatives who adopt some particular novel forms of localized and 'bottom up' behaviour. Therefore, their behaviour can never be totally determined by 'top down' rules and structures. This leads to the emergence of new and sometimes unpredicted forms of interaction, communication and behaviour" (p. 45).

Haynes defines what Byrne and Callaghan (2014) consider is general complexity; one of two forms identified by Morin (2007). Restricted complexity is the second form which is "the result, and only the result of interactions at a simpler level" (Byrne & Callaghan, 2014, p. 41). Byrne and Callaghan (2014) suggest restricted complexity assumes it is possible to isolate parts of a system to analyse them. However, isolating parts of the system limits how people might know and act in complex human systems, where the whole is unknowable (Chandler et al., 2015; Eppel et al., 2011; Rickles et al., 2007). Byrne and Callaghan (2014) are critical of the notions of disassembling and looking at the system's parts individually, and also of assuming that change is only bottom up. They also don't believe that it is possible to identify simple rules by which complex human systems cohere. They do not believe these ideas lead to better understandings of complex human systems, nor provide insight about the best action to take in given settings.

Byrne and Callaghan (2014) instead propose that general complexity is made up of:

> "complex systems that are not just the product of simple interactions but have properties which are not to be understood in those terms and have to be addressed as real in and of themselves" (p. 5).

Byrne and Callaghan (2014) align general complexity with a complex realist perspective. They view social science ideas of structure and agency as one way to help address the difficulties of working between macro and micro levels of systems. Castellani and Hafferty (2009) also see strong parallels with complexity theory in the work of social scientists such as Bourdieu's practice theory (Bourdieu, 1977) and Giddens' structuration theory (Giddens & Sutton, 2017).

For sociologists, Giddens and Sutton (2017), the structure and agency debate is "rooted in sociologies (*sic*) attempts to understand the relative balance between society's influence on

the individual (structure) and the individual's freedom to act and shape society (agency)" (p. 23). In other words, Giddens and Sutton suggest agency describes the choices people make that can drive change from the bottom. Organisations and their rules or processes (structure) influence the behaviour of people or organisations. Social structures are flexible and can be enabling. Interactions can lead to a reflexivity that leads to change. Therefore, Giddens and Sutton see structure and agency as linked; working in tandem – rather than as separate, unrelated concepts.

Complexity theorists drawing on sociological traditions agree that structure and agency "couple to create social practice" (Castellani & Hafferty, 2009, p. 37). Haynes' (2015) emergence definition (above) covers both structure and agency, as does Byrne and Callaghan's (2014) description of general complexity. The next few paragraphs cover some of the key aspects that were covered in the selected literature about emergence.

Change can emerge from the bottom up (Haynes, 2015; Notarnicola et al., 2016), but also from other places (Byrne & Callaghan, 2014; Eppel et al., 2011; Rickles et al., 2007; Trenholme & Ferlie, 2013). Complex human systems have many participants (Cilliers, 1998). Participants are either many people acting individually, or casual assemblages such as advocacy groups or professional networks, or formal structured groups such as government agencies or incorporated companies (Cilliers, 1998; Eppel et al., 2011). Groups can also occur at different scales, for instance local, national or international (Cilliers, 1998: Byrne & Callaghan, 2014; Haynes, 2015).

Cilliers (1998) suggests in information sharing a dynamic interaction may occur in various ways, and it is rich in possibilities. As complex human systems are open, the interactions at the boundaries can stimulate and produce change (Byrne & Callaghan, 2014). As well, people may struggle to define the boundaries of complex human systems, and diverse people may see a system's purpose differently (Cilliers, 1998). Boundaries can be activities or purposes, ways of acting, or ways of sending or receiving information (Byrne & Callaghan, 2014). Interactions both within the system and with other systems produce new and novel changes (Knight et al., 2017; Rhodes et al., 2011; Trenholm & Ferlie, 2013). Interactions across many different pathways can yield the same results, so examining each pathway individually may not be helpful (Chandler et al., 2016; Knight et al., 2017; Rickles et al., 2007; Rhodes et al., 2011). Non-linear responses to interactions are often not proportional to the early input (Trenholm & Ferlie, 2013). Therefore, results occur which are unpredictable and surprising (Byrne & Callaghan, 2014; Cairney, 2012; Cilliers, 1998; Eppel et al., 2011; Trenholm & Ferlie, 2013). At times there can be a split (bifurcation) in behaviours or communication or the way things are organised to accommodate different

courses of action (Haynes, 2015). Complex human systems need energy and attention to ensure their survival (Byrne & Callaghan 2014; Cairney, 2012; Cilliers 1998; Eppel et al., 2011; Haynes, 2015; Knight et al., 2017; Rhodes et al., 2011).

Cilliers (1998) observes:

> "When we look at the behaviour of a complex [human] system as a whole, our focus shifts from the individual . . . in the system to the complex *structure* of the system. The complexity emerges as a result of the patterns of interaction between the elements" (p. 5.).

Marion and Uhl Bein, as described in Haynes (2015), sum up emergence as having three aspects. First, emergence is about the interactions between people and what they do. Second, the interactions between people and "things" that inform, enable or restrict what they do, may be thought of as control parameters (Byrne & Callaghan, 2014). Third, the non-linearity of the interactions between the different agents, be they people or things, means what emerges is unpredictable (Haynes, 2015; Byrne & Callaghan, 2014). The next section covers a complexity concept closely related to emergence, that of self-organisation.

Self-organisation

Self-organisation is an often-mentioned complexity idea (Chandler et al., 2016) with writers giving different accounts on what it is and how it occurs (Morçöl, 2012). Cilliers (1998) defines self-organisation as:

> "a property of complex systems which enables them to develop or change internal structure spontaneously and adoptively (*sic*) in order to cope with, or manipulate, their environment" (p. 90).

Self-organising systems can freely change their internal structures to adjust to their surroundings and are "neither active nor passive" (Cilliers, 1998, p. 108). These internal changes occur from two-way interactions between the system and the conditions. By adapting, self-organising systems can co-exist within their surroundings (Morçol, 2012).

Self-organisation occurs at a whole-system level, from activity at a micro-level and from interaction between levels (Morçol, 2012). When systems' actors process information and are reflective, self-organising occurs. Morçöl draws ideas from agent-based simulations to suggest agents can either be reactive or cognitive. Reactive agents have no "internal

representation of the world", (p. 97) instead he suggests, they are inanimate. The behaviours of cognitive agents are planned and thoughtful based on their world views and considering their environs. Morçöl suggests that the notion of a reactive agent in a self-organising system could approximate people in situations where they make decisions without a precise and full picture of the system.

Self-organisation in complex human systems does not arise from nothingness – there are some "preconditions and mechanisms of self organisation" (Morçol, 2012, p. 98). Morçöl refers to the work of Cilliers (1998) and Meadows (2008) to make two points about this. First, the preconditions for self-organisation to occur include that a system must have many diverse elements to start with (Cilliers, 1998; Morçöl, 2012; Trenholm & Ferlie, 2013). The elements will all have local information about the immediate local environment. The elements both cooperate and compete in a non-linear way and can synchronise with one another. Small differences in the early stages can break symmetries. Memories in a complex human system are stored across the system (Cilliers, 1998) for example, both by people and in administrative systems. This can aid self-organisation, because many people have access to this knowledge. Memories can also link with other complexity concepts such as feedback.

Second, Morçöl (2012) suggests that Meadows' (2008) work about feedback helps explain self-organisation. Some writers believe that feedback loops are one of the main ways self-organisation occurs (Haynes, 2015; Morçöl, 2012; Rhodes et al., 2011; Room, 2011). The next section contains more detail about feedback. However following Meadows' argument, Morçöl (2012) suggests that change occurs through shifts in stocks and flows. He gives the example of people entering and leaving a complex human system.

While some writers (Rickles et al., 2007; Rhodes, et al., 2011) propose that self-organisation leads to greater order and can "create coherence and form patterns" (Trenholm & Ferlie, 2013, p. 6), others do not agree (Cairney, 2012; Morçöl, 2012). Morçöl (2012) suggests that self-organisation can lead to either "orderliness or disorderliness" (p. 100). Trenholm & Ferlie (2013) note that what emerges may not be constructive and that some self-organisation is able to hold out against change.

Self-organising also challenges the notion that "for something to happen, something must cause it" (Morçöl, 2012, p. 102). Self-organising can happen through shared rather than individual control (Trenholm & Ferlie, 2012). Morçöl (2012) writes of three ways self-organisation can occur when the circumstances are right. First, he draws on the work of Prigogine (1996) to explain that systems are open, in a state of perpetual dynamism, and

far from equilibrium. Other theorists agree with this (Byrne & Callaghan, 2014). The internal interactions of self-organising systems can drive change, rather than change being caused by something external (Cairney, 2012; Chandler et al., 2015). Where a system is in an unstable and agitated state, self-organising can occur (Morçöl, 2012). Second, Morçöl draws on Kauffman's the idea of autocatalysis to comment that with enough diversity, self-organisation is unavoidable. The order that emerges depends on the quantity and sorts of relationships between the different parts or actors (as cited in Morçöl, 2012, p. 106). Third, Morçöl mentions Sturogatz's idea of "mutual cuing" (as cited in Morçöl, 2012, p. 106). Mutual cuing is the idea that for parts of a system, be they animals or humans, "out of the hubbub, sync somehow emerges spontaneously" (as cited in Morçöl 2012, p. 106). An example of mutual cuing is a conductor-less orchestra nevertheless playing to flawless tempo (Morçöl, 2012).

And finally, one idea linked by some theorists (Morçöl, 2012) with self-organising is autopoiesis – the process and mechanism of systemic self-production. Morçöl (2012) sees possibility in applying ideas from this theory to complex human systems. However, Byrne and Callaghan (2014) strongly reject the notion of autopoiesis, claiming it to be "rubbish" (p. 30). They do not agree that self-organising social systems are closed information systems or that actors lack specific knowledge of their environment. This is akin to restricted complexity in their view.

In summary, self-organising systems can occur without overt leadership or planning, and they emerge out of interactions over time (Chandler et al., 2015; Eppel et al., 2011; Notarnicola et al., 2016; Trenholm & Ferlie, 2013). People can never see the whole, complex human system so only have limited knowledge and thus cannot control the system (Cilliers, 1998). Instead, those working in complex human systems need to learn to work with incomplete knowledge (Eppel et al., 2011). Trying to impose control on the system can be futile (Haynes, 2015). Instead, it is "best for managers to harness this creative force and try to use it for the good of the organisation" (Haynes, 2015, p. 42). This view is shared by others (Cairney, 2012; Chandler et al., 2015; Eppel et al., 2011). Several writers observe that policy interventions often have an element of self-organising (Knight et al., 2017) which means surprises may frequently occur in the public sector (Cairney, 2012; Chandler et al., 2015; Eppel et al., 2011; Haynes, 2015).

Feedback

The idea of feedback loops originates from cybernetics and the work of systems thinkers like Meadows (Morçöl, 2012) and Forrester (Meadows, 2009). Amongst complexity

theorists, feedback is also talked about using the terms feedback loops (Morçöl, 2012) feedback interactions, and feedback patterns (Haynes, 2015). Feedback is considered an important process as it aids self-regulation (Notarnicola et al., 2016). It works as a thermostat might to keep a room within a given temperature range. Rickles et al. (2007) define feedback thus:

> Feedback [is where] the output of some process within the system is 'recycled' and becomes a new input for the system. Feedback can be positive or negative: negative feedback works by reversing the direction of change of some variable; positive feedback increases the rate of change of the variable in a certain direction. (p. 935)

The labels of positive or negative feedback can be confusing to the layperson as positive feedback describes the amplification of both virtuous and vicious change, and negative feedback refers to steadying or dampening change. Positive feedback describes a reinforcing path of action, that either amplifies, intensifies or energises any activity (Cilliers, 1998; Haynes, 2015). At times change can escalate quickly (Eppel et al., 2011). On the other hand, negative feedback can balance or steady activity in a complex human system activity (Byrne & Callaghan, 2014) or hinder or restrain change (Cilliers, 1998). Negative feedback can result in an impression of no change, because small change in one area is cancelled out by opposite change in another (Eppel et al., 2011). Many interactions will be localised with people or social systems who are nearby, but some interactions have broader reach, causing widespread impacts at times (Cilliers, 1998; Haynes, 2015).

Feedback takes multiple forms, including communication, behaviour, or other systems change that are responses to changes in the system. For example, Haynes (2015) suggests that a marketer may increase consumption of sugary drinks among children by making them highly desirable within the peer group, available in schools, or by offering special discounts. Government may respond by putting a tax on sugary drinks to make them more expensive. The actions of the marketers and the government create feedback loops. The children may respond by reducing consumption, or some other aspect may come into play that maintains or increases consumption. From this example we can see how feedback works across a wide network. The impact of feedback loops can be variable, and therefore policy makers need to take care to ensure they do not "enable some social groups to prosper while sending others along catastrophic downward trajectories" (Room, 2011, p. 2).

Learning can be a form of feedback. For example, the effect of interactions can loop back on themselves, so an individual's earlier behaviour can influence others – which in turn influences their own subsequent behaviour (Cilliers, 1998). Many organisational processes are designed to create balancing feedback loops including groups and committees, standard operating processes and practices, and there can be an expectation of compliance (Haynes, 2015). Feedback can be formal – such as policies and procedures, or informal such as workplace social groups (Haynes, 2015). At times "double feedback loops" (Haynes, 2015, p. 85) occur where, for example, citizens use more than one government service at a time, as in shared care between a GP and the hospital.

Time lags or delays can have important effects on feedback loops as they can amplify or dampen whatever change is happening in a complex human system. In addition, some interventions can have long time delays, and it may be important to allow them enough time to establish (Haynes, 2015). Haynes suggests, in relation to feedback, that "human interactions, and interpersonal communications and the quality of these is likely to be at the core of public service outcomes" (p. 32).

Haynes (2015) also notes that feedback, when viewed in a longer timeframe, may furnish some patterns from the past that offer a glimpse to the future. Rather than focusing on one data source, he suggests it may be possible to identify "what changing feedback mechanisms have started in a range of social and economic variables" (p. 63) to provide insight about what is driving change.

Path dependence

Path dependence draws on the idea that "complex systems . . . have a history and this history continues to influence what happens in the future" (Eppel et al., 2011, p. 49). Theorists (Byrne & Callaghan, 2014; Cilliers, 1998) recommend including path dependence in any review of the current structure of systems. Complex systems draw from the past, and their history impacts what is possible in the future (Knight et al., 2017). Cilliers (1998) suggests that people can appreciate a system when they know its history.

Path dependence describes an irreversible pathway of events, where the order of events matters (Byrne & Callaghan, 2014). Processes that begin similarly may result in widely different outcomes, even when following a prescribed approach (Byrne & Callaghan, 2014; Knight et al., 2017). Early actions may influence a path (Rickles et al., 2007; Rhodes et al., 2011). Seemingly small choices can lead to system-wide differences that have significant and enduring implications which are hard to change (Eppel et al., 2011). Timing can be

crucial (Byrne & Callaghan, 2104; Rickles et al., 2007). Cairney (2012) considers "sensitivity to initial conditions" as an essential aspect of historical institutionalism,[2] which he links with path dependence. Room (2011) too, links path dependence and the work of institutional theorists, including Ebbinghaus (2005).

