

Re-thinking Cardiac Rehabilitation: A Foucauldian Discourse Analysis

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Abstract

Cardiac rehabilitation (CR) is a multi-disciplinary programme offered to patients who have had a cardiac event. In New Zealand, CR programmes are funded by the district health boards and are supported by primary healthcare organisations. Three phases of CR aim to provide education, medication prescription, exercise, and self-management strategies to patients and their families/whanau. The current international guidelines for cardiac and pulmonary rehabilitation programmes involve a significant exercise component that was historically prescribed by physiotherapists (PT's).

One of the key interventions used by the PT's is therapeutic exercise. However, recently clinical exercise physiologists (CEP's) have started sharing phase two CR and pulmonary rehabilitation practice in New Zealand. There has been an increase in CEP numbers globally, and their business is also exercise-based rehabilitation. CEP's and PT's have begun to share the cardiac rehabilitation space in New Zealand. This poses a professional threat to an established profession of PT's that have been practicing globally for over a century and have established themselves as one of the largest allied health professions. Therefore, sharing of CR space and challenging the PT practice in NZ have resulted in PT's trying to protect their professional identity and territory.

This thesis explores professional boundary tensions and power relationships between healthcare professionals using Foucauldian discourse analysis to better understand how knowledge and power shape physiotherapy practice. In this thesis, I will focus on how PT's and CEP's compete for control of phase two CR in Aotearoa/New Zealand. This thesis uses Foucault's ideas on discipline, governmentality, power, knowledge, truth, and discourse to explore how the practice and boundaries of CEP's and PT's are evolving.

The thesis addresses two crucial discourses that have shaped PT's involvement as a profession and their participation in CR. These include normalisation and biomedicine. This thesis also explores the history of CR practice, its discursive formations, the impact of power relations, and boundary tensions and how it shapes

the future of PT practice in the society and healthcare system. The thesis also aims to present the current construction of CR practice, what made it possible, and how to do, speak, and think about CR.

My findings in the thesis support that although CEP's are practicing private CR outside government-funded rehabilitation and are posing a threat to physiotherapy practice. CEP's are not necessarily taking over CR in NZ and professionals tensions such as these have been noted in the past. Although these are small shifts in phase two CR, they have resulted in PT's reaction to protecting their professional boundaries in NZ. Viewing and analysing professional boundary tensions in CR can help explore the future possibilities of phase two CR in NZ. Lastly, this thesis will also be significant in contributing to the sociology of professions and how the healthcare professions are evolving in the 21st century.

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Attestation Of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), not material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signature:

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Chapter One: Introduction

Interest In Cardiac Rehabilitation

Up until recently, I was working as a senior physiotherapist (PT) in the cardiac and pulmonary department at a large District Health Board (DHB) in New Zealand (NZ). This DHB is the national centre for various cardio-respiratory conditions and patients across NZ. My role as a cardio-respiratory PT had involved pulmonary and cardiac rehabilitation (CR), providing heart and lung transplant recovery programmes to patients, managing patients with chest conditions, and breathing pattern disorders. I aimed to maximise the function, movement, and quality of life of individuals with varying health conditions, complexities, and environments. One of the key interventions used by the PT's in my department was therapeutic exercise.

As a profession, physiotherapy has been practiced globally for over a century, and PT's have established themselves as one of the largest allied health professions (Du Toit, 1995; Williams, 2005). Physiotherapy is practiced by more than a quarter of a million clinicians in more than 100 countries (Moffat, 2007). Exercise prescription is an essential part of physiotherapy practice. However, over the last three years, there has been a growth in the services and number of clinical exercise physiologists (CEP's) in NZ (Mooney & Rhodes, 2018). There has been an increase in CEP numbers globally (American Society of Exercise Physiologists, 2020; Gillam, 2015; Hilpern, 2008; US Bureau of Labor Statistics, 2020; Zhou et al., 2019). Their business is also exercise-based rehabilitation (Mooney & Rhodes, 2018). CEP's claim to be specialised in providing exercise and lifestyle education across a wide range of populations, including cardiac and respiratory patients ("A clinical exercise physiologist", 2010). With the growing need and sharing of rehabilitation space, CEP's have also had to define their scope of practice repeatedly and differentiate themselves from the PT profession (Deakin University, n.d.; Madigan, 2020; Normand, 2016; Transcend health, n.d.). Therefore, CEP's and PT's have begun to share the rehabilitation space in pulmonary and CR in NZ.

Additionally, CEP's have also published statements like, "CEP's and physiotherapists are complimentary Allied Health Professionals, qualified to work with moderate-high risk patients. Physiotherapists work mainly in the acute and sub-acute

stages of recovery, whereas CEP's work primarily at the chronic stage of recovery". This statement sparked tensions between the CEP's and PT's practicing phase two cardiac rehabilitation (P2CR) in early 2017 for various reasons. This has been discussed in the third analysis chapter. The viewpoint above, and sharing the P2CR space, has challenged the professional boundaries and threatened the practice of cardiac PTs in Auckland. I believe the tensions between CEP's and PT's can be seen as a potential rupture happening in the practice of P2CR in NZ.

Therefore, the focus of this thesis is on the boundary tensions and power relationships in healthcare and significant issues affecting PTs and other health professionals worldwide (Drennan et al., 2017; Liberati et al., 2016). In particular, this study explores the professional boundary challenges in the practice of P2CR in NZ. To explore this, the thesis uses the work of Michel Foucault and other Foucauldian scholars to problematise the P2CR practice and analyse the conditions that have made it historically possible. I use Foucault's ideas on discipline, governmentality, power, knowledge, truth, and discourse to guide my analysis.

This thesis follows three critical moments in the history of CR: the first analysis chapter focusses on the notion of cardiac patients being viewed as fragile, and returning to work. This chapter investigates the discourses that have resulted in the discursive construction of work classification units (WCU's) as a form of CR. The second chapter builds on the changing view of cardiac patients being fragile, highlights the developments in medicine and treatments for CVD patients, as well as focuses on the involvement of PT's in CR. The final analysis chapter details the problematisation and commodification of rehabilitation. It also mentions boundary tensions between CEP's and the current discourses of CR in NZ. This chapter uses a local CEP clinic in central Auckland as a case study to understand some of the boundary tensions experienced by cardiac PT's in Auckland.

Therefore, the primary questions addressed in the thesis are:

- How do knowledge and power shape the present professional boundaries in PT, and what do these boundaries make possible for cardiac PT's and what do they deny?
- In what ways are the boundaries changing or being altered, and what might it mean for the future?
- What are the critical social, political, historical, and cultural discourses that construct present experiences, knowledge, and perspectives of CR in the NZ healthcare system?

This chapter focusses on the background of cardiac disease and rehabilitation. The outline will include how the P2CR and the professional boundaries research came about, before addressing the issues faced by cardiorespiratory PTs in Auckland, NZ. Further, the importance of studying boundary tensions, methodology, the study's significance, sampling strategy, and data analysis. The conclusion summarises the plan this thesis will follow by setting out the structure of the chapters.

Background Of Cardiac Disease And Rehabilitation

Cardiovascular disease (CVD) is one of the primary causes of disability and mortality in industrialised countries (Mc Namara et al., 2019), and acute myocardial infarction (MI) is the leading cause of CVD mortality in certain age groups (Pagidipati & Gaziano, 2013; Smolina et al., 2012). In the United States (US), each year, about 790,000 patients experience MI, and of those patients, approximately 114,000 die from an MI in the US alone (Patel & Brown, 2019). Statistics are alarming for the NZ population, too (Patel & Brown, 2019). In NZ, CVD accounts for 30% of death annually, and every 90 minutes, a New Zealander is known to die from heart disease (Ministry of Health, 2015). Following the immediate medical attention, multi-disciplinary team (MDT) interventions such as CR are offered to patients, including medical, pharmacologic, nutritional, tobacco cessation, promotion of physical exercise, and lifestyle modification (Mc Namara et al., 2019).

In some ways, Work Classification Units (WCU) that began in the 1940s and '50s can be called the CR of today. The main focus was to rehabilitate patients to enable

them to return to the workforce and society (Derby, 2012; Ministry for Culture and Heritage, 2016). There was a need for sick and wounded men returning from war and affected with CVD to return to being useful in society, working, and contributing to the economy (Derby, 2012; Ministry for Culture and Heritage, 2016). Over the years, CR has gradually evolved into a more comprehensive intervention strategy with evidence suggesting that CR reduces morbidity, mortality, and unplanned hospital admissions, in addition to improved quality of life, exercise capacity, and psychological wellbeing (Dalal et al., 2015; Kira et al., 2016; Price et al., 2016).

Developments in CR could also be linked with a rise in chronic illnesses and an ageing population (Bloom et al., 2011; Chew et al., 2008; Christensen et al., 2009). When coupled with a decreasing workforce, the increase in patients or healthcare consumers is placing higher demands on healthcare provision (King et al., 2015). Galve et al. (2014) mention that CR offers economic benefits. CR can yield cost savings of 30,500 GBP per patient in the first year and up to 14,500 GBP per year in the following years (Galve et al., 2015). Chew (2008) indicated that one in four people who have an acute cardiac event would have another event. Data also suggests that the risk of death from a repeat cardiac event is 14 percent for men and 21 percent for women (Gruyter et al., 2016). In Australia, repeat events were estimated to cost \$8.4 billion (Gruyter et al., 2016). This is around half of the total acute CVD burden (Gruyter et al., 2016). CR programme rehabilitates patients to return to work and prevents repeat cardiac events (Cowie, 2016; Galve et al., 2015; Gruyter et al., 2016). Returning people affected by the cardiac disease to work is a significant theme noted in the analysis and is further explained in the first analysis chapter (chapter four).

In NZ, Dr Ted Nye initially started CR in the 1960s and '70s in Dunedin ("The Otago Phoenix Club", 2018). In this programme, PT's were primarily responsible for conducting the exercise component of CR under the guidance of physicians and cardiologists ("The Otago Phoenix Club", 2018). Some of the reasons why PT's were initially included the close professional ties with the cardiologists and physicians who were starting to get involved with the new medical approaches ("The Otago Phoenix Club", 2018; Hampton, 2017a). PT's studied in the same biomedical model and had been involved in the rehabilitation of wounded and sick men since world war one (WW1) and

world war two (WW2) which created the conditions for PT's to be a part of the CR team ("When the School", 2013). I detail these in the second analysis chapter (chapter five).

The Conditions That Created The Impetus For The Study

This study began with the professional boundary challenges experienced as a cardio-respiratory PT while practicing P2CR at a large DHB. Therefore, in this section, I address some of the potential reasons why PTs might be losing or sharing the P2CR space in NZ.

The current cardiac and respiratory rehabilitation programmes guidelines mention a significant section on exercise (Balady et al., 2007). Cardio-respiratory PTs have traditionally prescribed this exercise for cardiac and respiratory rehabilitation programmes (Mooney & Rhodes, 2018). However, despite the growing demand and number of cardiac and respiratory patients, there has been a decline in cardio-respiratory PT's in NZ and globally (Mooney & Rhodes, 2018; Reeve et al., 2012). The future of cardio-respiratory PT's recruitment and retention has been concerning in NZ, Australia, Portugal, Sweden, Canada, and the United Kingdom (UK) (Canadian Institute for Health Information, 2013; Gauld, 2016; Martín-Martín et al., 2012; McClean et al., 2017; Reeve et al., 2012). McLean, Valentine, and Shaw (2017) highlighted that many DHBs are struggling to recruit experienced PTs and are attempting to fill them overseas.