Ebbinghaus (2005) describes different types of path dependence. One type, "road junctures" (Room, 2011, p. 8) is where different paths are chosen. Cairney (2012) remarks that there is merit in analysing these junctures to discover the pattern of how the events unfolded. First, Cairney (2012) observes, branching pathways can structure alternative options, such as in the early development of policy. Then, in a climate of political opportunity – perhaps in response to a specific need for change, policymakers set up new rules and processes (Ebbinghaus, 2005). Room (2011) suggests that early users of a path may gain competitive advantages over later followers, simply by being first, and that uptake by others reinforces the advantage of the earlier adopters. Early patterns can become set and hard to shift (Rhodes et al., 2011). Where there is a split in the path, this is known as bifurcation (Byrne & Callaghan, 2014).

Second, there are also pathways formed from unintended results that may emerge from mistakes. Cairney (2012) notes that delays or mistakes can impact on a path, and small events can have bigger-than-expected impacts. Room (2011) and Cairney (2012) both describe the QWERTY keyboard as an example of both early user advantage and the way events unfolded to embed a possibly sub-optimal solution as the industry standard, even when better solutions were available.

The third kind of path dependence "the trodden trail[s]" (Room, 2011, p. 8) is where frequent use of an approach evolves into business as usual and becomes the preferred approach. Cairney (2012) suggests it can be hard to change settled paths because of the previous investment in using them – both in time and resources. In these instances, path dependence can suppress creativity – unless there is a learning process established to explore the past as part of locating future options (Teisman & Klijn, 2008). Eppel et al. (2011) note that even after an activity ends, a past path may continue to influence the

2 According to Fioretos et al. (2016) historical institutionalism is "a research tradition that examines how temporal processes and events influence the origin and transformation of institutions that govern political and economic relations" (p. 1).

system. It continues because exchanges during the intervention can change the feedback loops and alter the path of the system.

Summary

Having described the key complexity concepts, this summary contains working definitions for this thesis.

Table 5: Working definitions of complexity concepts for the research

	Working definition of each of the complexity concepts used in this research
Emergence	The concept of emergence is based around the idea that the whole is greater than the sum of the parts. Emergence comes from the interactions between people and what they do and can't be understood by looking at aspects in isolation. The interactions between people and objects that inform, enable or restrict what they do, may be thought of as control parameters. The non-linearity of the interactions between the different agents, be they people or things, means what emerges is unpredictable.
Self-organising	Self-organising systems can occur without overt leadership or planning, and they emerge from interactions over time. People can never see the whole complex human system, only have limited knowledge, and thus cannot control the system. Instead, those working in complex human systems need to learn to work with incomplete knowledge, try to work with the creative force of the system, and expect surprises.
Path dependence	Path dependence describes an irreversible pathway of events, where the order of events matters. Processes that begin similarly may result in widely different outcomes, even when following a prescribed approach. Early actions may influence a path. Seemingly small choices can lead to system-wide differences that have significant and enduring implications that are hard to change. Timing can be crucial.
Feedback	Feedback takes multiple forms, including communication, behaviour, or other systems change that responds to changes in the system. Positive feedback describes a reinforcing path of action that either amplifies, intensifies or energises any activity and can be virtuous or vicious. At times change can escalate quickly. By comparison, negative feedback

	can balance or steady a complex human system's activity or hinder or restrain change. Negative feedback can also give the impression of no change because small change in one area may be cancelled out by opposite change in another. Many interactions are localised, but some interactions have broader reach, causing widespread impacts at times.

These complexity concepts were used to frame subject areas for the semi-structured interview guide, a copy of which can be found in the Appendix.

Chapter 5: Findings from the interviews

Introduction

This chapter sets out findings from ten key informant interviews, for the purpose of identifying what insights a complexity theory lens might provide to the challenges of contracting out for public health and social services. The existing literature outlined in Chapter 1 highlighted some of the challenges associated with contracting out. The respondents for this study were recruited because they were experienced in contracting out for public health and social services. For more information on the participants and the research method see pages 47 to 48. The interviews captured both the context and the specific aspects of complexity present in their work as outlined on page 51. Many respondents described experiencing similar challenges to those already described in the literature (see Chapter 1). Therefore, this chapter, building on Chapter 1, explores further the potential of complexity theory in two ways.

First, this chapter considers whether complexity theory may provide an alternative lens which aids understanding of current contracting out practice in public health and social services. The word “practice” for this thesis is defined as “the actual application or use of an idea, belief or method as opposed to the theory or principles of it” (OED Online, 2019, para 2a). Therefore, this question required me to consider how I might apply the ideas of complexity theory to the actual contracting out of public health services.

Second, this chapter considers how public sector managers might understand the processes and dynamics of contracting out if informed by complexity theory. For this thesis I define processes as “the continuing interaction of human groups and institutions, esp. as observed through its effects in social, political, cultural, etc., life, with the aim of finding underlying patterns of behaviour in the available data” (OED Online, 2019, para 8d). I define dynamics as “branch of any science in which force or forces are considered” (OED online, 2019 para 1b). Therefore, the question requires me to consider how public sector managers might understand from a complexity theory perspective the interaction of different groups of people and the patterns they form, when encountering different forces in contracting out.

The section first describes the way respondents thought about complexity. The analysis then provides insights into what contracting out looks like through a complexity lens and provides real-world examples of the complexity concepts in practice, before suggesting two areas of consideration for contracting out in complex settings. To protect respondent

anonymity, the quotes used in the findings section do not include individual identifiers as this could have led to respondents being recognised.

Key themes identified

The analysis for this thesis focused on the contracting out practices that respondents framed as promising and positive. The analysis focused on the approaches respondents tried, how they managed to create and preserve an environment where they could work differently, and their reflections about their ways of working. The analysis had two stages. First, thematic analysis of the data revealed four high-level themes that ran through the interviews. Next the high-level themes were analysed for examples of path dependence, emergence, self-organising and feedback to see what extra insights complexity theory might bring. For example with path dependence I asked myself “where in this information can I see examples of irreversible pathways of events, widely different outcomes from similar paths, small choices leading to wide differences, different orders of events mattering, timing mattering and enduring implications that are hard to change”? I adopted a similar process for the other three complexity theory concepts.

The four key themes that arose from respondents’ comments were:

- use wide boundaries to frame contracting out for public health and social services
- adjacent systems can be important enablers or constrainers to contracting out
- develop trusting relationships to create value with providers
- sponsor a learning environment in which to learn together.

In each theme, specific aspects of complexity that were evident from analysis are discussed.

Framing of complexity

This section first describes the ways respondents thought of systems and complexity. During the interviews many respondents referred to public health or social ‘systems’ and the need to change them. For instance:

> *What are the systems, what's the defining the systems within that complex environment, and working out what are the leverage points of those systems to make huge sustainable change? (Respondent comment)*

A few respondents made a brief reference to Cynefin (Mark & Snowden, 2006) a leadership framework developed by Snowden in 2002. Cynefin aims to "contextualise past and current activities and provide new [future] strategies" (p. 33). A few respondents had been exposed to Cynefin themselves or used it with providers[3]. Respondents' comments suggested Cynefin provided a useful starting point for discussion and helped them build a common language of different ways of acting in situations that were unpredictable or unknowable. One respondent remarked that Cynefin helped them see that in contracting out for complex public health and social services "you're measuring for improvement, not for control".

Other than reference to Cynefin, no one specifically connected contracting out or managing contracts with complexity theory as an organising framework. While respondents discussed many ideas that align with complexity theory concepts, they did not use technical words of complexity theory. The rest of this chapter discusses the key themes arising from respondents' comments.

Use wide boundaries to frame contracting out for public health and social services

Theme summary

Respondents generally viewed public health and social services as complex human systems. Many took a holistic view when contracting out for services, considering the needs of service users, providers and their own funding organisation. A few respondents described drawing from non-traditional provider organisations to expand the provider pool to deliver to those in need of services. Many respondents allowed for naturally occurring, serendipitous changes when contracting out, rather than adhering rigidly to original plans. Respondents sought information from a wide range of people and data sources to achieve the broadest view possible of what was happening in the complex human service of focus.

Theme details

All respondents were clear the public health and social problems they sought to address were complex, at times long-standing, and often deeply entrenched. A sense of urgency to

[3] Cynefin was considered easy to access and is taught by a network of consultants worldwide.

try different ways to build fairer and more just service delivery for public health or social services in New Zealand motivated many respondents “because what we've done in the past has not worked”. Respondents’ comments signalled they were dedicated public servants willing to champion, encourage and partner with providers to deliver services out to groups in most need.

> *When you're in that complex area, then you are in the innovation space, . . . you do have to do things differently. But it's really hard to turn all the different components of a system. You can be getting things going with the providers, but you've still got to turn the back room around as well. (Respondent comment)*

Respondents thought the complex needs of communities and users should drive contracting out but many recognised this was hard to achieve. These respondents worried that conventional ways of contracting out, did not adequately address the complexity of community needs.

> *Those traditional conventional ways of purchasing services, might not necessarily get you to a point where what you end up buying addresses the complexities of those communities. . . . [We need] for the process to kind of mould itself around that complexity as opposed to, us trying to make the complex issue fit within our process box. (Respondent comment)*

Some respondents found including multiple perspectives helped develop a richer and broader view of how to address needs, the most suitable approaches to service provision and ways to contract out for it. Respondents’ knew they could not see all parts of the public health or social system they were contracting out for. Some respondents recognised the provider organisations with a close to the community view, could help them understand the complexities of the most in need groups. Some respondents spoke of seeking a wide range of providers, including non-traditional providers such as supermarkets, churches and sports trusts for service delivery

> *[We wanted] the provider that's best placed in that location, who’s embedded in their community. . . . there's a richness with having the mix that we did . . . different organisations learnt from the others. (Respondent comment)*

Addressing the needs of the hardest to reach groups was multifaceted, challenging and complex work. Many respondents said they set up a shared direction with and ensured buy-in from providers when contracting out. Changing behaviours often took time and

people often faced many setbacks along the way – but breakthroughs were possible according to respondents. Many respondents commented it was important that contracting out allowed for the breakthroughs to occur.

> *They had developed this playful parenting group, and it was mainly for the Mums. . . . And the Dads were just regarded as taxis. And it turned out the fathers were the ones who were really most taken with it, and there were some quite radical changes, in some of the fathers' behaviour. Because being a father wasn't equated with parenting, culturally. . . . And it's become an ongoing social thing, we know it's taken hold. (Respondent comment)*

Many respondents were also open to multiple forms of feedback to track progress. Respondents looked for progress using evidence in communication, behaviour, or other observations of changes in the system. The following quote shows one respondents' approach to looking for signs that contracting out was successful for a programme.

> *There are just indicators that the community is getting going. And it might be like, visual things around the place, signs in shops, you know just examples of people getting behind something. It might be that more parents are actually turning up for something. . . . other communities, [might be] asking if they can have that too please. (Respondent comment)*

At times respondents recognised that providers' services would vary from the contract specifications to benefit service users. Many respondents accepted that often this change occurred from interactions over time, without overt leadership or planning. They saw benefits in embracing and managing desirable change and in helping to dampen down or stop undesirable change.

> *People who don't want to attend regular services, or have regular programs, were actually being reached in a different sort of way. . . . But what grew out of that was that somebody else thought [it] would be a good place to base a literacy project. (Respondent comment)*

Implications

All respondents were clear that some of the most at need people do not receive the services they are entitled to. All respondents wanted to see greater equity in the delivery of services, and believed all New Zealanders have a right to services. Respondents

recognised that they needed to consider different possibilities in service provision and support providers to use innovative approaches to reach key groups. They accepted that neither they nor the providers had all the answers, and that listening to the community was an important way to start serving their needs. They also recognised that loosening control so local people could identify local solutions was helpful. A striking feature of the approach of respondents was they were deeply committed to addressing community needs, rather than lightly addressing the political needs of being seen to be doing something.

Adjacent systems can be important enablers or constrainers to contracting out

Theme summary

Many respondents put effort into working with teams from legal, procurement and, to a lesser extent, accounting to contract out in ways that enabled rather than constrained delivering services to those most in need. While recognising the need for administrative efficiency, respondents argued they needed flexible approaches to contracting out.

Sometimes, respondents spoke of how the legal and procurement teams understood the complex trade-offs needed and juggled with conflicting aims. One interesting approach used by a few providers drew on “principles of practice” to hold “the unknowable” in contracting out. Providers were contracted to use the principles of practice rather than contracting for a specified workplan of deliverables. Accountability centred on providers reporting on working to the principles, and shared learnings as part of the accountability process.

Theme detail

Many respondents described that their interactions with the legal, procurement and accounting teams and their project management teams required navigating different mindsets and worldviews. One respondent observed it was hard to be “transformative around a contracting process that's been in place for however many years now”. All respondents noted that traditionally the legal, procurement and accounting teams aimed for control and uniformity in contracting out to ensure in-house efficiencies – more often for products than services. Some respondents observed that some legal teams thought it was their organisation’s role to hold all the power and decision making when contracting out for services rather than sharing power when appropriate.

> *It's been quite interesting working with our legal people to get their head around that, because in their mind we are "the Crown", and they are "just a provider". (Respondent comment)*

The risk reduction priorities of legal and procurement teams often conflicted with the risk sharing priorities some respondents wanted to adopt in contracting out. Respondents with legal backgrounds appeared more easily able to think of contracts in relational risk sharing terms, and to seek the changes they needed. However, many respondents, regardless whether they had any training in contract law or not, described ways they sought to broaden the legal, procurement teams' understandings of their contracting out goals. Most respondents at times worked hard to navigate the processes and to find ways to contract out that were more suitable for complex human services.

> *We had these quite rigid contracts. . . . And we've actually, I think, come out with the best contracts I've seen. And because they meet everything, they meet the audit [needs] in terms of what has to be in them. They meet the legality that they could stand up in court of law. They meet procurement in terms of process and timing. And they are also absolutely are fit for the purpose for the providers. Which means that for us that the . . . community that we serve are hopefully, well I reckon, are getting the best deal we can do for them now. (Respondent comment)*

Respondents believed it was worthwhile to use nonstandard ways to find providers for the service delivery to be adaptive to circumstances rather than seeking to control providers. Many respondents used formal Requests For Proposals to change the course of service delivery or broaden the pool of providers; some respondents used expressions of interest to locate providers where few were suitable. One respondent no longer went out to tender and brought on providers as they located them.

Some respondents described contracting out where they had incomplete knowledge of how the contract might be implemented with providers. At times this meant developing contracting out processes to accommodate "the unknowable". One way a few respondents found to navigate contracting out was to use 'principles of practice' in contracts. A few respondents found this approach helped hold the intent of contracting out and provide some accountability, while allowing providers flexibility to build a service that worked for their community. The principles of practice described what the service aimed to achieve rather than how to achieve it, and providers reported back on how they were working to the principles.

> *Well this time round . . . there's set of . . . best practice principles. So we've said you use those principles and you deliver a program. . . . [There's] room for people to design a program. . . .Well people are designing their programs, and there is likely to be some to and fro discussion, but basically these are their ideas. And from the point of view of the audience who will get this program delivered, they will largely see the ideas and design of that provider, which no other provider will have. (Respondent comment)*

> *We created a set of principles, . . . and provided those to the communities, to the groups, to the providers. And the principles were fantastic. All the locations reported, that . . . they were a godsend because they kind of held them into a boundary space. (Respondent comment)*

Some respondents reflected that over several phases of contracting out for longer term services, they refined contracts with support from the legal and procurement teams. Over time it became more possible to specify the services needed, know the likely demand for services, and the best way to watch and learn about each provider's performance some respondents suggested.

Respondents understood providers were sometimes unable to deliver contracted services and that circumstances could be unpredictable. Respondents recognised the tension in moving outside the boundaries of a contract but sometimes felt there was no alternative. Sometimes respondents talked of "setting aside" contracts while they looked for best possible solutions. At times respondents used an email to document the intent of the work but made no formal changes to the contract documentation. In all instances discussed, the funding did not change, but the tasks did.