Lack of cardio-respiratory PT's in NZ has, therefore, potentially created a space for other exercise-based professions such as CEP's to fill the gap. Mooney and Rhodes (2018) noted a DHB in NZ that advertised in 2018 for CEP's to provide exercise programmes to patients with cardiac and respiratory conditions. This advertisement could suggest that a new profession like CEP's could emerge and practice in the same area and threaten the PT's future in P2CR. Therefore, lack of cardio-respiratory PT's and an increase in CEP's practice could be viewed as a professional threat to the practice and future of cardio-respiratory PT's providing P2CR in NZ.

The invisibility of cardiac PT's and an increase in CEP's as a profession has also been seen in the current cardiac and pulmonary rehabilitation literature and guidelines (Mooney & Rhodes, 2018). Recommendations throughout the world are to involve an

MDT in the delivery of CR programmes. Liberati et al. (2016) also mention that the contemporary healthcare policies, hospitals, and community services are shifting away from the functional organisation of care centred around discipline-based specialisation to MDT and inter-professional delivery of care approach. Recommendations in Australia, Austria, Canada, New Zealand, Germany, Northern Ireland, and the UK mention that exercise prescription and supervision are the responsibility of a PT or “a staff member trained in exercise prescription, such as a sport scientist or exercise physiologist” (Price, 2016, pp. 1717). Additionally, a survey of CR in NZ mentioned that patients were referred to discuss their activity and exercise with a “physiotherapist/exercise professional” (Kira, et al., 2016, pp. 55). This means that there are parallel professions such as CEP’s, osteopaths, and chiropractors in the healthcare practice with overlapping skills and roles as PTs.

Although there is now a mention of involving exercise professionals like CEP’s in the CR programmes, some cardiac and pulmonary guidelines are almost exclusively written by PT’s (Allison et al., 2017). These include the international best practice guidelines such as the Standards for Physical Activity and Exercise the Cardiovascular Population and Clinical Guidelines for Pulmonary Rehabilitation in Australia and NZ (Allison et al., 2017; Association of Chartered Physiotherapists in Cardiac Rehabilitation, 2015). This is an example of how valuable PT’s input is in shaping the practice at an international level. However, it is still unclear as to who is responsible for running the P2CR programme in NZ. Therefore as a cardio-respiratory PT practicing and interested in CR, I wanted to explore the boundary tensions and overlapping roles between CEP’s and PT’s in NZ with the practice of P2CR. I aim to assess the power relations, and boundary tensions between the CEP’s and PT’s, their roles in practice, current CR practice in NZ and internationally and the possibilities that emerge for both professions and patients. This will help in understanding the conditions that made the P2CR possible and how it might evolve in the near future. I now move on to describe why boundary tensions are critical to analyse.

Why Study Boundary Tensions?

Boundary tensions are crucial to explore due to the growing literature in the healthcare area. Boundary tensions have been studied in various organisational

contexts in both private (Aldrich & Herker, 1977; Tushman & Scanlan, 1981) and public healthcare facilities (Alvinus et al., 2010; Fitzsimmons & White, 1997; Huby et al., 2014) and from a cultural perspective in multi-national environments (Alvinus et al., 2016). Research is lacking, however, regarding boundary tensions in PT and the future of specialized health professionals in an age of rapid economic, technological, and organizational change across the healthcare industry (Casey, 1995; Crompton, 1990).

CR is usually delivered in clinical settings and involves a comprehensive MDT approach (Mc Namara et al., 2019; Price et al., 2016). CR has a long term, systematic, and multidimensional approach (Price et al., 2016). However, Lega & DePietro (2005) argue that the traditional way of hospital organisation was placing considerable organisational and economic pressure on healthcare systems globally. The authors mention that this resulted in a challenge to meet the social and epidemiological patient needs (Lega & DePietro, 2005). Therefore, hospitals and healthcare services attempted to restructure care around MDT alongside the broader social, political, and organizational changes. Role flexibility within the MDT's can be encouraged for managerial reasons such as workforce shortage, increasing productivity, and cost containment (Abbott, 1988; Byrnes et al., 2012).

However, working within the MDT can raise issues concerning power and status between the health professionals, patients, and health professionals (Abbott, 1988; D'Amour et al., 2005). Byrnes et al. (2012), highlight that having various health professionals from different backgrounds working together does not mean that they will have the skills and knowledge necessary to collaborate and work together. There are concerns about the management of professional relationships and boundaries among varying health professionals ("Health Professionals Regulatory Advisory Council", 2008; MacNaughton et al., 2013). Similarly, D'Amour et al. (2005), also state that one of the significant challenges facing interprofessional practice is how professional territories are set out and distributed within a complex system.

Additionally, Smith and Roberts (2005), suggest that hospital-based rehabilitation is steadily declining, and patient care is now more frequently occurring through integrated rehabilitation community teams (Smith & Roberts, 2005). This allows

traditional health professional boundaries to be redefined and new boundaries to be carved within the healthcare systems (Praestegaard et al., 2015). While the changes in the delivery of healthcare encourage PT's to move away from the traditional models of healthcare and offer an opportunity to amend and extend the scope of current practice, it also poses challenges for the physiotherapy professions (Praestegaard et al., 2015; Smith & Roberts, 2005). Specifically, it opens the market for interprofessional competition against CEP's that have a similar skillset and also utilise therapeutic exercise as their primary intervention.

During these boundary tensions between and within the health professional teams, it is crucial to consider how these changes might affect the patients (Cramer et al., 2018). On one side, Cramer (2018), explains that from a patients perspective, having various MDT members involved in providing care may add to the difficulty of knowing which health professional can offer them the treatment they require (Cramer et al., 2018). Whereas, having options for healthcare professions and treatments also encourages greater patient autonomy and power-sharing (Papadakos & Bertman, 2017; Torre-Diez et al., 2016). This is a somewhat new concept, and I will explore this in more detail in the final analysis chapter.

The long-established hierarchy between health professionals and patients is also evolving and does not align with the patient-centred healthcare models (Thomson et al., 2015). Papadakos and Bertman (2018), state that the traditional relationship between the health professional and patient was viewed as paternalistic, where the provider was directing the patient on a treatment that could mitigate their health concern. In those relationships, patients took the subordinate role as the health professionals were the medical experts with years of training leading to treatment decisions (Papadakos & Bertman, 2017; Sherlock et al., 2019). An example of this is noted in the first analysis chapter, where patients with CVD were prescribed bed rest by the physicians and cardiologists. Here, bed rest was a strategy used by physicians to examine patients under close observation and portray sovereign power.

However, Torre-Diez et al, (2016), highlight that patients or consumers of health care are now more empowered to undertake the managerial responsibilities themselves. The

third analysis chapter details the developments in healthcare commodification, neoliberalism and the emergence of the CEP clinics in NZ as a contingent response to the possibilities formed by the changes in welfare-dominated practices. Therefore, developments and changes in the inter-professional teams and patients bring into question the traditional authority that was once thought to surround the patient/professional relationship and establish asymmetrical power relations (Casey, 1995). Lastly, the mere existence of MDT's may not guarantee collaboration and integration in healthcare, and the evidence of how MDT's function in day-to-day practice is still limited (MacNaughton et al., 2013).

Methodology

This research uses Foucauldian discourse analysis to problematise CR practice and critically analyse and present the conditions that have made P2CR by PT's historically possible. While work of Deleuze, Derrida, Lyotard, Bourdieu, and Guatarri has been cited in the literature for the sociology of professions, Foucault, in my view, provides a clear analysis of practices that we, as health professionals take for granted as part of the society. Foucault's approach has also been utilised extensively over the last two decades to explore the ideas around discursive construction of professions as varied as occupational therapy (Mackey, 2006; Silcock et al., 2017), podiatry (Borthwick, 1999; King et al., 2018), psychology (Gillett, 2012; Marsh, 2010), medicine (Bleakley & Bligh, 2009; Peerson, 1995), and nursing (Ballinger & Payne, 2000; Cheek & Porter, 2007; Henderson, 1994). Ballinger & Payne (2000, p. 569), also point out, "discourse analysis has been little used by researchers within the disciplines of occupational therapy and physiotherapy". David Nicholls (Nicholls, 2008a), Joanna Fadyl (Fadyl, 2013b), and Lynne Dixon (Dixon, 2003) are examples of researchers that have used Foucauldian discourse analysis in their studies.

The two chapters following this introduction will provide an overview on Foucault's work relevant to the thesis and how I applied it. Michel Foucault was one of the most influential and controversial French philosophers (Burchell, 2005). He wrote on many topics, such as the discipline (Foucault, 1997), truth and knowledge (McHoul & Grace, 1998), institutions and power (Foucault, 1980a), domination (Foucault, 1988b), archaeology and constructions of subjects (Foucault, 1970) and docility (Foucault, 1967).

One of the main goals of Foucauldian research in this study is to uncover, communicate and understand the many competing and contested 'truths' surrounding everyday practices (Lewis, 2005), much like the (P2CR) being interrogated in this study. The analysis aims to uncover and make these power relations visible by exploring how things are the way they are at present and how they could be otherwise (Foucault, 1972a).

Cardio-respiratory PT practice changes could be analysed using the lens of truth, power, knowledge, discipline, and governmentality. In the methodology chapter, I write about using these Foucault's concepts to explore how the boundary tensions influence the way PT's work and will work in the future. The Foucauldian analysis provides a way of thinking differently about CR (Rose, 1999). Rose (1999, p. 95) suggests, the use of Foucauldian tools "help us to calculate the costs of being what we have become", implying that it is not how we can do CR better. Instead, how it is that it makes sense to do CR at all and what are the effects of the CR existence in a particular time and context. Therefore, questions that make us consider the existence and effects of CR practice are as crucial as those focusing on refining the practice.

Foucauldian discourse analysis provides a framework for investigating common everyday CR practice and understanding what shapes certain behaviours and encourages to think otherwise (Gibson, 2016). However, this does not suggest that this is the only way text could be interpreted or made sense of. Instead, it recognises the incomplete and partial reading of multiple readings that could be made of the selected texts. My intention with this discourse analysis is to challenge and understand the prevailing ideas of the way things are with CR and the assumptions that exist in the principles within CR. I intend to question the taken for granted, normal, and natural practices by PTs practicing P2CR during discourse analysis (Gibson, 2016).

Significance Of The Study

The importance of this study is for both the physiotherapy profession and also Foucauldian research. As a profession, physiotherapy has a long history in the healthcare system and is a highly respected profession (Nicholls & Larmer, 2005). PT's continue to work as first-contact practitioners, and have skills to assess, treat, and rehabilitate patients with movement, activity, and functional disorders. PT's also have a long history

of working closely with the health priorities and deliver highly personal and low-cost service, benefitting the public health system, while maintaining the trust of the public and working alongside doctors, nurses, and other allied health professionals.

Additionally, exercise and its' therapeutic effects, for example, have also played a significant role in the history of physiotherapy and continues to play a vital role in CR (Mooney & Rhodes, 2018). Exercise is seen as a low-cost intervention and serves to improve health and wellbeing while also reducing the domino effects of co-morbidity (Krusen, 1942; Nicholls et al., 2018). Based on Licht (1984) definition of exercise, Taylor et al. (2007, p. 7), define exercise as “the prescription of a physical activity program that involves the client undertaking voluntary muscle contraction and/or body movement with the aim of relieving symptoms or improving function, or improving, retaining or slowing deterioration of health”.

Evidence shows that therapeutic exercise is beneficial for patients across broad areas of PT practice (Rees et al., 2004; Smidt et al., 2005; Taylor et al., 2007; Taylor et al., 2004). However, I focus on the evidence on CR to outline the benefits noted from CR. Smidt et al. (2005) summarised systematic reviews on the effects of exercise in disorders typically managed by PT's and concluded that exercise was beneficial for people with a variety of chronic conditions. Based on 29 randomised controlled trials, Rees et al., (2004) surmised that there was substantial evidence that aerobic exercise training performed for 40 to 60 minutes, three times a week for 8-16 weeks for males with stable chronic heart failure led to reduced mortality and improved exercise capacity. Similarly, Taylor et al., (2004) reported that aerobic exercise training performed for 30-90 minutes, two to five days per week for 12-24 weeks, resulted in reduced mortality for patients with coronary heart disease.

Medical professionals, including PT's, have used exercise to discipline patients bodies over the years to optimize their capabilities (Mooney & Rhodes, 2018). The evidence mentioned above highlights that basic ideas such as exercise, mobility to maximise independence, returning to work, and improving quality of life have somewhat remained the same (Abell et al., 2016). However, as mentioned earlier in the chapter, recently in NZ, there has been a growth of complementary professions, such as CEP's

providing CR services including exercise, which poses a challenge for PT practice in CR and questions what this might mean for the PT profession currently and in the future.

To my knowledge, this study is relevant, contemporary, and significant; and, there has been very little research in this area. On one side, there are countries like the USA, UK, Canada, South Africa, and Australia who have CEP's established in the public healthcare system (Zhou et al., 2019). Countries like China, Hong Kong, and NZ do not have CEP's practicing in the public system (Zhou et al., 2019). The reasons range from the protection of professional boundaries, facilities for professional training, qualifications, and standards (Zhou et al., 2019). In NZ, the reasons for CEP's emerging as a health profession include problematising and commodifying exercise and rehabilitation such as exercise and P2CR. I unpack this idea in the third analysis chapter. Additionally, the changes in Health Professional Competency Assurance act (HPCA), national Accident Corporation and Compensation (ACC) supporting the musculoskeletal physiotherapy business, and changes in the public health system in the 1980's.

To date, I have only come across one article that addresses the boundary tensions and sharing the pulmonary and CR space in NZ (Mooney & Rhodes, 2018). However, there are no other articles or studies that discuss the professional challenges, boundary tensions faced between CEP's and PT's practicing P2CR and explore the future of P2CR in NZ. Boundary tensions have been under-theorized in physiotherapy, and no one in physiotherapy has used CR as a case study to explore the boundary changes and development of healthcare services. There is a growing perception of PT's becoming fixed and stagnated in their ideas while offering orthodox rehabilitation services in the rapidly growing healthcare market (Afzal, 2017; Gibson et al., 2010; Nicholls & Larmer, 2005). In addition to that, this thesis will also be significant in generally contributing to the sociology of professions and how the health care professions are changing in the 21st century.

Sampling Strategy, Information Collection, And Data Sources

I have paid attention to the historical context in which the study is situated. Hook (2001a), states that this allows the researcher to map the phenomenon of interest. This study explores the research questions concerning P2CR as a case study. The sampling

strategy is informed by Foucauldian discourse analysis, and a sample of a wide range of texts is covered. Texts which provide information about the key events and ruptures in CR and PT are used. Texts are not just confined to physical documents but are composed of statements that elicit some form of truth and are authorised by knowledge (Foucault, 1972a). For Foucault, a statement is a discursive analytical unit that creates subjects, objects, and strategies visible (Webb, 2013a). An example of a statement in Physiotherapy practice can be the biomedical model or the use of plinth or the blood pressure machine used during the recording of initial objective measures before CR.

Foucault used the term rupture to describe the “discontinuous patterns of development in different fields of knowledge” (Beedholm, 2014, p. 107). These key events include the development of WCU's, PT's being involved in the restructuring of CR, and current changes in the practice of CR, which have led to increased tension over who is responsible for running the P2CR. Information from these critical events aid in the understanding of how knowledge and power shape the present professional boundaries in physiotherapy, and what they make possible or deny for cardiac PT's.

Furthermore, this thesis is guided by Foucault's archaeological and genealogical ideas. Archaeology does not aim to provide history chronologically (Gutting & Oksala, 2018). Therefore, I consider the conditions of possibility and materiality engrained with discursive formations. I include texts from multiple sources and various periods to resist constructing linear narratives. However, during discourse analysis, Foucault encourages his readers to explore the external conditions of possibility that give rise to discourse and limit it. Here, he encourages us to look beyond the textual analysis and consider the material practices. Material practices are the everyday taken for granted things that convey discourse about the way things are done (McHoul & Grace, 1998). This is known as the principle of exteriority and is further explained in methods chapters. The material practices include relevant policy documents (e.g., Cardiac rehabilitation summary and resource kit 2002 and PT's and CEP's registration guidelines), assessment forms, ways of writing patient notes, the design of clinical space, uniforms, and vocabulary used by cardiac PT's for example.

Besides, the texts used during the study include newspaper articles, job advertisements, magazine articles, photographs of physiotherapy students, and school. I have also used quotes from textbooks on cardiac disease, treatment, and changes and developments in CR. Also explored is the hundred years of Physiotherapy NZ website to understand and explore some of the local NZ data that has shaped P2CR over the years. Texts related to practices that fit the definition of CR and boundary tensions are considered relevant. Texts that portray and provide information on individuals' perspectives towards one profession over others offer critical information about the current practice of CR, boundary tensions, and professional tensions, as exemplars in the study. Now that I have detailed the sampling strategy, I now move on to write about data analysis in the next section.

Data Analysis

Data analysis focuses on Foucault's rule of discursive formation which involves four components of discourse: the subjects, objects, concepts and strategies and how they construct the philosophical ideas of knowledge, power, truth, and discipline (Wetherall et al., 2001), significantly as detailed by Hook, Fadyl and Nicholls (Fadyl et al., 2013; Hook, 2001a; Sloan, 2007). The key to robust Foucauldian research is to apply it to the chosen focus of inquiry carefully, ensuring that the connection between the methodological and philosophical approaches is maintained (Fadyl et al., 2013). Therefore, the data collected from various sources and archives is thoroughly read through the Foucauldian lens.

Subjects are the people, identities, ways of being and behaving, and ways of understanding that are required by existing social institutions and are discussed in a discourse (Sloan, 2007). An example of subjects in CR is to explore the positions taken by physiotherapy as a profession in comparison to CEP's and other MDT members. Objects form the second layer of data analysis. Foucault explains that discourses are practices that create objects of discourse, and they can be understood as layers of objectification (Foucault, 1972a; Nicholls, 2008b).

To examine objects in CR case study, ECG machines, gym equipment, phenomena such as CR or the blood pressure machine are reviewed to uncover its' surface of emergence,

grids of specification, and authorities of delimitation. For an object such as the ECG machine, authorities of delimitation are the professional bodies or health professionals. Grids of specification may mean the different symptoms such as chest pain, palpitations, or psychological factors that are used to group patients. The critical part here is the mapping and examining of relations between these things that allow the researcher to see how objects come to be formed. That is, to explore the connections between the emergence of the ECG machine between professional practice and varying CR symptoms in patients.

Strategies can be understood as the tactics used by individuals to implement and perform certain practices (Nicholls, 2008b). Cardiac patients, exercise, and recovery are examples of concepts or ideas. Strategies are encouraged to explore the discourse and analyse why particular objects, subjects, and concepts are incompatible with each other. This potentially allows for specific sub-groups to be formed, which may explain why CR is performed the way it is at the moment.

Overview of the thesis

Chapter 2 And 3: Methodology And Methods

This chapter details Foucault's theoretical and philosophical work to guide my data analysis. I justify why I have chosen Foucauldian discourse analysis as my chosen methodology as compared to other qualitative methods. I also write about how I position myself concerning the past and current discussion within which this methodology is located. Foucault's principles will be used as tools to provide new ways of thinking about CR, as opposed to revealing the 'truth' about CR. This makes the analysis chapters interesting by providing useful tools for thinking broadly about this topic. There are no data or findings in this research; instead, I discuss the texts and analysis presented in this thesis. I also write about the differences in archaeology and genealogy and highlight that this study is primarily a genealogical study.

Chapter 4-6: Data Analysis

Leading on from the methodology and methods chapter, I present three analysis chapters focused on discourses from historical and current texts. I have structured the chapters to expose the reader to a series of discourses and ruptures that portray a

particular shift in CR practices. The first analysis chapter (chapter four) highlights the significance and ideas around fragility and returning to work, and why cardiac disease and fragile patients became a discourse around the WW2. Here, Foucault's concepts of power and disciplinary strategies help understand the discursive formations of a fragile patient. The second analysis chapter (chapter five), details the discursive formation of CR programmes, the changes in physiotherapy training, biomechanical influence, and normalisation of exercise. These are some of the conditions that made it possible to shift a fragile patient to become a useful patient.

In the final analysis chapter (chapter six), I explore how the CEP practice in Auckland (Movement Clinic) is destabilising the known normality of rehabilitation using Foucault's principles of governmentality and neo-liberalism. My intention with these chapters is to use a wide range of texts relating to varying discourses and Foucault's theories to aid in making these shifts visible. This follows on to the discussion chapter, Chapter Seven.

Chapter 7 Discussion And Conclusion

The discussion chapter is the final chapter of the thesis and collates the analysis described in the previous chapters while integrating Foucault's theoretical work. This chapter is divided into four sections, followed by strengths and limitations, recommendations for further research, and conclusion. In this chapter, my aim is not to propose solutions to the problematisations addressed in the analysis, but rather open up new ways of thinking for current CR practices and explore different ways to approach the current problems faced by PTs.

References

I have used the APA referencing style throughout the study and have provided in-text citations for every chapter in this thesis. There is also a comprehensive list of references at the end of the thesis.

Conclusion

Overall, I explained my interest in CR, the background of what has allowed this study to come into question, forming questions according to the methodology, theoretical approaches chosen to address the thesis, and the significance of this study. From here,

I outlined the significance of doing this study and exploring the professional boundary challenges in the practice of P2CR in NZ. In the upcoming chapter, I describe the theoretical approach and methodology used in the study.

Chapter Two: Methodology

The Focus Of The Research

The Foucauldian analysis aims to uncover and make the power relations and boundary tensions between CEP's and PT's practicing P2CR in New Zealand. To achieve this, I explore how things are the way they are at present and how they could be otherwise. Cardio-respiratory PT practice changes could be viewed as a result of competition, power, and hierarchy. Therefore, Foucault's concepts of truth, power, knowledge, discipline, and governmentality will be used to explore how the boundary tensions shape the way PT's work and will work in the future. This chapter details the methodological underpinnings and theoretical concepts using a post-structural approach to discourse analysis to uncover, communicate, and understand the many competing and contested 'truths' surrounding everyday practices (Lewis, 2005). To begin with, I write about using Foucault's analyses as a toolbox and a foundation.

Foucault's Analyses As 'Toolbox' And Foundation

Michel Foucault was a radical French philosopher, literary critique, and historian (Burchell, 2005; Hope, 2014a). Foucault wrote widely on many topics ranging from psychology (Foucault, 1954), archaeology (Foucault, 1967), art and literature (Foucault, 1963), education and technology (Foucault, 1972a; Olssen, 2006; Potter, 2012), the emergence of modern medicine (Foucault, 1972b), and human sciences (Foucault, 1970). Foucault published 15 books during his lifetime, and over 360 articles, interviews, and chapters (Hope, 2014a). Mills (2004) writes that Foucault's work is not a general theory or system of ideas. During his life, Foucault engaged in re-interpretation, self-criticism, and challenged his past arguments (Hope, 2014a). Therefore, researchers drawing on Foucauldian ideas do not speak of their research findings or seek truth (Ball, 2006). The researcher, however, recognises that truth is contingent upon the unpredictability of language and subjectivity of an individual reading it (Ball, 2006; Graham, 2011). Therefore, Ball (2006) writes that no matter how standardised the research process, the analysis and interpretation of language by different people will seldom yield the same result. The post-structural analysis aims not to "establish a truth but rather to question the intelligibility of truth/s we have come to take for granted" (Graham, 2011, p. 666).