> *Parts of the contract that we knew just weren't going to work, we . . . [said] "don't worry about that". So . . . "the contract's not the be-all-and-end-all". . . . [you need] to have a contract that actually enables innovation, but . . . [also] to hold people to account for certain things. (Respondent comment)*

Respondents observed that providers were often worried if the delivery of services went outside the scope of their contract. This was at times a barrier to developing creative solutions because providers also needed contracts to align with the services provided in case of an audit. Otherwise they might be in breach of an outdated contract, despite producing excellent results. That respondents worked this way signals the current processes for contracting out did not allow for easy adaptation to fast-moving situations.

Implications

In systems terms, the notion of enabling or constraining contracting out speaks to there being feedback loops between the programme team and the adjoining systems. There will always be a tension in contracting out between enabling greater flexibility to providers, and ensuring appropriate monitoring and reporting satisfies accountability requirements.

As respondents described often working outside of the prevalent system, respondents' comments suggest the feedback loops related to contracting out support a *New Public Management* style of contracting. This means respondents constantly navigate for accommodations or changes to standard contracting out approaches. One possible approach which addressed respondent and provider needs is to contract for principles of practice, rather than outputs or deliverables.

Develop trusting relationships to create value with providers

Theme summary

Respondents often sought to create value together rather than extract value from providers in the contracting out process. To create value together, all respondents said building trusting relationships with providers and the wider community of focus was critical. In addition, some respondents saw a need to share power with providers and support them in areas where they had less capability. Respondents noted that the current system of contracting out was at times not serving Māori and Pacific providers well.

Many respondents sought to include different perspectives about what is valuable about service delivery in the contracting out process. Good relationships were therefore needed with a wide range of partners and stakeholders across multiple organisational levels.

Theme detail

All respondents commented that good relationships were central to contracting out. Overall most respondents' approach to building trusting relationships was to develop mutual understandings of the best way forward. In order to do this, respondents reflected on the skills they and their team brought to the contacting out process. Many commented in different ways on the need to be "relationally savvy" and have "good facilitation skills" to bring people together "for a common purpose". Within their own teams' some respondents described staff with good relationship management skills as being able to "manage through

ambiguity" and of "being open minded and flexible about possibly doing things differently". Some respondents suggested team members needed to take a more "strategic" than "technical view" of the contracting process. Respondents observed that supporting rather than penalising providers for sharing information was essential.

> *So [if] you're not going to use that information to . . . bash them over the head, then they're more willing to work with you and share that information. And that approach goes a long way in building the credibility that you need. (Respondent comment)*

Some respondents also recognised the need to share power with providers. One way some respondents set up conditions for power sharing and learning conversations with providers was to engage in co-design with them. Co-design involved the respondent's agency, providers and users taking part in a series of guided workshops to identify the best ways to deliver services that would meet users' needs. Some respondents were mid-way through co-designs while others had previously used them. In some instances[4], respondents considered co-design a useful approach in helping to develop up appropriate ways of contracting out for public health and social services.

> *People who are going to be . . . the contract owners, have been part of the design process of the new specs . . . they've been designed by the people who are going to be developing the services. (Respondent comment)*

At other times respondents described talking directly with providers before contracting out with them to find an agreeable way forward. This example shows one way of reaching a common understanding.

> *Before even signing a contract [we] sit down with these agencies, organisations and say "Well . . . how do we get to this outcome? . . . What is it that you can do to assist us . . . to get to this outcome?" And then design the contract based on that. (Respondent comment)*

Some respondents suggested that building trusted relationships and collaborating took more time and resources than maintaining transactional relationships with providers. A few

[4] Co-design was not seen as a panacea, and there was also criticism of the process and the way it is being implemented in some agencies, however that is beyond the scope of this study.

respondents commented that resourcing for collaboration was often not funded or resourced enough, and this made doing the work difficult at times.

> *The energy that I put into the first few years was just horrific. . . . And there were health repercussions for all of us, and that wouldn't have happened if we'd had you know, a realistic team. . . . because it's a new initiative, they [policy] saw it as xx contracts to manage. When . . . it was partnerships with xx communities. (Respondent comment)*

Many respondents also talked of the relationships required to generate goodwill with providers, other agencies and senior leaders and politicians. Some respondents talked of "identifying the champions" that would support their work. Those respondents in senior roles paid attention to ensuring they retained an "authorising environment" and support from politicians as well as senior leaders within their own organisation. An authorising environment is one with "very high-level support" and buy in, which many respondents suggested was essential and that "without that you are not going to get far". Some respondents spoke of keeping senior managers and colleagues across their organisation up to date with their progress. One respondent reflected it was important "keep everyone trusting me, that I am doing something good" even if they didn't have a deep understanding of the project.

Many respondents managed their own relationships and those of their teams to ensure they preserved positive dealings with providers, people from other agencies and people within their own agency. Most respondents were mindful that contracting out processes could support or undermine the provider organisations' ability to work successfully. Some respondents sought to support providers to do their best work, and not get in the way.

> *[With] these other somewhat smaller players, [I am] . . . looking for solutions and helping them to perform, rather than looking for trouble. (Respondent comment)*

Most respondents said they needed to be able to rely on providers to report honestly of any challenges they met or of new possibilities they saw. With honest discussion respondents and providers could negotiate alternative courses of action.

> *We're really frank early on, that we want to know when things aren't working. So we don't want surprises, but we are willing to renegotiate because communities don't work in a linear way. And opportunities arise, and opportunities close, you only*

> *need someone to die or something, . . . and a whole lot of things change in a community*. *(Respondent comment)*

Some respondents worried that ways of contracting out were not serving Māori and Pacific providers well. Several respondents were mindful that Māori and Pacific providers often had multiple contracts with many different organisations, or divisions within an organisation. That fragmented contracting process meant providers had to report progress in multiple formats, which was time consuming and could get in the way of them providing services to their communities. One respondent noted:

> *I really think it's important for our Māori and Pacific providers, for us to be doing things very differently. . . . [With] a restructure . . . the impact of their stuff being managed in different parts . . . it's kind of a bit heart-breaking when you hear their experiences. (Respondent comment)*

However, respondents reflected there was a limit to the flexibility they could allow. At times the providers could not secure the needed workforce over a long timeframe. Sometimes providers did not deliver core aspects of the service as agreed. The main driver for ending the contracts and finding an alternative provider was when the community missed receiving essential service, according to several respondents, including Māori and Pacific respondents. However, where respondents described ending contracts, all the examples provided for this research were with Māori or Pacific providers. In all instances, respondents did not end the contracts lightly. Respondents described trying hard to find ways of working with providers before taking this final step.

> *[In] their relationships with us, [it's important] that they feel valued, supported. We can be pretty tough still [if] the contracting under [performs]. And if delivery is not met, and supports [are] put in and in, and in, and [milestones are] still not met we will cut . . . quite slowly . . . if they're not doing it for our communities [we must act]. (Respondent comment)*

Implications

Respondents comments suggested that to create value with providers it is essential to build a trusting relationship with them. Respondents described characteristics of trusting relationships included being "more open, more transparent, more willing to take risks" which allowed them to "manage through ambiguity" and to be "open minded and flexible about possibly doing things differently". When viewed through a complexity lens, this

approach makes complete sense because both respondents and providers are grappling to identify ways of working with communities of need that evolve over time.

An important implication for building trusted relationships is that it often takes more time and resource according to respondents, than the transactional style relationships *New Public Management* encourages. Building trusted relationships can be challenging where there is turnover of staff either within the funder organisation or the provider organisation. However, trusted relationships between organisations build greater resilience into the service provision than relationships between individuals. This suggests that relationships must be deeper and broader than between individuals and need to be at multiple levels in organisations.

Sponsor a learning environment in which to learn together

Theme summary

The benefit of sponsoring a learning environment between agencies and providers and focusing on learning together was another key theme identified from the interviews. Some respondents saw it as an important role of their agency to set up coordination processes to encourage sharing and learning between providers and the funding agency, including both one-to-one and many-to-many sharing.

Some respondents believed that rather than the funding agency mainly deciding alone, there was benefit in learning with providers, and at times wider groups, and sharing the decision making about how best to deliver services and contract out for them. Creating a culture of learning for improvement in contracting out practices also served as a form of accountability.

In addition, at times the sharing went wider and included other government agencies, local philanthropic agencies and businesses, and local community members and service users. Some respondents thought better decision making was possible when diverse groups brought different perspectives and suggestions for action.

Theme details

Because respondents and providers were often working with incomplete information, they sought information in many forms and communicated to assess progress rather than relying on one form of reporting. At times respondents said they included other government

agencies, local philanthropic agencies and businesses, and local community members and service users as well as providers and the funding agency. Many respondents believed it was important to share learning about progress on an initiative widely and regularly with providers and at times other stakeholders.

Respondents recognised that it took time to build learning environments, one reflecting "it took at least a year". In sponsoring a learning environment at times there were issues to work through with providers that created barriers to learning. Many providers delivering complex public health and social services appeared strongly intrinsically motivated to meet users' needs. By comparison, some respondents suggested a few providers who were extrinsically motivated focussed more on meeting contract deliverables than on learning for innovation to meet community needs. They were hard to work with on learning projects. In addition, in some instances there was a need to overcome providers' historical "mistrust" of government.

> *And in some locations, we were in partnership a lot stronger, because . . . they were really ready to embrace us as partners at the table. . . . [With] others it was problematic because the government was at the table, . . . the funder was at the table. (Respondent comment)*

Some respondents recognised that at times providers had strong ability in delivering services but lacked the skill and resources to write reports for contract monitoring and compliance. Respondents were also aware that provider reporting needed to be proportionate to the size and scope of the contract. At times respondents needed more formal reporting from providers but at other times verbal reports of progress were enough. In deciding the best approach for reporting, respondents considered provider capacity as well as the size of the contract. In some instances, several respondents said they supported providers to deliver suitable reporting.

> *Sometimes it will be, end up being an oral report with an email [back] written by me [saying] "can you confirm this was our conversation"? Because, we're not actually investing in communities for their report writing ability. (Respondent comment)*

To encourage continuing engagement and opportunities for learning, respondents used different meeting formats depending on what they sought to achieve and to think at both local and national scales. Sometimes meetings were mainly with providers, such as quarterly or six-monthly meetings to update progress, to reflect on learning. Some meetings were face-to-face, others used video or teleconferencing.

> *We brought them together twice a year for a national hui. They were [also] part of networks of, or communities of practice. (Respondent comment)*

At times funding agencies ran training for providers or brought in recognised experts. At other times broader groups including other government agencies, local philanthropic agencies and businesses came together to share and learn. Respondents suggested bringing together a wider group helped get a wider perspective of possible solutions, as well as encouraging continuing involvement from a wide range of stakeholders.

Some respondents recognised that in setting conditions for learning, it was important to collate and share back provider reporting in ways that was useful to providers. Some respondents shared monitoring information so providers could see their progress compared with other providers and to consider why differences might occur. Some respondents observed that when providers could see results from the data they collected, and benefited from it, providers were more committed to the process.

> *And then the people involved bought in to it because once they read . . . [what] our feedback was, they just cried and cried. . . . [They got] why we are doing this [type of data collection] and [they were] really committed. [The providers] not only bought in . . .to it but they also recognised . . . that they're the ones that are leading that . . . this is them saying what is happening with them. It's not someone's take on it. I think that's really strong. (Respondent comment)*

Many respondents spoke of evaluation as a critical part of knowledge creation for learning and tracking progress and success. Some respondents used evaluation alongside their projects to gain a broader perspective of the progress made.

> *When you work with community organisations, that are working with, . . . people in hard circumstances, . . . they're usually very smart articulate people. So it was a privilege to sort of learn alongside them. . . . . Sometimes it made me a bit jealous because [the evaluators] get longer, and more frequent conversations . . . than we were able to do. (Respondent comment)*

Respondents also gave examples of leveraging unexpected connections or serendipitous events during planned engagements with providers and other stakeholders to learn more about key communities of need. At times the evaluation findings led respondents to broker with and collaborate with a broader range of stakeholders to achieve and maintain change for those in need.

> *The collective problem solving is amazing. . . . at those first meetings all we heard was the challenges and the barriers, and why it can't be done. . . . [Now] they're quite inspiring and you see the passion . . . I mean they're so committed, the sector who are working in this area, and really innovative. (Respondent comment)*

> *But when you look at that whole system, we haven't got the money to deliver, to buy the interventions. We've had to put a system in there where they're . . . work[ing] . . . with private business and philanthropy, to broker a whole lot of support to get interventions. (Respondent comment)*

Many respondents also spoke of the ways they capture learnings to believably communicate progress and illustrate the chosen paths for action to those who championed their work.

> *We also ask for stories of change from [providers], in quite a formal sense, for evaluative stories. They're short, but they're quite specific. . . . And they can reformat that and share it with other people they want support from. (Respondent comment)*

Implications

Respondents clearly saw benefit in their organisation sponsoring a learning environment to leverage common learning and understanding between providers, sharing respondents' organisations' expertise with providers and bringing in outside expertise where suitable.

In complexity theory, non-linearity is the idea of there being no clear pathway to progress. Respondents recognised service users' journeys were often spasmodic which made assessing progress hard and often there were no clear measures of success. Nevertheless, respondents believed that over time, progress was possible. Respondents said it was important to capture and credibly communicate progress to those who championed their work.

Given the emphasis on learning in many teams one aspect that appeared missing was that no respondent mentioned including the legal and procurement teams in learning discussions with providers over ways to contract out for innovative service delivery. This may point to the *New Public Management* notion of the purchaser–provider split, where it is not considered appropriate for legal and procurement teams to know the providers or problem solve with them.

Complexity concepts across all themes

Through my analysis of the findings wider patterns appeared across all the themes. These wider patterns are described below.

Respondents understood that in many parts of public health and social service contracting out, the systems were hard to shift. Most respondents and providers were motivated to benefit the communities, and many genuinely sought to achieve change rather than putting programmes in place to give the appearance of doing something. Respondents also recognised that different providers achieved different results even when trying to follow the same path, and respondents recognised the need to allow for local variation in contracting out because of this. These findings align with the ideas of path dependence, emergence and self-organising and illustrate that context matters and one size does not fit all.

Many respondents had a holistic view of contracting out. They embraced the idea that the sum is greater than the whole of the parts. Many respondents believed in interacting with providers, their own agency and other key service users to co-design suitable service delivery and contracting out approaches for them. Many respondents had a complexity informed mental model of contracting out. These respondents believed that contracting out worked best when they shared power, learned from one another, and recognised there would be “unknowable’s” and surprises along the way. However, despite holding this view, many respondents described situations where they still held most of the power in decisions related to contracting out.

The respondents’ approach differed however, from the mental model held by some of the legal and procurement teams as described by respondents that was more aligned with *New Public Management* which assumes that providers seek to maximise gains for themselves. This mental model supported limiting knowledge through the system, to ensure the purchasers kept the most knowledge and power in order to increase value for money in contracts.

There were several examples where the funding agency brought together providers or wider stakeholder groups to connect – and this supports the notion of self-organisation within the system. Self-organising also occurred where respondents and providers were working with incomplete knowledge to try to harness the creative force of the system. Examples of this were times when they ‘put contracts to one side’ while they figured out how to provide the services needed. This was a great example of where trusted relationships were essential. However, respondents also admitted this could be a risky

approach, exposing providers if they were audited. Potentially the use of principles of practice in contracting out may be a more appropriate way to provide the same degree of flexibility to allow providers to self-organise contract delivery.