As Foucault himself says; “What I say ought to be taken as ‘propositions’, ‘game openings’, where those who may be interested are invited to join in – they are not meant as dogmatic assertions to be taken or left en bloc” (Burchell, 1991, p. 90-91). Foucault encourages his readers to apply his ideas in new contexts and ways and be used as a toolbox for others (Hope, 2014a). He did not want his concepts to be an intellectual end in itself, and therefore, there is no Foucauldian theory or a theoretical system (Garland, 2014; Hope, 2014b). Foucault’s approach and ideas tend to be used as little toolboxes or guiding principles devised to operate on particular problems (Burchell, 1991; Garland, 2014). Foucault encourages individuals to make sense of his work freely without strict adherence to a specific or dominant interpretation (Paton, 1979). Therefore, helping individuals to “use this sentence or that idea as a screwdriver or spanner to short circuit, discredit or smash systems of power, including eventually those from which my books have emerged” (Paton, 1979, p. 115).

Although, lack of a theoretical framework can sometimes cause difficulty for theorists applying Foucault’s principles (Mills, 1997), Hope (2015) argues that this is also the reason why Foucault’s writings appeal to critical thinkers (Hope, 2014a). Ballinger and Cheek (2006) add that the methodological pluralism for Foucauldian discourse analysis does not mean that Foucault is advocating for a vague approach. Instead, Foucauldian discourse analysis should maintain Foucault’s methodological intentions, and texts should be analysed systematically and explicitly (Ballinger & Cheek, 2006). This problem-solving approach allows Foucauldian scholars to design new concepts for each project that he has written about and the different phenomenon he tried to explain (Ball, 2006). Using Foucault’s ideas, I now address some of his fundamental philosophical concepts and how they relate to the study.

Defining Discourse

The term discourse can be defined in diverse ways and is a term that is simply assumed but not defined (Cheek, 2004). Mills (1997) writes that discourse has become:

“common currency in a variety of disciplines . . . so much so that it is frequently left undefined, as if its usage were simply common knowledge . . . It has perhaps the widest range of possible

significations of any term in literary and cultural theory, and yet is often the term within theoretical texts which is least defined" (p. 1).

The numerous definitions of discourses can be noted in the following selection of interpretations. Parker (1992, p. 5) defines discourse as "a system of statements which constructs and object". Whereas, Lupton (1992, p.145) writes that discourses are a "group of ideas or patterned way of thinking which can both be identified in textual or verbal communication and located in wider social structures". Lastly, Thompson (1988) says, "the term discourse refers in this context actually to occurring instances of communication, such as a novel, a newspaper article, a classroom interaction or a conversation between friends..." (p. 368). These three examples present the complex nature and the variety of definitions used to define discourse (Lupton, 1992; Parker, 1992; Thompson, 1988). These descriptions also suggest that the definitions used at a particular time are reflective of its theoretical underpinning. The first definition, for example, has a post-structural orientation, the second one social theory, and the third one has a linguistic orientation.

Foucault describes discourses as bodies of knowledge that "systematically form the objects of which they speak" (Armstrong, 2015). Discourses do not just describe the social world; however, they "constitute it by bringing certain phenomena into being through the way in which they categorise and make sense of an otherwise meaningless reality" (Armstrong, 2015, p. 30). Discourse is a set of truths and writings on a particular subject (Miller, 1990). Discourses do not merely govern the way things are talked about (Armstrong, 2015). Instead, it is a word that means and highlights the way things are spoken about, understood, or have come into meaning (Armstrong, 2015).

Particularly relevant to PT's view of healthcare and practice is the discourse of biomedicine. Biomedicine influences how ideas are put into action and used to regulate the conduct of health professionals (Quirke & Gaudillière, 2008). The hierarchy between the health professionals and patients, the use of clinic space, recording patients notes are examples of a cluster of repeated interactions or representations (Goddard & Carey, 2017). Another example of biomedicine noted in physiotherapy practice can be seen by the amount of time given to technical skills training during physiotherapy training, and

the importance placed on evidence from randomised controlled trials and systematic reviews (Gibson & Martin, 2003; Heaney et al., 2012). I will write more about the role of biomedicine in defining and allowing PT's to be involved in P2CR in the second analysis chapter.

Putting A Discursive View Of Reality In Practice

Gilles Deleuze, also a French philosopher, further interprets discourse so that it produces the visible, the things that we see and experience as real. Moreover, discourses articulate how we can understand, talk, and act accordingly (Ringrose, 2011). Cheek (2004) adds that a discourse consists of a set of common assumptions or practices that are often assumed or taken for granted as to be invisible (Cheek, 2004). Discourses can be viewed as the scaffolds of discursive frameworks (Cheek, 2004). Here, a discourse determines what can be thought of and can or cannot be said within a given domain, historical period, or context (Foucault, 2001). Discourses can enable or limit the production of knowledge as they allow “for certain ways of thinking about reality while excluding others; and, conversely, who can not” (Cheek, 2004, p. 1142).

However, discourses are surrounded by other challenging and supporting discourses that allow it to be practiced or replaced (Foucault, 2002). This means multiple discourses can be present and function at different places simultaneously (Springer, 2015). However, not all discourses are of equal presence or authority. Knowledge from one discourse can be used to exclude knowledge from others. While explaining the power relations present within discourses, Foucault (1984) affirmed, “Discourse is the power which is to be seized” (p. 110). Here, power is a productive concept and not merely repressive (Foucault, 1984). The operations of webs of power enable certain knowledges to be known or produced (Foucault, 1984). Simultaneously, this power also limits what is possible to know in specific scenarios or situations (Foucault, 1984). Therefore, discourses can be both productive and limiting (Foucault, 2001).

Consequently, biomedicine as a discourse has the power to say what constitutes truth and also silence other contradictory discourses (Young, 1982). Cheek and Rudge (1993, p.275) describe that discourses achieve “truth” status, where truth can be defined as an “effect of the rules of a discourse”. The fact that biomedicine has gained prominence

over other discourses could be the result of varying socio-historical influences working on them (Cheek & Rudge, 1993). Wight (2018) reports that Foucauldian discourse analysis is the discursive view of reality where the things we experience as real and common in routine daily living are culturally and historically situated. Mitano (2018, p. 524) also writes that the discourse analysis “is intended to highlight the senses of discourse in view of its socio-historical and ideological conditions of production”. This suggests that discourses are not static and are ever-changing, so they are always contested, incomplete, and ongoing (Mitano et al., 2018; Wight, 2018; Young, 1982). Discourses make possible the present reality; in this case, the practice of biomedicine and what constitutes normal health and differentiates it from abnormal function (Foucault, 2001; Hook, 2001a). Conversely, anything outside the realm of current discourses could be classified as unreasonable, insane, or even incomprehensible (Foucault, 2001; Hook, 2001a).

The theory of discourse, such as biomedicine, deconstructs other theories of reality and restricts an alternative view, limiting the ability of discourse to promote a useful explanation of anything (Dreyfus & Rabinow, 1983). As Foucault says:

“discourse in this sense, is not an ideal, timeless form that also possesses a history; the problem is not therefore to ask oneself how and why it was able to emerge and become embodied at this point in time; it is, from beginning to end, historical – a fragment of history, a unity and discontinuity in history itself, posing the problem of its own limits, its division, its transformations, the specific modes of its temporality rather than its’ sudden irruption in the midst of the complicities of time” (Foucault, 1972, p. 117).

In this study, I aim to apply Foucault's ideas of discursive analysis to examine things and critique the effects of different knowledges that make up everyday practices of cardio-respiratory PT's and CEP's. Nicholls (2008) writes that discourse analysis contests the idea of truth and instead allows a way of seeing things, critiquing the effects of knowledges that make every day practice possible (Nicholls, 2008b; Nicholls, 2012). During the analysis, I aim to look directly at what PT's and CEP's do without taking any

practice for granted and show practices as they are, where they come from, and their historical transformations. As Paul Veyne (1997, p. 153) writes that Foucault's thought "is not some mysterious agency, some substratum of history, some hidden engine; it is what people do (the word says just what it means)". Hence, the aim is to examine the discourse and not go outside of it but to make it more visible (Veyne, 1978). The understandings that are obvious and self-evident to us are the ones that should be explored to understand what makes them legitimate (Nicholls, 2012).

As Tamboukou (1999) explains, these everyday practices will provide the keys to make visible the discourses that are currently constraining or enabling the ways CR practice is practiced or what we think of it, and ultimately how we experience the world. Therefore, Foucauldian inspired work aids in analysing the constitution of discourse and knowledge in a specific field (Dean, 1999; Hook, 2001a; Tamboukou, 1999). Foucauldian methods can be effectively applied to identify a rupture as compared to historical analysis (Dean, 1999; Hook, 2001a; Tamboukou, 1999). As such, problematisation is a crucial term for Foucault (Bacchi, 2012). It is a description of thinking and a material analysis of practices, allowing everyday practices to be challenged and analysed (Bacchi, 2012).

For Foucault, problematisation serves two purposes; firstly, it describes the method of analysis, and secondly, it alludes to a historical process of designing objects for thought (Bacchi, 2012). I am not looking for one correct answer while I explore problematisation of CR in this study. However, I aim to examine how CR practices can be "questioned, analysed, classified and regulated...specific times and under specific circumstances" (Deacon, 2000, p. 127). Furthermore, this analysis also aids in understanding how and why CR (including the behaviours, processes, and practices) become a problem and how they are constructed as particular objects for thought (Deacon, 2000). These problematised phenomena eventually become problematizations, the focus for this thesis.

Technologies Of Discipline

Foucauldian analysis of the interplay between power and knowledge are considered critical contributions in a variety of academic fields such as philosophy, history, and sociology (Assche et al., 2017; Guedon, 1977; Kallman & Dini, 2017; Keenan, 1987). In

his book *Discipline And Punish* (Foucault, 1977a), Foucault explains that power is discipline (Kallman & Dini, 2017). Foucault diverges from the idea of power as something enforced in a top-down approach of direct coercion by a king, government, sovereign, or individuals with material wealth (Kallman & Dini, 2017). Instead, power is not a thing or possession; it is relational (Johns & Johns, 2000). Foucault was interested in how this kind of power came about and how and why it functions (Johns & Johns, 2000). Power will become prevalent when exercised and associated with techniques, practices, and procedures (Stevenson, 2014).

Foucault conceived the disciplinary technologies as a medium to define the various strategies, techniques, and tactics used to govern the population (Foucault, 1977a). Paternek (1987) mentions that the paradigm of disciplinary technology for Foucault is Bentham's Panopticon, the model prison. The discipline of the penal system or the prison system of the panopticon is Foucault's idea that illustrates the concept of specific power and knowledge embedded in society to manage a large number of people (Wang, 2014). Information and knowledge were collected about each prisoner in the panoptic prison to maintain strict control and exercise disciplinary strategies based on their unique characteristics (Kietzmann & Angell, 2010). However, the prisoners do not know when they are being watched, and assuming they are, they adjust their behaviour (Kietzmann & Angell, 2010).

The prisoners could be controlled by manipulation and intimidation, where 'good' conduct is rewarded, and bad behaviour is punished (Kietzmann & Angell, 2010). Here, power is exercised efficiently and visibly, but it is unverifiable (Paternek, 1987). People being observed here are never sure who is observing them or when they are being observed (Paternek, 1987). Foucault (1977) describes panopticon as; "a marvellous machine which, whatever use one may wish to put it to, produces homogenous effects of power" (p. 202). Therefore, the architectural principle of inspection can be seen as an appropriate means for the surveillance of school children, workers, convicts, or mad persons (Paternek, 1987).