The adjoining systems with lawyers and procurement teams could act as either negative or balancing feedback loops potentially, but not always, stifling creative approaches to contracting out. There was a tension as of these providers sought both more flexibility in contracting out, and accountability features in contracting out. This allowed respondents to deal with underperforming providers on the rare occasions this was needed. This suggests there is no one best contracting out model, instead different models work best at different times and circumstances. Another observation about feedback loops was that a learning environment at times created a positive feedback loop that amplified the desired behaviours. This led me to wonder how learning environments might extend into the adjoining systems to support developing new ways of contracting, monitoring, and accountability. For instance, what might the benefits be of bringing lawyers and procurement teams along to meetings with providers and service users, so they really understood the challenges the providers and funders sought to address?

These findings suggest public sector managers responsible for contracting out may wish to:

- Consider more deeply how to build, support and enhance trusting relationships – as they appear to be the essential glue that drives emergence, self-organising and feedback.

- Consider what the conditions are for more open information sharing and learning. How might information be collected in different ways that suits the different providers and communities? How might the information be shared in ways that enhances learning and also accountability?

Chapter 6: Discussion

Restating research purpose and question

In the 1980s New Zealand government officials adopted *New Public Management* to replace what was widely seen as an inefficient system of government with what was touted to be a more streamlined version that afforded more choice to citizens (Boston, 1998). Following new public management principles, government agencies devolved service delivery to organisations outside government by contracting out for services in areas including public health and social services.

This thesis defines contacting out based on a definition by Alford and O'Flynn (2012). They define contracting out as being where service delivery shifts to outside government, while government continues to hold responsibility for setting the overall direction of the work plan and funding the services.

Some take the position that the *New Public Management* approach to contracting out does not serve some communities well (Head & Alford, 2015; Haynes 2015). Under a *New Public Management* approach to contracting out, a growing inequity in service provision has resulted (Productivity Commission, 2015; Waitangi Tribunal 2019). Head and Alford (2015) suggest there is not always greater efficiency achieved from using a *New Public Management* approach, and in fact it can be "ill suited" to the task (p.719). For some communities and individuals with the most complex needs, service provision is patchy, or non-existent, and there is often little choice available (Productivity Commission, 2015). Therefore, some suggest (Knight et al., 2017; Lowe & Plimmer, 2018; Waitangi Tribunal, 2019) *New Public Management* has failed to deliver for certain populations, or potentially may have even made matters worse. Room (2011) cautions that the impact of feedback can be variable and suggests some policy decisions can "enable some social groups to prosper while sending others along catastrophic downward trajectories" (p. 2).

In conducting this research, I considered if alternative ways of thinking about contracting out for public health and social services to *New Public Management* might address some of the challenges seen by researchers (Alford & O'Flynn, 2012; Boulton et al., 2018; Came et al.2017; Cumming, 2016; Dwyer et al., 2013; Head & Alford, 2015). I chose complexity theory because I had a pre-thesis interest in both systems thinking and complexity theory approaches from my work as an evaluator of government strategy, policies, programmes and projects.

After reviewing complexity literature, I selected complex realism (Byrne, 2011) as my framing, because theorists writing about public administration and public management have used this approach (Eppel et al., 2011; Haynes, 2015; Knight et al., 2017). I used what Morin (2006) refers to as the general complexity theory literature (as opposed to restricted complexity) to find possible concepts to apply to contracting out. I found little written about contracting out from a complexity perspective, in New Zealand or in other Commonwealth countries with similar government structures. I broadened my search to literature about complexity theory in public administration and management. Through a selective literature review I found four complexity theory concepts to use as, what Blumer, (1954) describes as, “sensitizing concepts” (p.4) to understand contracting out from a complexity perspective. The analysis of interview data analysis focused on respondents’ achievements and breakthroughs contracting out public health and social services to those in need. By viewing respondents’ practice through the four complexity theory concepts, potential ways of thinking about contracting out became apparent that differed from a *New Public Management* approach.

In this chapter I will draw together the different research strands to consider the insights overall about how complexity theory may inform contracting out for public health and social services. As well, in this chapter I discuss the strengths and limits of the research, suggest ideas for future research that could build on this research, and then state my conclusions.

The research questions this thesis aims to answer are; first, which ideas from within complexity theory might provide a possible frame to examine contracting out practices; second, how might complexity theory inform contracting out practice for public health services; and third, how might public sector managers understand the processes and dynamics of contracting out if informed by complexity theory. The next section considers the extent to which the findings of my research support the research questions.

What this study found

This section presents key findings from this research and answers the three research questions. Overall, I found that a complexity theory approach does provide appropriate and viable alternative lens to *New Public Management* when contracting out for public health or social services. The next sections present my argument for that claim.

Question One: Which ideas from within complexity theory might provide a possible frame to examine contracting out practices?

First, I wanted to learn whether ideas from within complexity theory might provide a possible frame to examine contracting out practices. I found the ideas of path dependence, emergence, self-organising and feedback were relevant to contracting out. Respondents' reflections on contracting out, framed through questions that explored each of these ideas, offered a useful alternative framing from a *New Public Management*. (I provide more detail about why in Question Two below). In concluding the concepts were useful I also draw on the work of Knight et al. (2017) who noted similar differences between a *New Public Management* approach and a contracting approach they call "complexity-friendly funding" (p. 23). In their work they used the complexity concepts of emergence, path dependence and unpredictability (which can also be thought of as self-organisation). My use of the complexity concepts was very similar to their work (Knight et al.,2017; Lowe & Plimmer, 2019) in that I used emergence, path dependence and self-organisation as they did, but added feedback as well. Adding feedback as a concept helped determine the ways public sector managers focused their attention in contacting out for services.

Question Two: How might complexity theory inform contracting out practice for public health services?

To answer this question, I considered how to apply the ideas of complexity theory when contracting out public health and social services. This research found public sector managers contracting out for public health and social services saw different possibilities through a complexity-informed view.

First, I summarise some different ways of thinking about, and understanding, contracting out using the complexity concepts as the sensitizing framework (Ragin & Amoroso, 2019; ten Have, 2004). In Table 6 some of the differences in how respondents thought about contracting out when using a complexity theory framing are described. The table then compares their framing to the *New Public Management* framing described in the literature in Chapters 1 and 2. I suggest this comparison reveals some important differences between the two approaches. Table 6 shows that overall, an approach to contracting out framed through complexity theory expects for or encourages variation in ways of contracting out. The table also shows that a complexity theory framing focuses on encouraging trusted relationships and continuing to learn, based on effective information collecting and sharing.

Table 6: Comparative framing of contracting out from complexity theory and *New Public Management*

Complexity theory-informed framing (drawn from the interviews)	*New Public Management* framing (drawn from the literature in Chapters 1 and 2)
• Funders see themselves as system coordinators: they work with providers who they see holding local expertise to meet community needs, and the funders provide both support and funding.	• Funders see themselves as being in charge, holding power and being the key source of expertise and funding.
• Funders understand provider paths will vary, and view variation as possibility for innovation.	• Funders expect fidelity to the contract, and view non-compliance as problematic.
• Funders take a wide view of communities the work is taking place in, and the range of providers and other stakeholders and internal teams involved in the work. They recognise the work can only contribute to wider systems change.	• Funders focus narrowly on delivery by providers for specific programmes of work intended to make a difference in and of itself.
• Funders engage diverse community groups. They listen to community concerns and encourage providers to adapt delivery to address community needs.	• Funders seek fidelity in delivery.
• Where both agencies and providers are seeking innovation, contract terms are clear enough for signing, but loose enough to give providers a good chance of successfully achieving them.	• Funders set performance expectations based on the agreed terms and milestones of the contract.
• Funders search for new insights in the interactions between providers and the community. Funders also build some accountability into contracts to keep everyone safe.	• Funders search mostly for signals of completion, non-compliance or risk.
• Funders assume intrinsic motivation drives provider and stakeholder participation. That is, working towards	• Funders assume extrinsic motivation drives for provider participation. That

wellbeing for the community is the main motivation of providers.	is, funding is the main motivation of providers.
• Funders assume there is no one best way to contract out for services. They use several different approaches including tenders, expressions of interest and direct invitations to providers.	• Funders use competitive tenders to foster competition and get the lowest price for the best value possible.
• Funders build trusted relationships with providers and the wider community.	• Funders build transactional relationships with providers. They keep contact to a minimum keep the agency's administration costs low.
• Funders aim to understand how delivery is progressing through learning together.	• Funders aim to keep control of delivery through contract terms.
• Funders share some risk, based on a shared understanding of the service challenges.	• Funders place risk for service delivery on the provider.
• Funders view variation in delivery as a possible breakthrough, while being aware of the possibility of non-compliance.	• Funders view variation in delivery as non-compliance.
• Funders encourage trust-based relationships with providers and, at times, other stakeholders. They focus on learning and improvement.	• Funders maintain an arms-length transactional relationship with providers focused on accountability and compliance.
• Funders use flexible monitoring and reporting suited to each provider. They support providers with less skill to produce reporting.	• Funders require regular and standardised monitoring and reporting from providers.
• Funders use reporting to support learning and improvement, as well as accountability. Funders use many forms of reporting including peer-to-peer discussions and ongoing evaluation.	• Reporting supports compliance and accountability rather than learning. Funders use or file reports mainly for accountability. They use audits to confirm reporting. They conduct evaluation occasionally.
• Funders encourage communication between providers.	• Little formal communication occurs between providers.

In this next section I consider some of the key issues identified in Chapters 1 and 2 about contracting out and ways the characterisation of complexity theory might support or add to this analysis. I make five points about contracting out for public health and social services based on the literature and the findings from the interviews.

First, I argue that neither a complexity theory-informed approach nor a *New Public Management* approach is best for contracting out for public health and social services. Instead, based on the literature and findings from the interviews, I believe each approach is useful in certain contexts. A *New Public Management* framing can be suitable where service delivery is stable, it is possible to predict demand, it is possible to specify services and to have some control (Productivity Commission, 2015a). The Productivity Commission (2015a) also identified circumstances in which social service provision was suboptimal; where it was more difficult to specify and delivery services, consumer needs kept changing, and funders and providers had to respond to these challenges. Complexity theorists would suggest that in these conditions, a complexity theory-informed approach would be more fitting because complexity theory allows for the uncertainty (Eppel & Karacaoglu, 2017; Eppel et al., 2011 Knight et al., 2017; Lowe & Plimmer, 2019).

Second, I propose the current system of contracting out for public health and social services borrows heavily from a *New Public Management* ethos and that this has become the standard approach. I argue that much of the current work looking for new ways of contracting out such as the Productivity Commission report (2105a) and Boston and Gill's (2017) work on social investment, took a *New Public Management* approach when considering the challenges to social service delivery. The Productivity Commission's suggested solutions assumed government would continue to set the overall direction for service delivery rather than sharing the role. Solutions such as "results-based contracts" assumed the providers were predominantly extrinsically motivated (Productivity Commission, 2015a, p. v). Drawing from complexity theory, path dependence recognises that existing ideas, such as in the example of the QWERTY keyboard (Room, 2011; Cairney, 2012) become established despite not being ideal. I suggest another example of this principle is that *New Public Management*, has become entrenched and hard to shift, even though it is not always ideal. I draw on Eppel and Karacaoglu (2017) who suggest in *Social investment: A New Zealand policy experiment* there is a need to take a complexity perspective instead of a *New Public Management* approach in thinking about ways of contracting for services, in order to avoid "blindspots" (p.380). The evidence from respondents about administrative staff in agencies having *New Public Management* mindset that the agency must retain power and seek to reduce risk also supports the idea that *New Public Management* approach to contracting out is a well-worn path.

Third, an underlying theory of *New Public Management* is that neither the funders not the providers are trustworthy. Public choice theory suggests that "self-interest" (Trebilcock, 1995, p. 24) is a main motivator of people in government. Principal–agent theory suggests that government officials and providers will act in self-interest and game the system if they have the chance (Considine, et al., 2018). Therefore, *New Public Management* assumes extrinsic motivation drives people (Alford & O'Flynn, 2012). By comparison a complexity theory-informed approach adds a different dimension to this discussion. Those applying complexity theory in contracting out suggest people often have intrinsic motivations for doing the work (Knight et al., 2017). This means funders and providers can be trusted to find solutions for their communities and are motivated by the satisfaction from doing so (Alford & O'Flynn, 2012). Knight et al. (2017) observe that in many instances' providers wanted to share their expertise and genuinely wanted to perform services well, without needing a threat of sanctions to motivate them. This research agrees, and also includes many examples of funders and providers displaying intrinsic motivation in their work.

Fourth, in a *New Public Management* approach, the funding organisation contracting out for services generally specifies deliverables and transfers the delivery risk to the provider (Alford & O'Flynn, 2012). The funder wants to devolve themselves not only from the delivery of the service – but from the risk associated with delivery (Boston, 1998). This may be reasonable where the services to be delivered and communities to deliver to are known, and the providers have the capacity and capability to deliver. Respondents in this research noted circumstances where this is the case. However, at times much is unknown. Hajar (2003) describes as "radical uncertainty" (p. 185) the times where policy makers have incomplete knowledge but must decide anyway. A complexity theory-informed approach accepted that risks need to be shared and planned for this (Eppel & Karacaoglu, 2017). In circumstances where aspects of delivery are unknowable to both funders and providers, some respondents shared risks where responsibility could be apportioned, which aligns with ideas in the literature (Alford & O'Flynn, 2012; Knight et al., 2017; Lowe & Plimmer, 2019).

One way of apportioning responsibility was by using principles of practice in contracting out for services. A few respondents described this approach in their interviews, but it was not reflected in the literature. The principles of practice expressed the intent of the contract while allowing providers flexibility to deliver services in unique ways that suited their communities. Monitoring to progress is based on how providers worked to the principles, rather than capturing outputs such as numbers of people served. From a complexity theory-informed perspective, I suggest the principles of practice support self-organising in contracting out for complex human services. This approach aligns with the ideas of Mark

and Snowden (2006) who suggest “key heuristics around the principal rules which guide such actions, often from the professional rather than organisational domain, will come into play when the situation itself presents, enabling a shared response to context” (pp. 37–38).

Fifth, a goal of *New Public Management* is to be administratively efficient (Boston, 1998). Funders develop transactional relationships with providers with little engagement. Some respondents suggested transactional relationships are fitting for proven, continuing services. However, transactional relationships focus on monitoring and accountability (Boston, 1998). Even for standard contracts, this approach is not always suitable. Instead agencies expect written reports from providers for monitoring and accountability.

Some respondents noted the current system of contracting out did not serve Māori and Pacific providers well. Research by Came et al. (2018) suggests that Māori providers would prefer close positive relations, a focus on results rather than numbers, and face-to-face discussions about progress that also reflected on the funding agency’s performance. This research supports the observations of Came et al. (2018).

The time and personnel costs required to report to funders can make reporting hard on providers (Boulton et al., 2018; Came et al., 2017), and when unused seems wasteful. Feedback from some respondents showed use of monitoring reporting was variable, and theorists agree (Boulton, 2005; Boulton, et al., 2018; Came et al., 2017). This begs the question, why are providers required to provide reports that are not read? Is this really an efficient way to undertake monitoring and reporting for accountability?

By comparison, a complexity theory-informed approach suggests that trust-based relationships are essential to helping solve gnarly problems (Knight et al., 2017; Lowe & Plimmer, 2019). Many respondents agreed in this research that it was important to build trusted relationships to allow for learning. In turn the learning assisted funders and providers to work together to help find better ways to meet the needs of communities. There is more about the importance of relationships in the next section.

Question Three: How might public sector managers understand the processes and dynamics of contracting out if informed by complexity theory?

In this section, I consider how public sector managers might understand from a complexity theory perspective, the different groups of people interacting and the patterns they form, when facing different forces in contracting out. There are three key findings to this question. First, respondents built trusted relationships with providers to create value with them for the

community. Second, some respondents acted as stewards or facilitators of learning to encourage diverse groups to work effectively together. This helps create cohesion through learning and allows respondents to work with providers to develop and deliver reachable public health and social services. Third, respondents are aware of and navigate the different mental models of the diverse groups, to help ensure projects progress and develop and deliver reachable public health and social services.

The importance of building trusted relationships

All respondents recognised trusted relationships were critical for working through seemingly stubborn challenges, as no person or group had all the necessary information for decision making. The research found respondents sought to create value with providers in contracting out. To create value together, most respondents commented it was critical to build trusting relationships with providers and the wider community of focus. Some respondents built strong relationships more successfully than others. The past, and the way respondents shared information between organisations could be either enablers or barriers to building trusted relationships.

Respondents thought being positive towards providers and adopting a positive reflective stance were important ways to build relationships. Building trusted relationships took time and needed more agency and ministry resourcing than did classical contracting of service delivery. Several respondents observed during the interviews that while they had flexibility over what providers did, they had no extra money. This suggests policy analysts are another important group of people who can impact internally on contracting out, as they scope the resourcing requirements.

Respondents had an important role as stewards or facilitators

Some respondents recognised they had an enabling role in contracting out in three ways. First, respondents talked of providing a space for meetings with and between providers. Second, respondents also supported learning by collating information from individual provider reports and sharing it with all providers for learning. Third, respondents at times offered training or expert perspectives on challenges the providers faced. Some respondents thought they also brought knowledge, insight and facilitation skills to set up learning environments. And respondents also wanted to learn from providers and reflect together.

Respondents described various ways they collected milestone and reporting information from providers and communities. Respondents talked of getting oral reports from some providers that they then sent back by email, as a way of capturing monitoring information. Another respondent achieved greater buy-in from providers to collect survey data, by sharing the results with them. By sharing results providers could compare how they rated on service delivery with other providers. Providers could learn successful approaches from others. By collaborating, respondents helped providers to see possible approaches that might work in their region. Sharing information between the funder and providers, increased peer learning and collective engagement. An unintended outcome of sharing information was it acted as a form of peer-to-peer accountability.

Mental models can be important

Understanding mental models, Meadows (2008) suggests, is important because they help set up the system design. In this research, respondents suggested that engaging helpfully with providers was essential, rather than primarily focussing on contracting out to suit the funder's organisation. Respondents' comments suggested a complexity informed mental model focuses on delivering a diverse offering of reachable services. Under this model, respondents contracting out allowed for reflexive practice and adapting and changing course where needed. They used multiple forms of accountability, because the wanted to ensure funding meet the needs of important at-need groups.

This mental model differs from one aligned with *New Public Management* that assumes that providers seek to maximise gains for themselves. A core tenent of *New Public Management* is the need to have a purchaser–provider split. Based on the findings in Chapter One, I suggest a *New Public Management* mental model supports:

- limiting knowledge through the system to increase competition
- spreading contracts among many providers
- ensuring purchasers keep the most knowledge and power
- assuming that competition increases efficiency.

Additional findings

I noticed four unexpected findings while conducting this research. First, I did not expect the different mental models people held about the purpose of contracting out would impact as much as they did on the way respondents contracted out for services. While some respondents delivered relevant services putting the well-being of service users at the heart of decision making, they remarked that others did not always do this. Other groups within their organisation valued operational efficiency and reducing risk to their organisation. Risk examples included legal challenges or providers actions causing political embarrassment. Reducing risk included building acceptable compliance and accountability reporting into contracting out. Respondents accepted there is a need for compliance and accountability but found other ways to achieve this, such as sharing results and being close to the community.

Second, I noticed it was difficult to deliver services to of those with multiple and complex needs, and there were many barriers to effective service delivery. While *New Public Management* ideally enables greater consumer choice for most of the community, services are not reaching some who need them most. Therefore, *New Public Management* may be failing on equity grounds. Many respondents suggested, that at times funders or providers may target those who are easier to reach, leaving those who are costly and hard to reach unserved. The literature supports this observation, suggesting some of the most at-need groups miss out receiving services (Productivity Commission 2015, Waitangi Tribunal, 2019).

Third, I also saw how brave the respondents were when seeking to deliver services with suitable reach for communities of need. Their comments clearly showed some were working outside the system to address the status quo. This makes sense when viewed through a complexity lens signalling the current public health systems may be resilient, locked-in and hard to change (Came et al., 2017; Cumming, 2016). Several respondents described how much they personally risked their own reputations to do the work they were doing and how necessary it was to work within an authorising environment. Otherwise they risked exposure if they lost support. Knight et al. (2017) and Ryan et al. (2014) have made similar observations about the vulnerability of funders or public servants seeking to achieve change.

Fourth, I noted the innovative ways that respondents sought to deliver reachable public health and social services. Respondents used a wide range of contracting out approaches and some seemed to help providers gain positive momentum. Evaluation attached to many

of the projects may provide further insight but is excluded from this thesis to protect respondents' anonymity.

Strengths and limitations of the research

This research gained access to highly experienced government officials with considerable experience in contracting out for public health and social services. As well the theory-based research methodology, drawing on complexity theory for the sensitizing concepts added a rigor to the data collection and analysis processes in two ways. First, the complexity concepts were surfaced from the literature. They were built into the interview guide to ensure key areas relating to complexity in contracting out were covered. A semi-structured interview approach allowed flexibility in the way they were covered. Second, analysis used a retroductive approach to both analyse thematically and to further frame that analysis through the complexity concepts. Without this approach, the research may not have surfaced the strong influence of *New Public Management* mental models that are so pervasive in contracting out in New Zealand

This small-scale research does not claim to be generalisable. However, other Commonwealth countries that also contract out for services may find it provides insights as they have similar government structures. In using the findings, I suggest remembering that New Zealand's adoption of *New Public Management* and contracting out is more extensive than in some other countries (Hood, 1991; Gauld, 2003). Therefore, a New Zealand approach may not suit some other countries. As well, a unique aspect of service provision in New Zealand is the need to take account the Treaty of Waitangi (between Māori and the Crown) in all service provision.

Another limitation is that research studied mid to senior level public sector managers with experience of contracting out for public health and social services. There are other groups who were not spoken to including: senior policy managers who assign resources for contracting out during planning but have no responsibility for contracting out; providers subject to contracting out; and broader coverage of Māori and Pacific people's perspective on contracting out. The research also did not cover Whānau Ora projects because they are a specific group of projects taking a kaupapa Māori approach (Bouton et al., 2018). Based on the work of Bouton et al., these projects may well have provided rich insights from a complexity theory framing.

The final limitation I noted was the challenge in setting the boundaries for the research. At first, I set the boundary at contracting out and focused more on the decisions, roles and

responsibilities of service provision where contracting out occurred. I could have set a wider scope – that of commissioning. I believe that setting the boundary at contracting out was apt for the scope of a master's thesis. However, future research may consider extending the boundary to include commissioning, which would include a wider range of issues about the best way to achieve service delivery, including in-house provision (Alford & O'Flynn, 2012). I note that researchers in New Zealand such as Boulton et al. (2018) in their most recent work reflect on commissioning. I notice that Knight et al. (2017) also refer to commissioning in their work, rather than contracting out.

Implications of findings

Do we need a paradigm shift in our way of thinking about contracting out? There are several authors who suggest we should embrace complexity approaches in the design of public services (Eppel et al., 2011; Eppel & Karacaoglu, 2017; Haynes, 2015). Others believe a complexity framing is relevant when contracting out for complex human services (Head & Alford, 2015; Knight et al., 2017; Plimmer & Lowe, 2019). There are also calls in the literature saying that *New Public Management* is no longer fit for purpose. One author from the United Kingdom reflects on its "unconscionably long death" (Housden, 2016, p. 4) remarking that nevertheless *New Public Management* lives on. While beyond this research's scope, I raise the point because my findings are within the context of the *New Public Management* discussion.

In this research I suggest a *New Public Management* approach, despite its promise, at times may perpetuate the status quo, rather than encouraging learning for innovation or improvement. Much more modestly, I suggest a complexity-informed approach may be more suitable than a *New Public Management* approach for thinking of and contracting out some public health and social services, where inequity occurs. This finding draws from respondents' reflections that service users may present with a problem, that is not the most pressing problem. For a hypothetical example, service users may come to a session about managing asthma. But when they start talking to the service provider, they may describe many other public health or social issues they are facing. For instance, they may also need support to deal with family violence; drug, alcohol, or tobacco addictions; mental health issues; or cold damp housing. Whānau Ora navigators help service users' access and use support for multiple and complex needs, rather than expecting them to engage with several providers (Boulton et al., 2019). In the United Kingdom, Plimmer and Lowe (2019) also found that people in need of services often had multiple needs. They found it useful to deal with the most pressing needs first before service users could address some of their lower order needs. This approach requires access to flexible service provision.

Comments from respondents suggest contracting out from a complexity framing requires navigating legal and procurement processes set up for *New Public Management*. Head and Alford (2015) suggest the problem may be wider than just the legal and procurement processes when they remark that "tackling wicked problems … [is] constrained by the structure and processes of government administration" (p.731). While contracting out under *New Public Management* was not suitable at times, respondents suggested there were times where it was suitable, such as where service specifications, demand and delivery approaches were known.

The reason it may be time to take up a complexity framing for contracting out is that in New Zealand, respondents see a need to effect change to address inequity in service provision. Contracting using a complexity framing might help meet the needs of the most underserved populations. The Waitangi Tribunal (2019) maintains Māori are poorly served in many areas of public health provision. This means that some groups the Government finds hard to reach are missing out on services, and this impacts on the equity of service provision to the communities.

Future research

Because this research is a small early exploratory study, there are many different directions researchers could take in the future. The research uncovered some promising practice in the mainstream, as well as noting important similarities in the Whānau Ora practice that aligns with complexity theory-informed practice.

Further research developing practice case studies may help funders to understand effective service provision in public health and social services in a New Zealand context framed through a complexity lens. Some programmes are documenting their progress, but I did not include that information in this thesis as it might have led to identifying respondents. Further research could consider combining the findings from several projects, such as those using principles of practice to frame the programme direction and the contracting out process to learn from them. There appear to be several programmes of work using this promising practice.

Eppel and Karacaoglu (2017) argue that those designing and implementing policy need to take a different approach to imagining social services. Further research may consider how policy managers might think of service delivery and contracting out from a complexity theory-informed perspective. Further research may also consider how policy managers

might assign resources for learning as well as accountability in contracting out from a complexity theory-informed view.

Other possibilities for further research include more obvious suggestions such as broadening the scope of the study. I suggest there are several directions this could take. First, a wider spread of government departments would provide a wider view, as would including people from within different levels within organisations or researching the views of legal and procurement teams. As in the work of Knight et al. (2017) the research could also be extended to explore the views of philanthropic organisations in the funding role.

Gaps the research addresses

There has been little written from a complexity theory perspective about contracting out. The research in the United Kingdom of Knight et al. (2017) and Lowe and Plimmer (2019) is attracting interest, attention and a willingness to collaborate from many public service and philanthropic organisations in that country. Now many United Kingdom organisations have public links with the work (Lowe & Plimmer, 2019) and collaboration exists between Northumbria University, Newcastle University and Oxford University as well as many voluntary organisations. The work has also attracted philanthropic funding.

This much smaller study, based in New Zealand, shows there is also appetite to adopt approaches consistent with complexity theory here among some public sector managers with responsibility for contracting out. Many respondents interviewed here were trying similarly innovative relationship-based approaches to contracting out to those documented in the United Kingdom that align with a complexity framing (Lowe & Plimmer, 2019).

A gap exists in the literature relating to contracting out for public health services using a complexity theory-informed approach. For this study I referred to literature about complexity in the public administration and public management (Byrne & Callaghan, 2014; Cairney, 2012; Haynes, 2015; Morçöl, 2012; Room, 2011). Most of that literature described ideas and the potential for complexity theory to be useful for public administration and public management. A few studies reported empirical research findings from a complexity framing in public administration and public management (Rhodes et al., 2011; Trenholm & Ferlie, 2013) or contracting out (Knight et al., 2017; Lowe & Plimmer; 2019). The work of Eppel et al., (2011) was a meta-reflection across three studies focused on public management and administration, rather providing direct findings about contracting out.

I suggest this research makes a small contribution by testing the ways complexity theory ideas might apply in practice to contracting out. This research aligns with other literature suggesting complexity theory provides an alternative way to *New Public Management* of thinking of and managing the contracting out process. Several theorists (Eppel et al., 2011; Eppel & Karacaoglu, 2017; Haynes, 2015; Head & Alford, 2015; Knight et al., 2017; Plimmer & Lowe, 2019) encourage the uptake of complexity theory either for public administration, public management or for contracting out specifically. Theorists such as Head and Alford (2015) suggest *New Public Management* does not effectively deal with the complexity and uncertainty in the public service. Haynes (2015) believes that *New Public Management* oversimplifies the issues of service provision, an idea this research also supports.

Eppel et al. (2011) have outlined some principles of practice for using complexity theory in public administration. These principles include: self-organisation, that occurs in uncontrollable ways; the continuous need to consider and adapt to local history and context; and the impossibility of seeing the whole system and of having complete knowledge of it. These principles suggested by Eppel et al. (2011) appear relevant for contracting out and with the findings of this research agrees with them. Boulton et al. (2018) and Lovell et al. (2014) believe there is a need to shift away from a low-trust approach to contracting out services, supporting few opportunities for learning. This research also agrees with them and highlights the need for trusting relationships and a focus on learning.

Conclusion

In conclusion, using a complexity theory-informed framing, this research presents an alternative view to *New Public Management* when contracting out. It suggests developing trusted relationships, sharing decision making and using learning – to support diversity, innovation and accountability. This research suggests a complexity theory-informed framing may lead to finding ways of contracting out that better match the diverse, multi-layered and complex needs of some service users. A complexity theory-informed framing also suggests services need to be fit for purpose in different contexts, rather than being streamlined into one-service-for-all.

The research identified two key complexity theory-informed levers that may help break through contracting out challenges when paths are uncertain and unpredictable. The first lever is for funders to build trusting relationships with diverse stakeholder groups, including providers, to better understand the challenges and encourage a range of approaches to

problem solving. The second lever is for funders and providers (at times working with other agencies, businesses, philanthropy and the community) to learn together – so the services developed meet users' needs in different contexts. A learning approach embraces diversity instead of trying to oversimplify possible solutions. Because inequity continues to exist in public health service provision (Waitangi Tribunal, 2019), there is a need for increasingly interconnected solutions. I suggest further research is warranted to understand more about how to apply complexity theory to contracting out in order to deliver public health and social services that are both available and reachable in the community. Finally, I conclude by suggesting that solutions to contracting out for complex human services require diverse groups of people to engage with one another from a learning stance.

"Ka ki mai koe, he aha te me nui,
Ka it atu au–
He tangata, he tangata, he tangata. . . .

You will say, What is the thing of most importance?
And I will reply,
It is people, it is people, it is people" (Barlow, 2008, p. 80–81).

Bibliography

Alford, J., & O'Flynn, J. (2012). *Rethinking public service delivery: Managing with external providers*. Basingstoke, England: Palgrave Macmillan.

Ansell, C., & Geyer, R. (2017). Pragmatic complexity 'a new foundation for moving beyond 'evidence-based policy making.' *Policy Studies, 38*(2), 149–16. https://doi.org/10.1080/01442872.2016.1219033

Area Health Boards Act, No. 134. (1983). Retrieved from http://www.nzlii.org/nz/legis/hist_act/ahba19831983n134170/

Ashton, T., & Bautista, M. C. (2011). Purchasing health services in New Zealand. In H. Jalilian & V. Sen (Eds.). *Improving health sector performance: Institutions, motivations and incentives-the Cambodia dialogue* (p. 135–148). Singapore, Singapore: Institute of Southeast Asian Studies.