These disciplinary power techniques aim to encourage conformity and produce docile bodies by maintaining continual surveillance (Sawicki, 1999). The docile body is pliable,

can be unformed and shaped, and is capable of manipulation and training (Sawicki, 1999). Here, training plays an essential role in the operation of power over the docile body (Pylypa, 1998). Foucault focuses on a variety of institutions such as schools, military, and prisons when describing the settings where docile bodies are disciplined (Pylypa, 1998; Rabinow, 1991). Within these institutions, bodies have to respond to implicit signals that are highly structured through the web of relations that maintain order (Pylypa, 1998).

Paternek (1987) mentions that Foucault believed the constant observation that is hierarchally organised produced the knowledge needed to classify and divide each individual. In hierarchic surveillance, power works as a piece of machinery where all individuals in the system produce 'power' (Manuel & Llamas, 2006). Power is distributed continuously (Manuel & Llamas, 2006). This would mean that disciplinary power is discreet and indiscreet simultaneously, as it is always on alert everywhere (Manuel & Llamas, 2006). Concurrently, disciplinary power is controlling the individuals who have to control it, and this power is also working permanently in silence (Manuel & Llamas, 2006). Applying this to a multi-disciplinary CR practice at the DHB, medical director or the cardiologist could be considered at the top of the hierarchy in the pyramidal organisation. However, power is distributed between other professionals such as podiatrists, personal trainers, massage therapists, nurses, and patients, to name a few.

For Foucault, disciplinary technologies were historically contingent (Dean, 1999). That is, he was interested in the historical conditions that made these technologies possible (Dean, 1999). Dean (1999) writes that these technologies also involve certain power relations between the machinery of government, citizens, and the authorities that exist to deploy the different strategies involved. These authorities are called the contact points between the state and its citizens (Dean, 1999). Therefore, in my study, I have paid particular attention to the way PT's and CEP's have used technologies of discipline and how they have situated the profession in the current healthcare boundary tensions. Although Foucault focused on several different disciplinary strategies, I concentrate on systematic observation, normalisation, and examination in this study. This is because these three strategies were predominantly noticed with the disciplinary practices emerging within my chosen texts.

Since the seventeenth century, one of the earliest disciplinary technologies used by governments was systematic observations (Kallman & Dini, 2017). The government needed to cope with the plague, the invention of the rifles, the rise of the urban population, and the large scale industry (Cohn, 2012). Rose (1996) declares that governments needed to have detailed knowledge of citizens to understand their wants, needs, and dangers they posed to the state. This systematic observation method was used to control the subjects or individuals and make them productive and cooperative (Kallman & Dini, 2017; Ryan, 1991). Therefore politicians, health professionals, and business leaders adopted systems of management and surveillance to “forge disciplined bod[ies] that could be subjected, used, transformed and improved” (Dreyfus & Rabinow, 1983, p. 154). In this study, I focus on how systematic observations played a role in CEP’s and PTs’ conduct. I consider the importance of systematic observation on CR’s current practice and how this is relevant to the contemporary PT and CEP practices operating in the neoliberal context.

Best and Kellner (1991, p.47) describe normalisation as “the elimination of all social and psychological irregularities and the production of useful and docile subjects through a refashioning of minds and bodies”. Dean (1999) adds that having a norm creates an equivalence where all the subjects are comparable to it. However, normalisation also creates differences and inequalities that allow subjects to be individualised and ordered hierarchically concerning the norm (Best & Kellner, 1991; Dean, 1999). Foucault was particularly interested in the institutions where normalisation as a disciplinary technology emerged and why individuals allowed themselves to be produced and programmed in this way (Dean, 1999). Normalisation, however, should not be viewed negatively. It creates individualisation and has a positive effect on the individuals who submit themselves to it (Best & Kellner, 1991). Therefore, normalisation as a disciplinary technology can be used in any social system that is established on the systematic ordering of the population. An example of this can be seen in the analysis chapter two, where I write about normalisation of exercise.

Lastly, the common practice of examination allows for increased visibility of subjects via a combination of hierarchal observation, normalising judgement, and surveillance (Nettleton, 1992; Ryan, 1991). A range of examination procedures such as interrogations

for criminals, tests for schoolchildren, or analysis of objective measures for patients can be used. Ryan (1991) highlights that “testing is not an end in itself. Instead, the results are systematically and comprehensively recorded and supplemented by the documentation of countless other observed phenomena” (p. 109). Here, detailed documentation is collected of the status and progress of individuals. This recording of data can be stored in systems and codified (Ryan, 1991). The information is then used for complex assessment and evaluation to compare a subject against a known norm (Ryan, 1991).

Although the examination is always incomplete, like other expressions of power and knowledge, the knowledge obtained from this data can be used for the exercise of power (Foucault, 1977a; Hindess, 1996). Gordon (1980) explains that examination is the most effective site for the operation of surveillance. Crucially, the examination is a “machine in which everyone is caught, those who exercise a power just as much as those over whom it is exercised” (Hindess, 1996, p. 100). Therefore, I address the various screening methods, regulations, surveillance, examinations that are used by PT’s to treat patients with cardiac disease. I also use examination to explore the different ways in which PT’s and CEP’s have been subject to examination during the establishment of individual professions.

Power And Knowledge

Foucault has been influential in shaping understandings around the nature and exercise of power (Udod, 2008). Foucault challenges the idea of the power that it is not an entity. He states that power is everywhere (Rabinow, 1991). It is diffuse and pervasive. Power is present and comes from everywhere, suggesting it is not a structure, and therefore, it is not something that can be handed down or held or mobilised (Foucault, 1998). According to Foucault (1977), power is also productive, and “power produces reality; it produces domains of objects and rituals of truth” (p. 194). Hence, Foucault recognises that power should be viewed as a necessary and productive force in society rather than something negative and repressive, which forces us to perform things against our wishes (Gaventa, 2003). This makes power and resistance creative forces.

Power is always exercised and circulating; it is “located at the levels of struggle and manifests in its effects” (Haugaard, 1997, p. 67). Power is a ‘complex web’ or network that runs through society and is present in all social interactions (Little et al., 1999; Mingers & Wilcocks, 2004). Therefore, power will be dispersed within this complex web of interactions, which may involve subjects such as the patient, cardiologist, social worker, nurse, physiotherapist, surgeon, and the family. These subjects act as conduits of relational disciplinary power in practice (Prado, 2000). Mingers and Wilcocks (2004) explain that when looking at power and power relations this way, “there is little room to assume that an individual is outside power relationships” (p. 255). Therefore, individuals cannot be freed from power but can make power visible by how it is operating in particular contexts (Fadyl, 2013b; Haugaard, 1997), its’ interplay with knowledge, and how it is created and produced in a discourse (Dreyfus & Rabinow, 1983).

Foucault assumed that knowledge is linked to power, and they are never separate (Foucault, 1994). According to Foucault, the productivity of power rests on knowledge (Mingers & Wilcocks, 2004). Knowledge here is a profoundly social entity and is something that is shaped and emerged from a discourse (Lilja & Vinthagen, 2014; Stehr & Adolf, 2018). Power produces discourse and knowledge, and knowledge and discourse have power and truth effects (Faubion, 2000). Stehr and Adolf (2018) write the truth can be viewed as a tool for the “interest driven execution” of power or socially produced power. As Foucault says, “Power and knowledge directly imply one another...there is no power relation without correlative constitution of a field of knowledge, nor any knowledge that does not presuppose, and constitute power relations” (Foucault, 1977, p. 27). Here, Foucault explains that power can be viewed as an everyday, socialised phenomenon where norms are deeply embedded and, at times, are beyond our perception. Lilja and Vinthagen (2014) explain that all individuals are referred to a norm that may become an optimum towards which they (individuals) strive. Disciplinary power, therefore, causes individuals to discipline themselves in society (Foucault, 1977a). Disciplinary power also normalises and shapes the individuals who eventually speak, think, become, and act similarly (Foucault, 1977a). This makes disciplinary power or horizontal power a kind of ‘meta power’ working through a discourse, regimes of truth, and knowledge (Rabinow, 1991).

Surveillance and disciplinary power are flourishing with the growth of industrialisation and modernisation (Shawki, 2009). Foucault noted that the advancements in institutionalised settings (e.g. hospitals or schools), surveillance techniques of bodies (e.g. new medical tests or scans) and surveillance techniques in science (e.g. database recordings and epidemiology) also police the mind and body of individuals (Dreyfus & Rabinow, 1983). For Foucault, "Power exists only when it is put into action" (Faubion, 2000, p. 340). Hence, in this thesis, I aim to explore the idea of knowledge/power complex by considering the valid knowledge in the delivery of CR. Furthermore, what is considered reasonable or unreasonable using the relations of power that potentially control what is legitimate knowledge.

Lastly, Foucault mentions that "where there is power, there is resistance" (Foucault, 1979, pp. 95), highlighting that power is vulnerable and is fuelled by resistance. Therefore, discourses can be a site of resistance and power, where discourses can "evade, subvert, or context strategies of power" (Gaventa, 2003, p. 3). Discourses are neither subservient to power and nor are they against it (Deacon, 1998). Therefore, individuals should consider the complex process of discourse where discourse can be an effect and an instrument of power (Deacon, 1998; Weedon, 1997). Whereas, it can also be a hindrance and a beginning for an opposing strategy (Deacon, 1998). While discourses produce and reinforce power, discourses also "undermines and exposes it, renders it fragile and makes it possible to thwart" (Weedon, 1997, p. 107).

It is also crucial to understand that resistance is not just related to power in general, but rather particular forms or aspects of power (Faubion, 2000; Nichols, 2007). Foucault talks about different forms of power, such as the forbidding power of law, sovereignty, and violence, disciplinary power, and the nurturing power responsible for organising social populations (biopower) (Faubion, 2000; Foucault, 1978, 1983). Foucault describes biopower as a technology of power where the techniques of biopower function to "incite, reinforce, control, monitor, optimise, and organise" (Foucault, 1978, p. 136). The beginning of biopower was noted during the classical period (Foucault, 1978). There was a development of disciplines such as universities, workshops, secondary schools, emergence in the areas of economic observation, public health, and housing, for example (Foucault, 1978). These various techniques are ways in which biopower is seen in everyday life and practice to control the population (Foucault, 1978).

Governmentality

Jessen and Eggers (2020) explain that of the many concepts he developed, Foucault's concept of governmentality developed from the lecture series of Security, Territory, Population and The Birth of Biopolitics has been most productive and has attracted enormous scholarly attention (Jessen & Eggers, 2020). Governmentality is derived from the French word 'gouvernemental', meaning 'concerning government' (Senellarat, 2007). The concept of 'government' became a guideline for Foucault's research as he revised and elaborated on power relations, knowledge, and practice (McKinlay, 2014). Governmentality rejects the top-down, centralised idea of power and emphasizes the diffuse and ambiguous nature of modern power (McKinlay, 2014).

According to Foucault, just as disciplinary power did not replace sovereign power, governmentality focuses on population and is another mode of power (Lemke, 2011). In his lectures in 1978-79, Foucault refuses to make governmentality synonymous with the state (Lemke, 2011; McKinlay, 2014). Instead, he points out that the broader meaning of government needs to be explored to understand the shifts in liberal and neoliberal forms of rule and order (McKinlay, 2014). As Rose, Valverde, and O'Malley (2009) point out that liberal governmentalities "stressed the limits of the political" (p. 12) and encouraged the role of non-political forms of authority such as philanthropists, medics, social reformers and religious organisations (Rose et al., 2009). These authorities played a role in governing the habits of the people (Rose et al., 2009).