Ashton, T., Tenbensel, T., Cumming, J., & Barnett, P. (2008). Decentralizing resource allocation: Early experiences with district health boards in New Zealand. *Journal of Health Services Research & Policy, 13*(2), 109–115. https://doi.org/10.1258/jhsrp.2008.007133

Ayers, L. (2012). Semi-structured interviews. In L. M. Given (Ed.), *The SAGE encyclopedia of qualitative research methods.* (p. 881). Thousand Oaks, CA: Sage.

Barlow, C. (2008). *Tikanga whakaaro: Key concepts in Māori culture.* Melbourne, Australia: Oxford University Press.

Blumer, H. (1954). What is wrong with social theory? *American Sociological Review, 19*(1), 3–10. https://www.jstor.org/stable/208816

Booth, A., Wright, J., & Briscoe, S. (2018). Scoping and searching to support realist approaches. In N. Emmel, J. Greenhalgh, A. Manzano, M. Monaghan, & S, Dalkin (Eds.). *Doing realist research.* (pp. 147–166). London, England: Sage.

Boston, J. (Ed.). (1995). *The state under contract.* Wellington, New Zealand: Bridget Williams Books.

Boston, J. (1996). The use of contracting in the public sector: Recent New Zealand experience. *Australian Journal of Public Administration, 55*(3), 105–110. https://doi.org/10.1111/j.1467-8500.1996.tb01228.x

Boston, J. (1998). Public sector management, electoral reform and the future of the contract state in New Zealand. *Australian Journal of Public Administration, 54*(4), 32–43. https://doi.org/10.5815/ijigsp.2012.01.06

Boston, J., &. Gill, D. (Eds.). (2017). *Social investment: A New Zealand policy experiment.* Wellington, New Zealand: Bridget Williams Books. https://doi.org/10.7810/9781988533575

Boulton, A. (2005). *Provision at the interface: The Māori mental health contracting experience.* (Doctoral Dissertation). Palmerston North, New Zealand: Massey University. Retrieved from http://hdl.handle.net/10179/254

Boulton, A., Gifford, H., Allport, T., Research, W., & White, H. (2018). Delivering on diversity: The challenges of commissioning for Whānau Ora. *Journal of Indigenous Wellbeing, 3*(1), 45–56. Retrieved from https://journalindigenouswellbeing.com/media/2018/07/111.121.Delivering-on-diversity-The-challenges-of-commissioning-for-Whānau-Ora.pdf

Boulton, A., Tamehana, J., & Brannelly, T. (2013). Whānau-centred health and social service delivery in New Zealand: The challenges to, and opportunities for, innovation. *MAI Journal, 2(1),* 18–32. Retrieved from http://journal.mai.ac.nz/sites/default/files/Vol 2 (1) 024 Boulton.pdf

Bourdieu, P. (1977). *Outline of a theory of practice*. Cambridge, MA: Cambridge University Press.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3(2),* 77–101. https://doi.org/https://doi.org/10.1191/1478088706qp063oa

Brunton, M., & Pick, D. (2014). The contest for a community diagnostic laboratory contract in New Zealand: The influence of neo-liberalism in the public health sector.

International Journal of Healthcare Management, 7(1), 45–52. https://doi.org/10.1179/2047971913Y.0000000056

Byrne, D. (1998). *Complexity theory and the social sciences: An introduction.* London, England: Routledge.

Byrne, D. (2011). *Applying social science: The role of social research in politics, policy and practice.* Bristol, England: The Policy Press.

Byrne, D., & Callaghan, G. (2014). *Complexity theory and the social sciences: The state of the art.* London, England: Routledge.

Byrne, D., & Uprichard, E. (2012) Useful complex causality. In H. Kincaid. (Ed.). *The Oxford handbook of philosophy and social science*. Oxford, England: Oxford University Press. https://doi.org/10.1093/oxfordhb/9780195392753.013.0006

Cairney, P. (2012). Complexity theory in political science and public policy. *Political Studies Review, 10*(3), 346–358. https://doi.org/10.1111/j.1478-9302.2012.00270.x

Cairney, P., & Geyer, R. (2017). A critical discussion of complexity theory: How does complexity thinking improve our understanding of politics and policymaking? *Governance & Networks, 3*(2), 1–11. https://doi.org/10.20377/cgn-56

Came, H. (2014). Sites of institutional racism in public health policy making in New Zealand. *Social Science and Medicine, 106,* 214–220. https://doi.org/10.1016/j.socscimed.2014.01.055

Came, H., Doole, C., McKenna, B., & McCreanor, T. (2018). Institutional racism in public health contracting: Findings of a nationwide survey from New Zealand. *Social Science and Medicine, 199,* 132–139. https://doi.org/10.1016/j.socscimed.2017.06.002

Castellani, B., & Hafferty, F. W. (2009). *Sociology and complexity science: A new field of inquiry.* Berlin, Germany: Springer.

Capra, F. (1996). *The web of life: A new synthesis of mind and matter.* London, England: HarperCollins.

Chandler, J., Rycroft-Malone, J., Hawkes, C., & Noyes, J. (2016). Application of simplified complexity theory concepts for healthcare social systems to explain the implementation of evidence into practice. *Journal of Advanced Nursing, 72*(2), 461–80. https://doi.org/10.1111/jan.12815

Cilliers, P. (1998). *Complexity and postmodernism: Understanding complex system.* London, England: Routledge.

Considine, M., Nguyen, P., & O'Sullivan, S. (2018) New public management and the rule of economic incentives: Australian welfare-to-work from job market signalling perspective, *Public Management Review, 20*(8), 1186–1204. https://doi.org/10.1080/14719037.2017.1346140

Cook, K. E. (2012). In-depth interview. In L. M. Given (Ed.), *The SAGE encyclopedia of qualitative research methods.* (p. 423). Thousand Oaks, CA: Sage.

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process.* London, England: Sage.

Cumming, J. (2016). Commissioning in New Zealand: Learning from the past and present. *Australian Journal of Primary Health, 22*(1), 34–39. https://doi.org/10.1071/PY15164

Darking, M., Haynes, P., & Stroud, J. (2018). Developing public service knowledge and learning about complex systems: Using a community of practice to integrate theory and practice. *Governance & Networks, 4*(1), 46–58. https://doi.org/10.20377/cgn-45

Destremau, K., & Wilson, P. (2017). Defining social investment, kiwi style. In J. Boston & D. Gill (Eds.), *Social investment: A New Zealand policy experiment* (pp. 35–73). Wellington, New Zealand: Bridget Williams Books Limited.

Dwyer, J., Boulton, A., Lavoie, J., Tenbensel, T., & Cumming, J. (2013). Indigenous peoples' health care: New approaches to contracting and accountability at the public administration frontier. *Public Management Review, 16,* 1091–1112. https://doi.org/10.1080/14719037.2013.868507

Easton, B. (1997). *The commercialisation of New Zealand*. Auckland, New Zealand: Auckland University Press.

Ebbinghaus, B. (2005). *Can path dependence explain institutional change? Two approaches applied to welfare state reform* (MPIfG Discussion Paper No. 05/2). Retrieved from https://www.econstor.eu/bitstream/10419/19916/1/dp05-2.

Eppel, E. (2017). Complexity thinking in public administration's theories-in-use. *Public Management Review, 19*(6), 845–861. https://doi.org/10.1080/14719037.2016.1235721

Eppel, E., & Karacaoglu, G. (2017). Social investment in a complex and radically uncertain world. In J. Boston & D. Gill (Eds.), *Social investment: A New Zealand policy experiment* (pp. 380–406). Wellington, New Zealand: Bridget Williams Books

Eppel, E., Matheson, A., & Walton, M. (2011). Applying complexity theory to New Zealand public policy principles for practice. *Policy Quarterly, 7*(1), 48–55. Retrieved from http://ips.ac.nz/publications/files/c6108074474.pdf

Eppel, E., & Rhodes, M. L. (2018). Complexity theory and public management: A 'becoming' field. *Public Management Review, 20*(7), 949–959. https://doi.org/10.1080/14719037.2017.1364414

Fioretos, O., Falleti, T., Sheingate, A., Fioretos, O., Falleti, T., & Sheingate, A. (2016). Historical Institutionalism in Political Science. In O. Fioretos, T. G. Falleti, & A. Sheingate (Eds.), *The Oxford handbook of historical institutionalism.* (pp.1–29) Oxford, United Kingdom: Oxford University Press.

Mark, A., & Snowden, D. (2006). Research practice or practicing research: Innovating methods in healthcare – the contribution of Cynefin. In A. L. Casebeer, A. Harrison, & A. Mark. (Eds.), *Innovations in health care: A reality check.* (pp. 30–41). Basingstoke, England: Palgrave Macmillan.

Fiscal Responsibility Act, No. 17. (1994). Retrieved from http://www.nzlii.org/nz/legis/hist_act/fra19941994n17270/

Fletcher, A. J. (2017). Applying critical realism in qualitative research: Methodology meets method. *International Journal of Social Research Methodology, 20*(2), 181–194. https://doi.org/10.1080/13645579.2016.1144401

Gauld, R. (2001). *Revolving doors: New Zealand's heath reforms.* Wellington, New Zealand: Institute of Policy Studies and Health Services Research Centre.

Gauld, R. (2003). *Continuity amid chaos: Health care management and delivery in New Zealand*. Dunedin, New Zealand: University of Otago Press.

Gauld, R. (2013). Questions about New Zealand's health system in 2013, its 75th anniversary year. *New Zealand Medical Journal, 126*(1380), 68–74. Retrieved from https://www.nzma.org.nz/journal

Gerritts, L., & Marks, P. (2015). How the complexity sciences can inform public administration: An assessment. *Public Administration, 93(2),* 539–546. https://doi.org/10.1111/padm.12168

Gershenson, C. (2008). *Complexity: 5 questions*. Copenhagen, Denmark: Automatic Press/VIP.

Geyer, R. (2012). Can complexity move UK policy beyond "evidence-based policy making" and the "audit culture"? Applying a "complexity cascade" to education and health policy. *Political Studies, 60*(1)*,* 20–43. https://doi.org/10.1111/j.1467-9248.2011.00903.x

Geyer, R. (2013). The complexity of GP commissioning: Setting GPs "free to make decisions for their patients" or "the bravest thing" that GPs will ever do. *Clinical Governance: An International Journal, 18(*1), 49–57. https://doi.org/10.1108/14777271311297957

Geyer, R. & Cairney, P. (Eds.). (2015). *Handbook on complexity and public policy.* Cheltenham, England: Edward Elgar Publishing.

Giddens, A., & Sutton, P. W. (2017). *Essential concepts in sociology* (2nd ed.). Malden, MA: Polity.

Grey, S., & Sedgwick, C. (2013). *Fears, constraints, and contracts: The democratic reality for New Zealand's community and voluntary sector*. Retrieved from https://www.victoria.ac.nz/sacs/pdf-files/Fears-constraints-and-contracts-Grey-and-Sedgwick-2014.pdf

Gruening, G (2001). Origin and theoretical basis of New Public Management. *International Public Management Journal, 4,* 1–25. https://doi.org/10.1016/S1096-7494(01)00041-1

Hajer, M. (2003). Policy without polity? Policy analysis and the institutional void. *Policy Sciences, 36*(2), 175–195. https://doi-org.ezproxy.massey.ac.nz/10.1023/A:1024834510939

Ham, C. (2008). World class commissioning: A health policy chimera? *Journal of Health Services Research & Policy, 13*(2), 116–121. https://doi.org/10.1258/jhsrp.2008.007177

Hay, I. (1989). *The caring commodity: The provision of health care in New Zealand.* Auckland, New Zealand: Oxford University Press.

Haynes, P. (2008). Complexity theory and evaluation in public management. *Public Management Review, 10*(3), 401–419. https://doi.org/10.1080/14719030802002766

Haynes, P. (2015). *Managing complexity in the public services* (2nd ed.). Abingdon, England: Routledge.

Haynes, P. (2017). Understanding the influence of values in complex systems-based approaches to public policy and management. *Public Management Review*. *20*(7), 980–996. https://doi.org/10.1080/14719037.2017.1364411

Head, B. W., & Alford, J. (2015). Wicked problems: Implications for public policy and management. *Administration & Society, 47*(6), 711-739. https://doi.org/10.1177/0095399713481601

Health Act, No. 65. (1956). Retrieved from http://www.legislation.govt.nz/act/public/1956/0065/121.0/whole.html#DLM307994

Health and Disability Services Act, No. 22. (1993). Retrieved from http://www.nzlii.org/nz/legis/hist_act/hadsa19931993n22304/

Health and Disability Services Amendment Act, No. 84. (1995). Retrieved from http://www.legislation.govt.nz/act/public/1995/0084/latest/whole.html

Health Quality & Safety Commission New Zealand. (2019). *A window on the quality of Aotearoa New Zealand's health care 2019: A view on Māori health equity.* Retrieved from https://www.hqsc.govt.nz/our-programmes/health-quality-evaluation/publications-and-resources/publication/3721/

Hipkins, C. (2019). *Public service undergoes biggest shake-up in 30 years.* Retrieved from https://www.beehive.govt.nz/release/public-service-undergoes-biggest-shake-30-years

Hood, C. (1991). A public management for all seasons? *Public Administration, 69*(1), 3–19. https://doi.org/10.1111/j.1467-9299.1991.tb00779.x

Housden, P. (2016). *Rethinking Public Services.* Retrieved from https://www.centreforpublicimpact.org/rethinking-public-services/

Islam, F. (2015). New Public Management (NPM): A dominating paradigm in public sectors. *African Journal of Political Science and International Relations, 9*(4), 141–151. https://doi.org/10.5897/AJPSIR2015.0775

Jackson, M. C. (2003). *Systems thinking: Creative holism for managers.* Chichester, England: John Wiley & Sons.

Jolley, G. (2014). Evaluating complex community-based health promotion: Addressing the challenges. *Evaluation and Program Planning, 45,* 71–81. https://doi.org/10.1016/j.evalprogplan.2014.03.006

King, A. & Turia, T. (2002). *He Korowai Oranga: Māori Health Strategy*. Retrieved from https://www.health.govt.nz/system/files/documents/publications/mhs-english.pdf

Klijn, E.H. (2012). New public management and governance: A comparison. In D. Levi Faur (Ed.), *The Oxford Handbook of Governance* (pp. 201–214). Oxford, England: Oxford University Press.

Klijn, E. & Koppenjan, J. (2014). Complexity in governance network theory. *Complexity, Governance & Networks. 1*(1)61–70. https://doi.org/10.7564/14-CGN8

Knight, A. D., Lowe, T., Brossard, M., & Wilson, J. (2017). A whole new world: Funding and commissioning in complexity. Retrieved from http://doi.wiley.com/10.1111/jan.12815

Kuhn, T. S., & Hacking, I. (2012). *The structure of scientific revolutions* (4th ed.). Chicago, IL: The University of Chicago Press

Laugesen, M. J., & Gauld, R. (2012). *Democratic governance and health: Hospitals, politics and health policy in New Zealand*. Dunedin, New Zealand: Otago University Press.

Lavoie, J., Boulton, A., & Dwyer, J. (2010). Analysing contractual environments: Lessons from indigenous health in Canada, Australia and New Zealand. *Public Administration. 88*(3), 665–669. https://doi.org/10.1111/j.1467-9299.2009.01784.x

Leung L. (2015). Validity, reliability, and generalizability in qualitative research. *Journal of family medicine and primary care, 4*(3), 324–327. https://doi.org/10.4103/2249-4863.161306

Lewis, N., Lewis, O., & Underhill-Sem, Y. (2009). Filling hollowed out spaces with localised meanings, practices and hope: Progressive neoliberal spaces in Te Rarawa. *Asia Pacific Viewpoint 50*(2), 166–184. https://doi.org/10.1111/j.1467-8373.2009.01391.x

Local Government Amendment Act 1989, No. 1. (1989). Retrieved from http://www.nzlii.org/nz/legis/hist_act/lgaa19891989n1289/

Lovell, S. A., Kearns, R. A., & Prince, R. (2014). Neoliberalism and the contract state: Exploring innovation and resistance among New Zealand health promoters. *Critical Public Health. 24*(3), 308–320. https://doi.org/10.1080/09581596.2013.808317

Lowe, T. & Plimmer, D. (2019). *Exploring the new world: Practical insights for funding, commissioning and managing in complexity.* Retrieved from http://wordpress.collaboratei.com/wp-content/uploads/1.-Exploring-the-New-World-Report-MAIN-FINAL.pdf

Mark, A., & Snowden, D. (2006). Research practice or practicing research: Innovating methods in healthcare – the contribution of Cynefin. In A. L. Casebeer, A. Harrison, & A. Mark. (Eds.), *Innovations in health care: A reality check.* (pp. 30–41). Basingstoke, England: Palgrave Macmillan.

Massey University. (2017). *Code of ethical conduct for research, teaching and evaluations involving human participants: Revised code 2017*. Retrieved from http://www.massey.ac.nz/massey/fms/Human%20Ethics/Documents/MUHEC%20Code.pdf?2F3CBE296DD2345CC01794BF9CFCA13A

Maxwell, J. (2018) Collecting qualitative data; A realist approach. In U. Flick. (Ed.). *The SAGE handbook of qualitative data collection.* (pp. 19–31). London, England: Sage.

Meadows, D. H. (2002). Dancing with systems. *Systems Thinker, 13*(2), 2–6. Retrieved from http://donellameadows.org/archives/dancing-with-systems/

Meadows, D (2008). *Thinking in systems: A primer.* London, England: Earthscan.

Ministerial Advisory Committee on a Māori Perspective on Social Welfare. (1988). *Pūao te ata tū (Day Break*). Wellington, New Zealand: Department of Social Welfare.

Ministry of Health. (2002). *He korowai oranga: Māori health strategy*. Retrieved from https://www.health.govt.nz/system/files/documents/publications/mhs-english.pdf

Ministry of Health. (2014). *'Ala mo'ui: Pathways to Pacific health and wellbeing 2014–2018.* Retrieved from https://www.health.govt.nz/publication/ala-moui-pathways-pacific-health-and-wellbeing-2014-2018

Ministry of Health. (2017.) *Chronology of the New Zealand health system 1840 to 2017*. Retrieved from https://www.health.govt.nz/system/files/documents/pages/chronology-of-the-new-zealand-health-system-1840-to-2017_0.pdf

Ministry of Health. (2017). *The New Zealand health and disability system: Organisations and responsibilities. Briefing to the Minister of Health.* Retrieved from https://www.health.govt.nz/system/files/documents/publications/briefing-to-the-incoming-minister-of-health-2017-the-_new-zealand-health-and-disability_system-organisation_0.pdf

Ministry of Health. (2019). *2019/20 Annual plan and planning priorities guidance incorporating the statement of intent and statement of performance expectations.* Retrieved from https://nsfl.health.govt.nz/annual-plan-guidelines-201920

Ministry of Health & Ministry of Pacific Island Affairs. (2010). *'Ala mo'ui: Pathways to Pacific health and wellbeing 2010-2014*. Retrieved from https://www.health.govt.nz/publication/ala-moui-pathways-pacific-health-and-wellbeing-2010-2014

Mitchell, M. (2009). *Complexity: A guided tour.* New York, NY: Oxford University Press.

Moon, K., & Blackman, D. (2014). A guide to understanding social science research for natural scientists. *Conservation Biology, 28*(5), 1167–1177. https://doi.org/10.1111/cobi.12326

Morçöl, G. (2005). A new systems thinking: Implications of the sciences of complexity for public policy and administration. *Public Administration Quarterly, 29(3/4),* 297–320. Retrieved from http://www.jstor.org/stable/41288237

Morçöl, G. (2012). *A complexity theory for public poli*cy. New York, NY: Routledge.

Morin, E. (2007). Restricted complexity, general complexity. In C. Gershenson, D. Aerts, & B. Edmonds (Eds.), *Worldviews, science and us: Philosophy and complexity* (pp. 5–29). https://doi.org/10.1142/6372

Muir, R., & Parker, I. (2014). *Many to many: How the relational state will transform public services.* Retrieved from http://www.ippr.org/images/media/files/publication/2014/02/Many-to-many_Feb2014_11865.pdf

New Zealand Department of Health. (1975). *A health service for New Zealand*. Retrieved from http://www.moh.govt.nz/notebook/nbbooks.nsf/0/05D7CBD25241DF9A4C2565D7001869DE/$file/a%20health%20service%20for%20nz.pdf

New Zealand Government. (1969.) *A review of hospital and related services in New Zealand*. Wellington, New Zealand: Department of Health.

New Zealand Health and Disability System Review. (2018). *Terms of reference*. Retrieved from https://systemreview.health.govt.nz/about/terms-of-reference/

New Zealand Productivity Commission. (2015a*). More effective social services.* Retrieved from https://www.productivity.govt.nz/sites/default/files/social-services-final-report-main.pdf

New Zealand Productivity Commission. (2015b). *Appendix C. Case study: Whānau Ora.* Retrieved from https://www.productivity.govt.nz/sites/default/files/social-services-final-report-appendix-c.pdf

New Zealand Public Health and Disability Act, No. 91. (2000). Retrieved from http://www.legislation.govt.nz/act/public/2000/0091/latest/DLM80057.html?search=sw_096be8ed8174fefd_%22public+health%22_25_se&p=1

Nidditch, P. H. (Ed.), (2013). *The Clarendon Edition of the works of John Locke: An essay concerning human understanding*. Oxford, England: Clarendon Press.

Notarnicola, I., Petrucci, C., De Jesus Barbosa, M. R., Giorgi, F., Stievano, A., Rocco, G., & Lancia, L. (2017). Complex adaptive systems and their relevance for nursing: An evolutionary concept analysis. *International Journal of Nursing Practice, 23*(3), 1–9. https://doi.org/10.1111/ijn.12522

Ostrom, V., & Ostrom, E. (1971). Public choice: A different approach to the study of public administration. *Public Administration Review, 31,* 203–216. https://www.jstor.org/stable/974676

OED Online. (2019). " dynamics, n.". Oxford University Press. Retrieved from www.oed.com/view/Entry/58824

OED Online. (2019). "practice, n.". Oxford University Press. Retrieved from www.oed.com/view/Entry/149226

OED Online. (2019). " processes, n.". Oxford University Press. Retrieved from www.oed.com/view/Entry/151794

Ottawa Charter for Health Promotion. (1987). *Health Promotion International, 1*(4), 3–5. https://doi.org/10.1093/heapro/1.4.405

Paina, L., & Peters, D. H. (2011). Understanding pathways for scaling up health services through the lens of complex adaptive systems. *Health Policy and Planning, 27*(5), 365–373. https://doi.org/10.1093/heapol/czr054

Parsons, J. A. (2008). Key informant. In Lavrakas, P. J., (Ed.) *Encyclopaedia of survey research methods.* (p. 407). Sage. http://dx.doi.org/10.4135/9781412963947.n260

Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed). Thousand Oaks, CA: Sage.

Pawson, R., & Tilley, N. (2008). *Realistic evaluation.* London, England: Sage.

Petsoulas, C., Allen, P., Hughes, D., Vincent-Jones, P., & Roberts, J. (2011). The use of standard contracts in the English National Health Service: A case study analysis. *Social Science & Medicine, 73*(2), 185–192. https://doi.org/10.1016/j.socscimed.2011.05.021

Pierson, P. (2004). *Politics in time: History, institutions, and social analysis*. Princeton, NJ: Princeton University Press.

Pollitt, C. (2009). Complexity theory and evolutionary public administration: A sceptical afterword. In A. Van Buuren & L. Gerrits (Eds.), *Managing complex governance processes: Dynamics, self-organization and co-evolution in public investments* (pp. 213–230). https://doi.org/10.4324/9780203866160

Preker, A. S. (2018). *Financing universal access to healthcare: A comparative review of landmark legislative health reforms in the OECD.* https://doi.org/10.1142/10629

Prigogine, I. (1996). *The end of uncertainty: Time, chaos, and the new laws of nature*. New York, NY: Bantam Books

Prigogine, I., & Stengers, I. (1984). *Order out of chaos: Man's new dialogue with nature*. New York, NY: Bantam Books.

Public Finance Act, No. 44. (1989). Retrieved from http://www.legislation.govt.nz/act/public/1989/0044/latest/DLM160809.html

Quin, P. (2009). *New Zealand health system reforms: Research paper.* Wellington, New Zealand: New Zealand Parliamentary Library.

Ragin, C., & Amoroso, L., (2019). *Constructing social research: The unity and diversity of method.* (3rd ed.). Thousand Oaks, CA: Sage.

Rayner, G., & Lang, T. (2012). *Ecological public health: Reshaping the conditions for good health.* Abingdon, England: Routledge.

Reed, M., & Harvey, D. L. (1992). The new science and the old: Complexity and realism in the social sciences. *Journal for the Theory of Social Behaviour, 22(4),* 353–380. https://doi.org/10.1111/j.1468-5914.1992.tb00224.x

Raisio, H., Puustinen, A., Vartiainen, P., Lindell, J., & Ollila, S. (2018) Teaching public administrators and leaders to handle complexity. *Complexity, Governance & Networks, 4(*1), 80–91. http://dx.doi.org/10.20377/cgn-54

Rhodes, M. L., & Eppel, E. (2018). Public administration and complexity–or how to teach things we can't predict? *Complexity Governance & Networks, 4*(1), 1–9. https://doi.org/10.20377/cgn-61

Rhodes, M. L., Murphy, J., Muir, J., & Murray, J. A. (2010). *Public management and complexity theory.* https://doi.org/10.4324/9780203841600

Richardson, K. (2008). Managing complex organizations: Complexity thinking and the science and art of management. *Emergence: Complexity and Organisation, 10(2),* 13–26. https://doi.org/10.emerg/10.17357.c27fa1fd443ab603eea744131b6b79f6

Rickles, D., Hawe, P., & Shiell, A. (2007). A simple guide to chaos and complexity. *Journal of Epidemiology & Community Health, 61,* 933–937. https://doi.org/10.1136/jech.2006.054254

Rittel, H.W., & Webber, H. M. (1973). Dilemmas in a general theory of planning. *Policy Science 4(*2), 155–169. Retrieved from https://link.springer.com/journal/volumesAndIssues/11077

Room, G. (2011). *Complexity, institutions and public policy: Agile decision-making in a turbulent world.* Cheltenham, England: Edward Elgar Publishing.

Ryan, B., Gill, D., Eppel, E., & Lips, M. (2008). Managing for joint outcomes: Connecting up the horizontal and the vertical. *Policy Quarterly, 4*(3), 14–21. Retrieved from http://ips.ac.nz/publications/files/362e7552d2c.pdf

Sanderson, I. (2009). Intelligent policy making for a complex world: Pragmatism, evidence and learning. *Political Studies, 57,* 699–719*.* https://doi.org/10.1111/j.1467-9248.2009.00791.x

Sanderson, M., Allen, P., Gill, R., & Garnett, E. (2018). New models of contracting in the public sector: A review of alliance contracting, prime contracting and butcome-based contracting literature. *Social Policy & Administration, 52*(5), 1060– 1083. Retrieved from https://doi.org/10.1111/spol.12322

Scott, G. (2001). *Public management in New Zealand: Lessons and challenges*. Wellington, New Zealand: New Zealand Business Roundtable.

Shaw, R. (2012) Public service*.* In *Te Ara: The Encyclopedia of New Zealand*. Retrieved from http://www.TeAra.govt.nz/en/public-service/print

Social Security Act, No, 7. (1938). Retrieved from http://www.nzlii.org/nz/legis/hist_act/ssa19382gv1938n7266/

Stacey. R. (1996) *Complexity and creativity in organisations.* San Francisco, CA: Berret-Koehler.

State Sector Act, No. 20. (1988). Retrieved from http://www.legislation.govt.nz/act/public/1988/0020/latest/DLM129110.html

State Services Commission. (2019). *Changes to the State Sector Act 1988.* Retrieved from https://www.ssc.govt.nz/changes-state-sector-act-1988.

Taskforce on Whānau-Centred Initiatives. (2010). *Whānau Ora, report of the taskforce on whānau-centred initiatives*. Retrieved from https://www.msd.govt.nz/documents/about-msd-and-our-work/publications-resources/planning-strategy/whānau-ora/whānau-ora-taskforce-report.pdf

Teisman, G., & Klijn, E. (2008). Complexity theory and public management: An introduction. *Public Management Review, 10*(3), 287–297. https://doi.org/10.1080/14719030802002451

Tenbensel, T. (2013). Complexity in health and health care systems. *Social Science & Medicine, 93,* 181–184. https://doi.org/10.1016/j.socscimed.2013.06.017

Tenbensel, T. (2015). Complexity and health policy. In R. Geyer & P. Cairney (Eds.), *Handbook on complexity and public policy*. (pp. 369–383). Cheltenham, England: Edward Elgar Publishing.

ten Have, P. (2004). *Understanding qualitative research and ethnomethodology.* London, England: Sage.

The Treasury. (1987). *Government Management: Brief to the incoming Government 1987 Volume 1.* Retrieved from https://treasury.govt.nz/publications/bim/government-management-brief-incoming-government-1987-volume-i

The Treasury. (2019). *The wellbeing budget 2019*. Retrieved from https://treasury.govt.nz/publications/wellbeing-budget/wellbeing-budget-2019

Thompson, D., Fazio, X., Kustra, E., Patrick, L. & Stanley, D. (2016) Scoping review of complexity theory in health services research. *BMC Health Services Research, 16*(87), 1–16. https://doi.org/10.1186/s12913-016-1343-4

Tolich, M., & Davidson, C. (Eds.). (2018). *Social science research in New Zealand: An introduction.* Auckland, New Zealand: Auckland University Press.

Trebilcock, M. (1995) Can government be reinvented? In J. Boston (Ed.), *The state under contract* (pp. 1–35). Wellington, New Zealand: Bridget Williams Books.

Treaty of Waitangi Act, No. 114. (1975). Retrieved from http://www.nzlii.org/nz/legis/hist_act/towa19751975n114226/

Treaty of Waitangi Amendment Act, No. 148. (1985). Retrieved from http://www.nzlii.org/nz/legis/hist_act/towaa19851985n148306/

Trenholm, S., & Ferlie, E. (2013). Using complexity theory to analyse the organisational response to resurgent tuberculosis across London. *Social Science & Medicine, 93*, 229–237. https://doi.org/10.1016/j.socscimed.2012.08.001

Urry, J. (2005). The complexity turn. *Theory, Culture and Society, 22*(5), 1–14. https://doi.org/10.1177/0263276405057188

Von Bertalanffy, L. (1950). The theory of open systems in physics and biology. *Science, 111*(2872), 23–29. https://www.jstor.org/stable/1676073

Walker, R. (1990). *Ka whawhai tonu matou: Struggle without end.* Auckland, New Zealand: Penguin.