Governmentality involves a combination of pastoral and political powers (Foucault, 2007b). Pastoral power refers to a form of power that allows individuals to develop individuality by producing truth about themselves (Foucault, 2007b). This individuality can be guided by their private thoughts and public behaviour (Lemke, 2011). Here, the individual receives guidance, protection, and advice from the pastor (Lemke, 2011). When pastoral power is practiced just by itself, it "becomes the ways in which the modern state produces conditions necessary for the free, liberal individual by assuming responsibility for the security and well-being of the population" (McKinlay, 2014, p. 4).

In contrast, political power refers to the freedoms of Western Democracies (Newman, 2004). These can be common rights, the legal system independent of the executive, and

universal suffrage (Newman, 2004). Hence for Foucault, the government involved the conduct of conduct or the techniques used to direct individuals who could be viewed as free to act (Foucault, 1983). In Faubion (2000) book on power, Foucault writes power relations can be viewed as the conduct of conducts and:

“Perhaps the equivocal nature of the term ‘conduct’ is one of the best aids for coming to terms with the specificity of power relations. To conduct is at the same time to lead (*conduire*) others (according to mechanisms of coercion that are to varying degrees, strict) and a way of behaving (*se conduire*) within a more or less open field of possibilities. Therefore power is a conduct of conduct and management of possibilities. Basically, power is less a confrontation between two adversaries or their mutual engagement than a question of ‘government’” (p. 341).

According to Burchell (1991), the term government here suggests a “form of activity aiming to shape, guide, or affect the conduct of some person or persons” (p. 102). Foucault wanted to explore the practices of government (Veyne, 1978). The government in this sense is concerned with not just its’ people, but their relations, links, wealth, resources, the territory with its particular qualities, climate, fertility, customs, habits, ways of thinking and behaving, accidents and misfortunes such as famine, epidemics, wars (Burchell, 1991; McKinlay, 2014). Foucault was interested in how the taken for granted practices and facts came out, and in turn, were dislodged (Veyne, 1978). Foucault also wanted to understand the “mechanisms that depoliticised or dispersed welfare, and what were the reasons behind individuals not being contained by the state” (McKinlay, 2014, p. 3). Methodologically, according to Foucault, we should study the technologies that produce populations to be managed and particular forms of individuality, in comparisons to the state or institutions per se (Burchell et al., 2008). Therefore, governmentality focuses on who can govern, what governs, and what or who are being governed (Burchell, 1991).

The term 'government' here does not represent the social institutions, but rather the activities that attempt to shape others' conduct at various sites within society (Fadyl et

al., 2013). Foucault mentions that governmentality does not encourage forcing people to act in a particular way. It is about structuring the 'possible field of action' of subjects (Dreyfus & Rabinow, 1983). This is a critical idea in governmentality. Within a political, governmental organisation, this may include administrative or investigative work or the way different governmental departments interact with society and communities (Fadyl et al., 2013; Lemke, 2009). Dean (1999) suggests that the governmentality techniques can be applied at various levels including, managing an individual's relations with themselves, patient care at the hospital, or even state actions affecting the population. Dean (1999) further elaborates that the individuals or population groups governed will always adapt, subvert, resist, or ridicule the governing practices to some degree.

Importance of historical analysis

Having described discourse, discursive analysis, disciplinary analysis, power-knowledge, and governmentality, I will explore the importance of historical analysis in the Foucauldian approach.

"Foucault was not, in any of his guises, attempting to establish a framework for explaining events, either philosophically or historically. If anything, he was attempting to show the paucity of historical explanation" (Nichols, 2007, p. 5-6).

According to Foucault, discourses, knowledge, and subjects are all historically situated. Foucault aimed to use history methodologically by starting with a contemporary problem about the present arrangement of discourses and practices and questioning how things operate the way they do and how things came to be historically and socially possible (Fuggle, 2014). To understand what makes a discourse visible, we need to question the things that appear self-evident. This way, history becomes a vital tool in seeing the current discourses and is evident in my analysis chapters. Furthermore, Foucault was interested in how the systems of knowledge and power emerge historically, and why they appeared at this point and under which specific historical conditions (Fuggle, 2014). Foucault did not advise to do a historical analysis for logical narrative; he proposed looking at history to locate the conditions that allow us to speak, think and act the way we do now (Dreyfus & Rabinow, 1983). Dreyfus and Rabinow (1983) call this the history of the present. Therefore, the key is, to write a history of the

present and not merely a “history of the past in terms of the present” (Foucault, 1977, p. 31).

Conclusion

Having defined the purpose of my study to explore the boundary tensions and professional threats experienced by cardiac PT’s practicing P2CR, I aimed to define some of the key philosophical ideas and theoretical concepts in this chapter. These ideas are fundamental to how I conducted the research study and how I understand the issues of power, knowledge, discourse, and governmentality. Lastly, I wrote about the importance of historical analysis and what it means when applying this to a study. In the next chapter, I outline my sampling strategy and methods using the principles outlined above. I also describe Foucault’s archaeological and genealogical principles applied to this study.

Chapter Three: Study Design And Methods

In this chapter, I describe the data collection and analysis. There is no simple approach to Foucauldian research, and therefore carrying out the research has undergone many iterations. I have ensured the data is contingent and considers the socio-political constructs. I simultaneously explore the discursive construction of PTs and P2CR leading to power and boundary tensions. I start by briefly describing Foucault's archaeological and genealogical principles applied to this study and then present the data collection and how the gathered texts were analysed.

Foucault's Archaeological And Genealogical Principles

Foucault's writings in *The Order of Things* explicitly present his archaeological approach to the history of thought (Foucault, 1970, p. 41). In 1969, his publication of *The Archaeology of Knowledge* outlines the methodological principles that formulate the archaeological methods he used in *The Order of Things*, *History of Madness*, and *The Birth of the Clinic* (Foucault, 1972a). Principally, this idea of archaeology presents that a system of thought and knowledge consists of the discursive formations or epistemes that are governed by rules that operate beneath the consciousness of subjects (Fadyl et al., 2013; Foucault, 1972a).

Fadyl (2013) explains the focus of the archaeological approach is:

“to examine the history of discourse in a way that sought to question the self-evidence of those things that appear to be inevitable ‘truth’; reveal how discourse imposes restrictions on what can be thought, said and done; and show how the subject who ‘speaks’ discourse is constructed by it, rather than being the originator” (Fadyl et al., 2013, p. 6).

Archaeology allows the researcher to support historiography but does not rely on the primacy of consciousness of individual subjects (Gutting & Oksala, 2018). Archaeology differs from classical historiography and does not aim to provide a historical account or history in a chronological manner (Gutting & Oksala, 2018). It is not a linear or progressive approach to enlightenment (Gutting & Oksala, 2018). Therefore, I focus on

three specific ruptures in CR and physiotherapy's history as unique and discursive conditions. During these events, I emphasize the contingent and often accidental process of knowledge formation that has occurred during these distinct points in the CR history.

Dean (1994, p. 14) writes that history is a practice undertaken "in a particular present and for particular reasons linked to that present". Although historical writing explores the different aspects and dimensions of the past and refers to discourses, social practices, and events that can be named in a particular time-space (Dean, 1994). Critical history is an activity that is immutably linked to its current issues, such as the professional tensions experienced between PT's and CEP's at present. Rose (1998, p. 41) further argues that critical history helps us think about our limits and our nature. It aids in thinking about the conditions "under which that which we take for truth and reality has been established". Foucault described the analysis of critical histories as archaeological (Dean, 1994). Thus, I write about how I analysed discursive formations archaeologically in my study.

Applying Foucault's archaeological principles, I explored a diverse range of texts in my study. Foucault argues that texts are not limited to physical documents but, comprise of any utterance (re-iterated) or form of expression that aids in creating or moderating what can be thought, said, or done at a given time (Foucault, 1972a). Derek Hook (2001) expanded on the idea of archaeological principles and suggested that texts are formed by statements, or "those utterances...which make some form of truth-claim...and which are ratified by knowledge" (Foucault, 1972a, p. 224). Texts could be written words, structures, practices of works of art that represent reality and make some claim to truth. Therefore, I paid attention to the texts and statements in written, spoken, or enacted form to explore the practices of CR and PTs.

For Foucault, the statement sets out to locate an "elementary unit of discourse: a seed that appears on the surface of a tissue of which it is constituent element. The atom of discourse" (Foucault, 1972a, p. 80). This statement is a fundamental discursive analytical unit as it creates a discursive formation that makes some form of truth claim, positions subjects in relation to it, and those that can be ratified as knowledge (Ranker, 2018).

Statements form the basic unit of analysis, and its specificity is understood by the intrinsic properties and extrinsic relations, that is, by its context and the content (Ranker, 2018). It is different from a sentence that requires the use of linguistic categories and grammar (Ranker, 2018; Webb, 2013b). Statements create subject positions, objects and make strategies and tactics visible; hence they can be analysed (Webb, 2013b).

As Dreyfus and Rabinow (1983, p. 45) explain, statements cannot be defined by content as it is not a proposition or an utterance, “neither a psychological nor a logical entity, neither an event nor an ideal form”. The identity of a statement is, therefore conditioned to the other statements that form the discourse (Dreyfus & Rabinow, 1983). Therefore statements rely on discursive formations that are created using the statements and where the formation and analysis of the statements are understood correlatively (Dreyfus & Rabinow, 1983). Foucault (1972a, p. 84) wanted to ensure that the statement was a “modality that allows it to be something more than a series of traces, something more than a succession of marks on a substance...”. Here, it is crucial to understand that a random group of signs does not constitute a statement as they do not indicate an individual towards a set of discursive formations (Foucault, 1972a; Ranker, 2018).

Understanding and applying these principles to my study, it was essential to explore the ways where discourses made particular subject positions possible. As an example, during the formation and development of CR, who carries authority, who is speaking and why, who can comment on specific objects? I was interested in health professionals and other authorities such as the government, physiotherapy, or CEP boards that encouraged particular CR discourses. I address the role of the government and health professionals, particularly in the first analysis chapter. The second analysis chapter highlights the changing subject position of the patient and the health professionals involved. Lastly, the final analysis chapter focuses on the paradigm case of CEP’s and PT’s practicing CR in Auckland. Over the years, the different subject positions may have placed PTs in varying relations to specific objects. For example, the impact of biomedical practice (second analysis chapter) or the importance of PTs being closely related to medicine and practice as orthodox health professionals (third analysis chapter).

While the archaeological principles make visible the statements surrounding the discourses of CR and PT and power relations between varying health professionals, I now explore Foucault's interpretation of genealogical inquiry. Foucault utilized genealogy in *Discipline and Punish* to address the function of power and subjectivity that govern how knowledge is created. Genealogy intends to provide an analysis of how discursive formations come about and function through knowledge-power relations. These identifications and given systems of thought (mainly uncovered by archaeology) were the results of contingent responses of history (Gutting & Oksala, 2018).

Foucault emphasizes that genealogy allows the researcher to be involved in, and to an extent be produced by the social practices they are investigating (Dean, 1994; Dreyfus & Rabinow, 1983). The researcher is not detached and merely spectating the discourses (Dreyfus & Rabinow, 1983). While, archaeology allows for a certain level of detachment from the theories and practices of human sciences, genealogy concentrates on the relations of knowledge, body in modern society and power (Dreyfus & Rabinow, 1983). Foucault introduced genealogy as a "method of diagnosing and grasping the significance of social practices from within them" (Dreyfus & Rabinow, 1983, p. 103). Thus, archaeology can be seen as subordinated to genealogy.

In Foucault's essay of Nietzsche, genealogy and history, he explained that genealogy aims to "record the singularity of events outside of any monotonous finality" (Foucault, 1977b, p. 139). Foucault opposes the traditional historical method of archaeology and highlights that genealogy records the discontinuities where others may have seen continuous development (Dean, 1994). Genealogy seeks out recurrences and play where others found seriousness and play (Dreyfus & Rabinow, 1983; Hook, 2005). It also explores the history to unmask the gradual progressions by avoiding the search for depth (Dreyfus & Rabinow, 1983; Hook, 2005). In genealogy, Foucault (2003) writes how exploring history can provide us with the clues of the contemporary CR practice has come out. Applying genealogical approach to my study, I explored the minor shifts and small details in CR practice such as the location, equipment used, way of writing notes, uniforms worn, and subtle contours that allow for an overview of the current CR practice.

A genealogist points that the questions which were historically seen as being the deepest are truly the most superficial (Hook, 2005). With this approach, the researcher notes things from afar and discovers meanings in surface or daily practices (Dreyfus & Rabinow, 1983). It is not that genealogical approach is superficial and is lacking importance (Dreyfus & Rabinow, 1983). Rather genealogy points out that “when viewed from the right distance and with the right vision, there is a profound visibility to everything” (Dreyfus & Rabinow, 1983, p. 107). It is, therefore, essential to understand that genealogy and archaeology function as a ‘dimension of analysis’ (Fadyl, 2013b; Gutting & Oksala, 2018).

A radical shift from archaeology, Foucault asserts that in genealogy, “no one is responsible for an emergence; no one can glory in it, since it always occurs in the interstice” (Foucault, 1977b, p. 150). This explains that there is no subject (individual or collective) that shifts history for a genealogist. Subjectivity is a complex product of the interplay of forces in historical events and the space which defines them (Prado, 2000). While the archaeology acknowledged the idea of space in which objects and subjects occur. In genealogy, Foucault thought of the space as something that is governed by a “system of rules that emerge discontinuously” (Dreyfus & Rabinow, 1983, p. 109).

Applying the genealogical perspective to my study, I aim to discover the different subject positions that play a role in the current practice of CR and boundary tensions. Keeping in mind, that the subjects do not pre-exist, however they are present and play their role only on a field of battle (Dreyfus & Rabinow, 1983). Foucault clarifies that the world is not a play that masks a truer reality hiding behind the scenes. It is as it appears (Dreyfus & Rabinow, 1983). Furthermore, Foucault also adds that there is no singular truth but various truths and that there is no knowledge, rather, there are knowledges (Smart, 1983). There is also no reason but there are rationalities (Smart, 1983). Therefore, genealogy is a form of analysis that “suspends contemporary norms of validity and meaning as it reveals their multiple conditions of formation” (Dean, 1994, p. 33). This insight of subjectivity being manufactured, truth, knowledge, and history are crucial while using the genealogical approach.

Genealogical principles in this study helped evaluate and refine the questions around what keeps CR vital and intelligible in NZ and what the potential social, political, and cultural effects are. I identified how CR had been constructed historically, what constitutes the idea of CR, and how and why we think and speak or act in particular ways and not otherwise. Lastly, the different techniques and complex web of power by which patients, health professionals, and various stakeholders define themselves as subjects of CR. Therefore, genealogies also aid in understanding how we come to know ourselves and different subject positions in CR, that is the varying roles and identities the subjects take in discourses.

Overall, I have used the archaeological principles as a methodology to analyse the discursive formations of CR and PT practice. Whereas, I use genealogy to further my understanding and explore how the knowledge that was created from these discursive formations was brought into play. Therefore, it is possible to use both archaeological and genealogical principles in this study. I now describe the sampling strategy used in my study.

Sampling Strategy

All sampled texts that made reference to CR in NZ or exercise for cardiac patients were deemed to be relevant. These texts were accessed from online websites, archived data, NZ libraries, DHB's, and individuals who have been a part of the developments and changes in the delivery of CR over the years. To maintain confidentiality, I am not going to list the names in my study. The texts collected were thoroughly read once and then re-read to interrogate subjectivities, objects, concepts and strategies that recurred and shifted throughout the text to define key discursive ruptures. Ruptures are the discontinuities and situations that enable one to unpack the established thinking and reasoning surrounding practices (Langett, 2017) such as CR that could be previously taken for granted. Ruptures make it easier to understand times and events portraying a discontinuity from what was considered to be the normal or established practice for CR. This was a necessary process that helped me identify the types and amount of texts available in the development of CR and how different times in the past have shaped discourses in CR. According to Foucault, exploring history in this way is called the

systematic dismantling of history, where the discontinuities are introduced (Foucault, 1977b).

During this stage of data analysis, I identified three periods of discontinuities or ruptures in the history of CR and especially in NZ. First, when patients were seen as being fragile, and the beginning of CR or WCU's around the 1940s and 1950s. Second, I describe the discursive construction of the PT profession and the conditions that made it possible for PT's to be a part of CR and how the patients with CR were viewed and the statements that show these discursive changes (Chapter Five).

The third period is the present time where there are tensions seen in the delivery of CR between two particular professions, PT's and CEP's in NZ. I have tried to refrain from using dates while defining ruptures and discursive formations, however, at times, there are date ranges used to explain the discontinuities. This is because Foucault encourages his readers to challenge the presuppositions of history, the tendency towards closure, universal assumptions or even totalising abstraction (Dean, 1994). His approach allows readers to look critically at history to engage, interrogate, reject, and challenge what is held to be natural, neutral, necessary, or given (Dean, 1994). Therefore, these dates are roughly the periods in history that help in understanding the events and writing about them.

Historical Texts

Libraries and archives were used to access historical texts. Various methods were used to search for historical texts, and this process depended on how the libraries stored or placed their data. Usually, the keyword, department, and subject search on online databases, and citation searching were utilised. My initial scoping of historical texts included books (Cash, 1954; Lee, 1980; Tidy, 1952; White et al., 1958), papers past newspaper and magazine articles, and advertisements from National New Zealand Library. Please see Appendix A for an example of initial list of texts.

Additionally, databases such as SCOPUS, EBSCO Health Databases (including the Cumulative Index to Allied Health and Nursing Literature, the Psychology and Behavioral Sciences Collection, and MEDLINE), Google Scholar, and OVID databases (including PsychINFO and OVID Medline) on the AUT online library website were also used. To

ensure I did not miss on any current research, I also emailed the prominent researchers on ResearchGate. Once I had texts from these sources, I used citation searching, which involved having a detailed search at the reference lists and looking for potentially relevant texts amongst the present citations.

In particular, the online papers past section from the National Library of New Zealand had an extensive source of articles from the 1930s and '40s used to explore the history of CR. Furthermore, the National Library of New Zealand contained articles and resources that helped in understanding the history of CR in NZ (Glendining, 1970; Logan & Dewar, 1993; National Heart Foundation of New Zealand, 1997; The National Heart Foundation of New Zealand, 1997). Here, the analysis of keywords from one text would guide a search for similar texts or the ones it referred to. At times, this meant the searches would often lead to useful texts, and I altered my search terms for further scoping of data. My search terms for CR on the AUT Library website included: card* rehab* or heart rehab* or card* exer* or heart exer*, card* disease or heart disease, AND exer* or reha* or physical or phys* or thera*. Search terms for scoping data around CR history included: histo* or evolu* or birth* or begin* or start*.

Current texts

I began exploring a wide range of texts to help identify the most appropriate approach to answer my research questions. The initial gathering of resources involved talking with individuals who have been or are currently involved in CR. These individuals included health professionals such as cardiologists, CR nurse specialists, PT's, CEP's, medical directors for CR, professional leaders of physiotherapy, patients, reception, and scheduling staff, for example. This was followed by gathering texts that are discussed and talked about in the CR practice and philosophy. Various sources such as local newspaper articles such as ("After suffering a", 2017; "The statistics are harrowing", 2017; Crombie, 2016; Godoy, 2019; Kotze, 2009; Spencer, 2015), academic research papers (Benatar et al., 2016; Parks et al., 2000; Price et al., 2016; Wheatley, 2005), CR guidelines (Health Research Council of New Zealand, 2010; Heart Foundation's cardiac rehabilitation advocacy strategy., 2014; New Zealand Guidelines Group, 2002; Piepoli et al., 2014; Piepoli et al., 2016), video clips, photos from 100 years of Physiotherapy website, books, and articles, work area for PT's and CEP's, marketing material such as

brochures and online marketing, conferences and searching for past CR practices via cardiac PT's at ADHB, and nurses from around NZ.

Some of the libraries and databases used include:

- Auckland Public libraries
- AUT University library, including the borrowing service from other relevant libraries for texts around the world that had to be requested online
- Papers Past – National Library of New Zealand
- Clinical Exercise Physiology Boards in the USA, UK, NZ, and Australia
- Physiotherapy board and society in NZ and Australia
- National government data in the UK, USA, NZ, Canada, and Australia in regards to the employment status of CEP's and PT's
- Physiotherapy NZ – 100 years of Physiotherapy
- Marion Davis Library, Auckland City Hospital
- Philson Library, University of Auckland (Medical and Health Sciences)

As mentioned, a range of texts were sampled in a constant back and forth manner between different discourses, subjectivities, objects, concepts and strategies. During the sampling of texts, I did micro and macro analyses of different kinds of data such as photographs of patients from articles, diets used in the hospital for cardiac patients, data from health advertisements for jobs, workmen compensation law in the USA and NZ, varying views of health professionals about CR and cardiac disease from interviews, and quotes from various articles were used. With this, I also applied the analytical principles mentioned later in this chapter.

Similarly, in the second chapter, texts from different sources are used to analyse the changes in cardiac patients, and health professionals' view on CR, developments in CR and the discursive formation of CR and involvement of PT's. I collected and sifted through the texts that aided in making these discourses visible. In particular, I used the Physiotherapy NZ 100 years of physiotherapy website that had historical records, examination papers, physiotherapy certificates, personal correspondence, uniform items, and meetings.

My final analysis chapter explored the practice of CR at a local CEP clinic in Auckland as a paradigm case or case study and compared that with the PT's practice of CR in Auckland. Aiming to situate the actions of PT and CEP's practicing CR, this chapter included texts such as photographs, recording of notes, information regarding the charges of CR, and pictures from the clinics' website. I also collected data from the World Health Organisation (WHO) website and current research articles to explore the impact of non-communicable diseases and exercise on the population. Additionally, I also sourced texts that supported the analyses of how neoliberalism affects health care, commodification of health, and professionalisation of CEP's and PT's.

Importantly, sample selection was carried out for over one year from September 2018 to December 2019 as some data only became available recently. New data such as the accurate history of CR at the large DHB emerged from conversations with existing PTs and nurses that are now in the senior and managerial positions within the DHB. Therefore, some of the data only became available during these conversations. Some of the language used for CR has changed over the years, and to ensure that a wide range of data was explored, I accepted relevant sources of information that included exercise after a cardiac event or surgery. Lastly, ethical approval was not necessary as no planned interviews or recording of the conversations were undertaken for the study. However, conversations were useful and allowed me to focus on the texts within the current situation and tensions around CR. In chapter six, I have used a letter as part of the analysed texts and removed original names from the texts to maintain confidentiality.

Now that I have addressed my sampling strategy, I describe my analysis strategy of the sampled texts.

Data Analysis

My analysis followed the principles of archaeology and genealogy noted earlier in this chapter. However, to help me explore and focus my method for conducting a Foucauldian study, I read the writing of other authors that had used a similar methodology and learned from their strategies adopted during their projects. For example, Nicholls (2009) mentions how taken for granted practices such as the physiotherapy plinth, allowed him to see physiotherapy discourses that challenge the

conventional physiotherapy. Fadyl (2013), in her doctoral dissertation, explored the discursive analysis of vocational rehabilitation in NZ using Foucauldian discourse analysis.