Walton, M. (2014). Applying complexity theory: A review to inform evaluation design. *Evaluation and Program Planning, 45,* 119–126. https://doi.org/10.1016/j.evalprogplan.2014.04.002

Waitangi Tribunal. (2019). *Hauora: Report on stage one of the Health Services and Outcomes Kaupapa Inquiry. Prepublication version.* Retrieved from *https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_150429818/Hauora%20Pre-PubW.pdf*

Westhorp, G. (2012). Using complexity–consistent theory for evaluating complex systems. *Evaluation, 18*(4), 405–420. https://doi.org/10.1177/1356389012460963

Williams, D., Garbutt, B., & Peters, J. (2015). Core public health functions for New Zealand. *New Zealand Medical Journal, 128*(1418), 16–26. Retrieved from https://www.nzma.org.nz/journal

Winslow, E. A. (1920). The untilled fields of public health. *Science, New Series, 51(1306*), 23–33. Retrieved from http://www.jstor.org/stable/1645011

Woermann, M., Human, O., & Preiser, R. (2018). General complexity: A philosophical and critical perspective. *Emergence: Complexity and Organisation, 1,* 1–12. https://doi.org/10.emerg/10.17357.c9734094d98458109d25b79d546318af.

Wolf, A. (2018). Teaching complexity: The limits of evidence and the ‘prospective’ case study. *Complexity, Governance & Networks, 4*(1), 92–102. http://dx.doi.org/10.20377/cgn-48

Appendices

Appendix 1: Interview guide

The interview is about the contracting out process, which includes both the procuring and ongoing management of contracts.

Scene setting

Firstly, I'd like to understand about your role contracting out for health or social service delivery.

Participant profile

- What is your role?
- How long have you been in it?
- Education/experience, work history, where you worked before?

Contracting setting

- What kinds of contracts for health and social service delivery do you manage? Do you manage a wide range/ few contracts (getting a sense of contract related workload)? What else do you do? (To check if they only manage contracts or are for instance a policy maker as well).
- How long have these contracts been in place?
- Are your contracts with one/multiple parties? How well do you know those you are contracting with?
- To what extent are these contracts with outside providers where outputs were specified and monitored (classical contracting)
- To what extent were they relational contracts where you work collaboratively with providers to deliver (relational contracting)
- To what extent are the contracts you manage designed to support and reflect the intention of the intervention or programmes?
- What works well on these contracts? (Especially the contracting process)
- What does not work so well?

Path dependency

Starting question: What do you take into account when deciding how the contract will be structured and managed?

Possible probes:

- To what extent does
    - a provider's past reputation
    - past experiences with other contracts
    - your own organisations reputation
        - impact on the way you contract with them.
- What constrains the way you develop and manage these contracts?
- To what extent is there a tension between requirements set out in legislation, regulation and your organisational practices and expectations?
- Are there ever times where so much time and effort has been invested that there is a reluctance to change? What happened?
- Are there ever times when someone has an 'ah ha moment, or something happens that results in contracts being done in a completely different way?
- To what extent do you aim to build incremental changes into contracts, to drive change?

Emergence

Starting questions:

- *Q1. To what extent do you contract for outputs (that is specific deliverables)?*
- *Q2. To what extent do you contract for outcomes (the things created through the interactions of organisations, people and resources)?*
- *Q3. How do providers show progress or contribution to outcomes?*

Possible probes:

- How do you balance the need for accountability for outputs with the need to demonstrate contribution to outcomes?
- How do you assess progress towards outcomes?
- What are the ways you assess whether real progress is made on a contract? What is credible to you?
- What timeframes do you typically work to?
- To what extent would you say that you as the procurer determine the outcomes required or is there a shared exploration of what the community needs?
- How much diversity is there in the contracts? Classical contracts vs relational contracts? In the different terms you put into contracts (e.g. reporting requirements, milestones, length of contract?)
- How much information is shared in the contracting of services, between whom?

- How strong are the relationships between your organisation and the providers? Between the various service providers? How does this help or hinder the contracting process?
- To what extent is competition between providers a barrier to greater co-operation and collaboration?

Self organising

Starting question: How do you balance the need for providers to deliver specified services whilst allowing them some freedom to try, discover, create and innovate?

Possible probes:

- Does your organisation as the procurer determine the services contracted, or is there a shared exploration of what the community needs with those you contract out to?
- (If you allow for flexibility in contracting) What are typically the kind of flexibilities you allow within contracts? How come?
- How do you manage the relationships with the people you contract out to and set expectations?
- How do you deal with the unpredictable aspects of contracting?
- To what extent and in what ways are innovation and creativity built into contracts? What are the painpoints?

Feedback

Starting questions: In contracting out for services, how do you decide:

- *Where to focus your attention?*
- *What to focus on?*
- *When to focus on it?*

Possible probes:

- How is monitoring and reporting undertaken?
- Where do you focus most of your attention? Why?
- What are the aspects that receive minimal attention from you?
- To what extent do providers milestone reports get used? How are they used?
- To what extent does reporting for accountability work well/not so well?
- To what extent does reporting for learning work well/not so well?
- To what extent is there sometimes a mismatch between your expectations and what providers deliver? How do you deal with that?

- Is the reporting for learning shared with the wider provider network?
- Are the providers different perspectives incorporated?
- To what extent does this lead to joint decision making across the wider network about what to do next?
- In what ways does this help the providers to better interact with their communities?
- What can't you control through contracting, and how do you manage this? What makes you anxious? How anxious are you in the contracting environment generally? In what ways and to what extent do you address that?
- To what extent do you think contract renewal drives provider anxiety? How does this show up?

Observations on contracting more generally

- We have heard that at times people find workarounds from the official process to develop and run workable contracts.
- To what extent and in what ways do you work around the official processes to develop workable contracts? What are kinds of things you most often have to do work arounds on?
- Are your organisation and your own expectations around managing contracts similar or are there differences? What differences are there? How do you deal with this?
- What are the aspects you got most reluctance or pushback on internally?
- What are the aspects you got most reluctance or pushback on from providers?

Wrap Up

- What advice would you give someone coming into your role, what are the things they need to master most?
- Are there any other aspects I haven't covered that you would like to comment on?

Thank and close.

Appendix 2: Information sheet

MASSEY UNIVERSITY
COLLEGE OF HEALTH
TE KURA HAUORA TANGATA

Exploring contracting out using complexity theory

INFORMATION SHEET

Introduction
I invite you to take part in a research project, examining how contracting for public health interventions delivered by health and social services can be enhanced through complexity theory concepts. The project aims to determine:

- How are the complexities of contracting out managed in practice?
- How might the contracting out process be better understood and enhanced through the incorporation of complexity theory concepts?

This research is being undertaken to meet the requirements for a Master of Philosophy at Massey University.

The title of my project is: **Exploring Contracting Out Using Complexity Theory**.

Project Description and Invitation
The aim of the interviews is to explore the way those with experience of contracting out navigate the complexities of the contracting process when contracting for public health interventions. Public health interventions are delivered by health and social services. I'd like to invite you to participate in an interview for this research. The interview will be semi-structured in format and will take between sixty and ninety minutes.

Participant Identification and Recruitment
You have been selected for inclusion in this research because you have been identified through word of mouth as someone who is experienced in contracting out for health and social services within the past 3 years. This is a small exploratory study of between six to eight interviews. Participants are selected from several different government agencies to obtain a range of government organisations in the sample.

Project Procedures
The interview will be digitally recorded and then transcribed. You may have a copy of the recording if you wish. You will have the opportunity to review the transcript if required before the information is included in the research report. There are no identified discomforts or risks to you as a result of taking part in the interview.

Data Management
Interviews will be analyzed by themes related to the research questions. These will be reported in the Master's Thesis, and any resulting publications or conference presentations or workshops. In all instances your identity will remain confidential. This will be achieved by using a pseudonym when quoted in text. A master file of the names of those interviewed and the identifying pseudonyms will be held in a separate file on a secure computer.

The following data management process will the followed. After the interviews are completed, recordings will be sent to a professional transcriber who will sign a non-disclosure form prior to transcribing the interviews. As be part of the briefing to the transcriber will be an instruction that no identifying information is to be included in the transcripts. The transcriber will delete the digital recording and the transcript once it has been sent to the researcher.

Consent sheets, interview recordings, transcripts and analysis will be stored securely either in password protected computers or in locked filing cabinets. Audio files, transcripts and other data will be deleted after the completion of related publications.

A one-page summary of findings will be made available to participants of the interviews on completion of the Masters Thesis. A copy of the Masters Thesis can be obtained from me once it is examined.

Statement of Rights:
You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question;
- ask for the recorder to be turned off at any time during the interview;
- withdraw from the study (before the end of February 2019);
- ask any questions about the study at any time during participation.

If you have any questions, please feel free to contact me, or one of my research supervisors:

Judy Oakden - Student	Dr Mat Watson - Supervisor	Dr Jeff Foote - Supervisor
PO Box 2950 Wellington Phone [redacted] Email: [redacted] Mobile [redacted]	Adjunct Senior Lecturer School of Health Science Massey University Phone [redacted] Email:mathew.walton@esr.cri.nz	Lecturer Department of Management University of Otago Phone: [redacted] Email: jeff.foote@otago.ac.nz

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research.

If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact Prof Craig Johnson, Director, Research Ethics, telephone 06 356 9099 x 85271, email humanethics@massey.ac.nz

Thank you very much for considering my request. If you wish to support this research, please complete the consent form attached and email it back to me.

Kind regards,

Judy Oakden

Masters student

Massey University

Appendix 3: Consent form

MASSEY UNIVERSITY
COLLEGE OF HEALTH
TE KURA HAUORA TANGATA

Exploring contracting out using complexity theory

PARTICIPANT CONSENT FORM - INDIVIDUAL

I have read and I understand the Information Sheet attached as Appendix I. I have had the details of the study explained to me, any questions I had have been answered to my satisfaction, and I understand that I may ask further questions at any time. I have been given sufficient time to consider whether to participate in this study and I understand participation is voluntary and that I may withdraw from the study at any time.

1. I agree/do not agree to the interview being sound recorded.
2. I wish/do not wish to have a copy of my recordings returned to me.
3. I wish/do not wish to receive a summary of the research findings
4. I agree to participate in this study under the conditions set out in the Information Sheet.

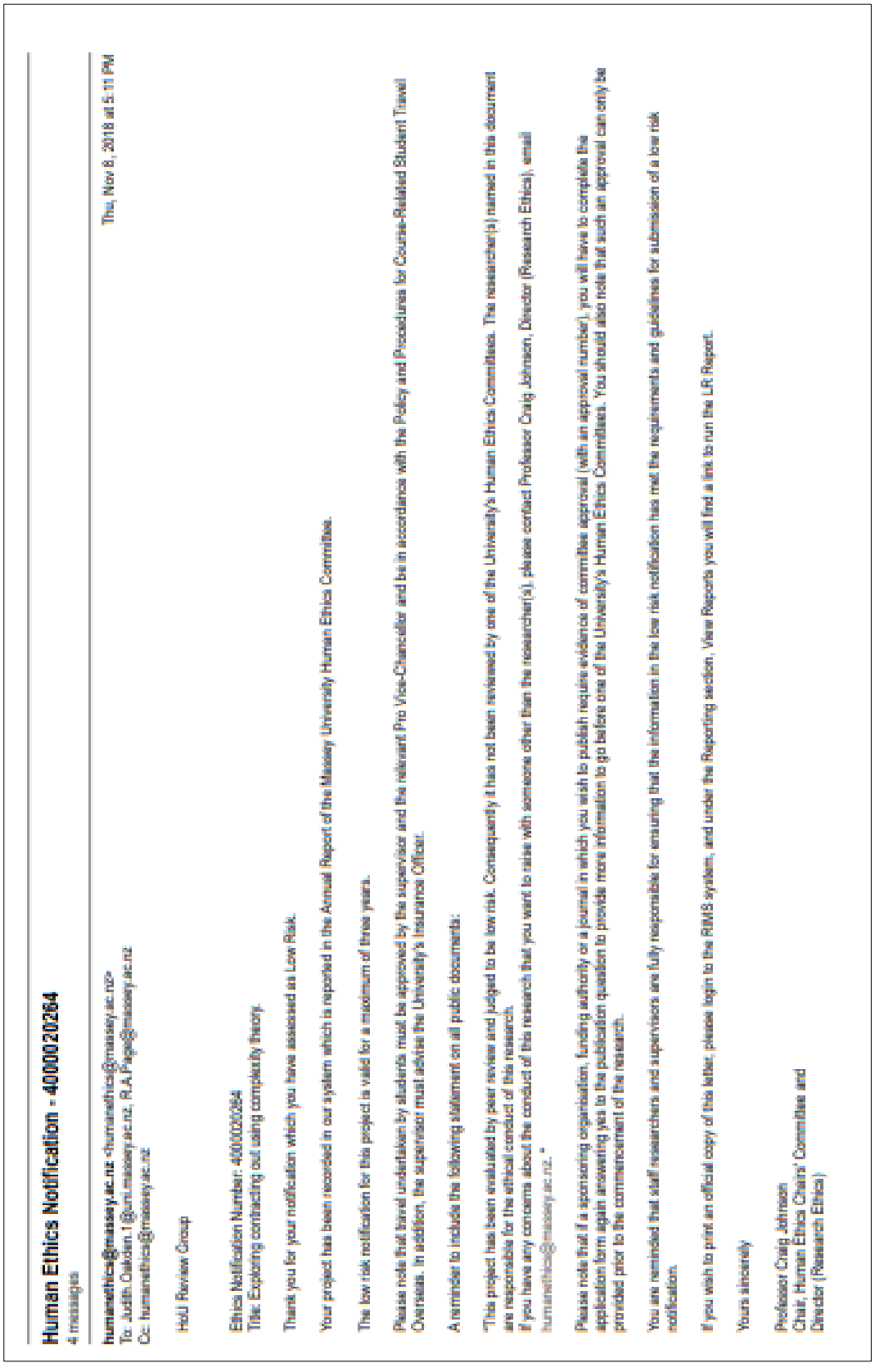
Declaration by Participant:

I [print full name]_____

hereby consent to take part in this study.

Signature: _____ Date: _____

Appendix 4: Human Ethics Notification



Human Ethics Notification - 4000020264

4 messages

humanethics@massey.ac.nz <humanethics@massey.ac.nz> Thu, Nov 8, 2018 at 5:11 PM
To: Judith Oakdan.1@uni.massey.ac.nz, R.A.Pope@massey.ac.nz
Cc: humanethics@massey.ac.nz

HoU Review Group

Ethics Notification Number: 4000020264
Title: Exploring contracting out using complexity theory.

Thank you for your notification which you have assessed as Low Risk.

Your project has been recorded in our system which is reported in the Annual Report of the Massey University Human Ethics Committee.

The low risk notification for this project is valid for a maximum of three years.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

A reminder to include the following statement on all public documents:

"This project has been evaluated by peer review and judged to be low risk. Consequently it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named in this document are responsible for the ethical conduct of this research.
If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher(s), please contact Professor Craig Johnson, Director (Research Ethics), email humanethics@massey.ac.nz. "

Please note that if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to complete the application form again answering yes to the publication question to provide more information to go before one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

You are reminded that staff researchers and supervisors are fully responsible for ensuring that the information in the low risk notification has met the requirements and guidelines for submission of a low risk notification.

If you wish to print an official copy of this letter, please login to the RIMS system, and under the Reporting section, View Reports you will find a link to run the LR Report.

Yours sincerely

Professor Craig Johnson
Chair, Human Ethics Chairs' Committee and
Director (Research Ethics)

Email text:

Human Ethics Notification - 4000020264

humanethics@massey.ac.nz <humanethics@massey.ac.nz> Thu, Nov 8, 2018 at 5:11 PM

To: Judith.Oakden.1@uni.massey.ac.nz, R.A.Page@massey.ac.nz Cc: humanethics@massey.ac.nz

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Yours sincerely

Professor Craig Johnson

Chair, Human Ethics Chairs' Committee and Director (Research Ethics)