Lastly, Cummins (2016) used the theories of discourse and power to explore how neurorehabilitation was constructed as a discipline. Cummins (2016) also addressed and how neurorehabilitation functions as a technology of normalising power, and how clients position themselves as subjects where they are disciplined by and disciplined themselves with the practices of the discipline. Additionally, I explore Foucault's principles from his well-known lecture of *The Order of Discourse* (1981) including the principles of specificity and exteriority, discontinuity, and reversal. These principles provide a methodological framework for my study.

Principle Of Specificity

The principle of specificity explains that:

“if a particular discourse cannot be resolved by a prior system of significations, that we should not imagine that the world presents us with a legible face leading us merely to decipher it. It does not work hand in glove with what we already know. There is no prediscursive fate disposing the world in our favour” (Foucault, 1981, p. 67).

Foucault (1972) argues that we come to know meanings and recognize truth-claims based explicitly on discourse. He further suggests that discursive practices should not be limited to textuality and that the researcher should identify and look further at a wide array of discursive effects (Hook, 2001a). The analysis of discourse should also be in the “physicality of its effects, in the materiality of its practices” (Foucault, 1981, p. 66). This principle places emphasis on the material and physical discourses as opposed to the representational and linguistic power of language during the analysis (Smart, 2002). Here, Foucault emphasized that discursive practices can happen in various ways and in forms that can typically be considered as discursive and extra-discursive (Hook, 2001a).

Discursive suggests the textual practices, whereas extra-discursive relates to the material level of discursive practices and actions that result from the various correlations, formations, and transformation of discourses (Hook, 2001a). Foucault's priority with analysis is to explore practices from "the said as well as unsaid" elements (Foucault, 1980b, p. 194). By doing this, the researcher is less likely to present a confined, linguistic analysis of the subject (Foucault, 1972a). In this study, it would mean that emphasis is placed on all the extra-discursive elements such as uniforms, written notes, the structure of the treatment room to understand the everyday taken for granted truths. These are practices that potentially justified why practicing or doing things this way was considered as being the right and wrong thing to do (Hook, 2001a).

Foucault reinforces that we must conceive discourses as a human practice (Fadyl & Nicholls, 2013). Therefore, texts that detail ideas or definitions of what specialists or physicians thought of CR, WCU programmes and its' initiatives were all motivated by this principle. From this point of view, everything is produced by discourse, and therefore, it is a discourse that must be made visible in order to understand how it is operating (Hook, 2001a; Young, 1981).

Principle Of Discontinuity

The principle of discontinuity stresses an array of metaphysical and unprovable inferences about assumptions, experience, and history, which eventually describe existing systems of power and justice (O'Farrell, 2005). Applying the principle of discontinuity to my thesis, I include a variety of historical texts from various sources to expose discursive formations and practices of CR from the 1920s to the present time (Hook, 2001a; Nicholls, 2009). For Foucault, a discourse is not linear and unified (O'Farrell, 2005). Therefore in the journey of discourse analysis, one should potentially aim to find every discontinuity, difference, or break to understand that discourses are historically contingent (O'Farrell, 2005).

Consideration of ruptures and discontinuities across the historical periods allowed me to present shifts and changes in discourses over time (Nicholls, 2009; Tamboukou, 1999). Young (1981) states that discourses must be treated as discontinuous practices, "which cross each other, are sometimes juxtaposed with one another, but can just as

well exclude or be unaware of each other” (Young, 1981, pp. 61). The historical periods in this thesis were chosen as they led to substantial shifts in CR practice and, therefore, were times where the thinking and ‘doing’ CR became more apparent for analysis. This strategy was employed by Nicholls and Fadyl in their respectable studies as well (Fadyl, 2013b; Nicholls, 2008a).

Principle Of Exteriority

Foucault’s principle of exteriority endeavours to uncover the more profound meaning by exploring beneath the surface, urging not to go looking for the meaning that a discourse hides within itself (Jackson, 2009). Foucault advocates that discourse analysis should move forward based on the external conditions of possibility that give rise to the discourse and fixes its limits (Hook, 2001a). His methodological injunction with the principle here suggests that critical readings will prove to be insufficient (Hook, 2001a). That is, exploring what can be shown or present within the text is inadequate because there will always be alternative showings (Hook, 2001a). This is the limitation of textual relativism, where analysing results from texts will be of little significance beyond the actual scope of the analysed text (Burman, 1990, 1991; Foucault, 1977a).

To conduct a discourse analysis that goes beyond the textual analysis, readers need to reference their analytical conclusions to a double epistemology. The point here is to consider the extra-textual dimensions such as historical, architectural, material practices, or geopolitics (Foucault, 1977a). Furthermore, engaging discourse predominantly at a textual level means that the readers are chiefly dealing with discourse as an effect of power and are negating to engage with discourse as an instrument of power (Hook, 2001a). Foucault clarifies that discourse should be neither be viewed as an instrument of power nor as an effect of power (Foucault, 1981). “Discourse is not simply that which translates struggles or systems of domination but is the thing for which and by which there is struggle” (Foucault, 1981, pp. 52-53). Therefore, Foucault’s principle of exteriority is vital in moving the analysis beyond the interpretation of a text, into the discursive area that a text plays a role in (Fadyl et al., 2013). Relevant here is to shift away from what the discourse says to an analysis of what it does (Hook, 2001a).

Understanding that discourse is both the object of power and its means, I aim to explore how the discourse facilitates the emergence of particular relations of material power (Foucault, 1981). Similarly, how do the material practices of power allow certain privileges and speaking rights for what is spoken in discourse (Hook, 2001a). An example of this can be seen in the discursive construction of PTs and CR. I question how the close ties between PT's and medicine, treatment room set-up and architecture, and biomedicine impacted the profession. What privileges do PT's have as an orthodox profession, why and who gave them these privileges? What conditions made it possible for PT's to be a part of CR? For this study, I applied the notion of 'what discourse does' by focusing on the ideas of power, knowledge, and governmentality to enable me to question and analyse how discourse functions and its effects in the CR domain. Lastly, I also list questions at the start of my study, which I have derived from these ideas of power, knowledge, and governmentality to explore the discursive practices.

Conclusion

Overall, I began this chapter by describing archaeological and genealogical principles, as explained by Foucault and my methodological approach for this study. I then addressed the sampling strategy, detailing the selection and sources of my chosen texts. I described what a text and statement means for Foucault and how this would be applied to my study. From here, I described the analytical principles employed and how I use some of Foucault's imperatives to sample the texts would be used. Chapters four, five, and six explore the analysis of the chosen texts.

Chapter Four: From Being 'Fragile' To Return To Work

The first of my three analysis chapters focuses on the idea of cardiac patients being viewed as fragile post their MI. This chapter includes an analysis of various texts, including the emergence of conceptualisation of advanced cardiac treatments, disability, rehabilitation, and possible responses. The focus is on exploring the discourses that have resulted in the conditions of possibility for events associated with the emergence of CR, continuities, and discontinuities between epistemes and the implications of these discursive constructs.

Firstly, I consider bed rest, cardiac disease developments, and views of physicians and general practitioners around CR. Following this, I write about the developments in medicine in WW2, discuss the expectations of returning soldiers to the useful citizenry, and the interplay between the discourses of the economic expansion and disabled people from war and CVD. By the economic expansion, I refer to the developments in the industry and economy post WW2. Lastly, I discuss various discourses that have shaped, created meanings, and lead to the emergence of CR and the involvement of health professionals in CR.

Bed Rest And Fragility

"Physical Treatment:

Principles – In treating any case of organic heart disease, three great principles have always to be kept in mind. They form our chief aims of treatment:

The heart must be rested and relieved as much as possible. This is most essential, especially in the early stages of treatment.

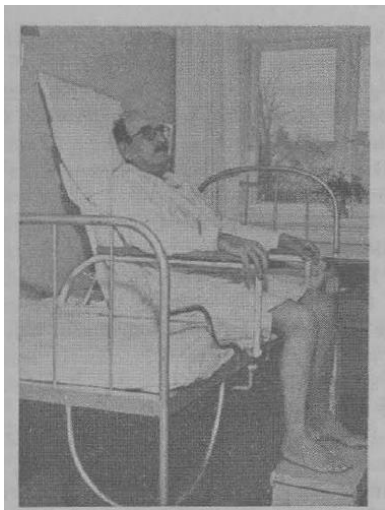
The supply of oxygen to the body must be increased. The patient, with his embarrassed breathing, is not able to take in enough oxygen, or to breathe out enough carbon dioxide, the interchange in the gases of lung being also deficient owing to the congested condition of these organs. Unless this state of things can be remedied, all the metabolic processes will be adversely affected, and all the tissues of the body,

including the heart muscle itself, will become weak. This has to be kept in mind at all stages of treatment...." (Tidy, 1952, p. 355).

Tidy (1952) considered that bed rest was essential during the early stages of treatment. The text above provides an apt introduction to the problematisation associated with the cardiac disease during the 1920s and 1930s. Resting the affected organ was considered a fundamental principle in treating disease (Levine, 1951). Just as a fractured bone is immobilised in a cast to promote healing and the lungs are compressed by pneumothorax or thoracoplasty to treat a tuberculosis lesion. Likewise, bed rest was medically prescribed for many types of heart disease (Figure 1) (Levine, 1951; Schwensen, 1953; Tidy, 1952). Levine (1951) argued that, although the heart cannot be entirely at rest, maximum rest could be given when the patient is in bed for twenty-four hours a day with minimal physical effort (Levine, 1951). As articulated in the text above, this was considered essential during the early stages of treatment (Tidy, 1952).

Figure 1.

Cardiac patient at the hospital



Adapted from Schwensen, 1953, p.1

Bed rest as an idea of fragility was not just used for cardiac patients. It has also been used in contemporary healthcare for a variety of conditions such as:

“To reduce respiratory effort e.g., asthma or pneumonia. If the patient has pyrexia (fever increases oxygen demands). To reduce pain e.g. after an operation or arthritis. To prevent weight-bearing e.g., following knee replacements or a fracture. Treatment of back pain following surgery to relieve back pain. During pregnancy to prevent miscarriage or in the event of pre-eclampsia” (Nicol et al., 2012, p. 383)

Nicol et al. (2012), in the text above, writes about the reasons and conditions where bed rest was considered beneficial for patients. The text addresses several reasons, such as back pain or patients with pneumonia or arthritis. Bed rest was a traditional practice where if a patient were sick; they would lay in bed, rest, recover, and get better (Marcus, 2016). According to Dr. Robin Marcus, patients are familiar with the idea that if they are sick or unwell, they should be going to the hospital and staying in bed (Marcus, 2016). Cardiac patients, like other patients after an operation or a fracture, were also treated with bed rest (Tidy, 1952). The picture below depicts bed rest for up to one month, usually prescribed by cardiac surgeons and cardiologists for the initial treatment of cardiac patients in 1953 (Schwensen, 1953). Although, the new way of thinking is to encourage patients to mobilise as early as possible, bed rest for critically ill patients is still used initially by physicians during recovery (Marcus, 2016). This indicates that bed rest as an idea of ‘fragility’ was associated with cardiac patients and exists even today for patients recovering from various health conditions.

Bed rest as a therapeutic practice can be seen as a panopticon surveillance regime and a vehicle of subjection. Panopticon serves to induce in the patient a state of conscious and the permanent visibility assures the automatic functioning of power at the hospital. Panopticon is built everywhere, from schools, hospitals, and stadiums, for example, to discipline people (Foucault, 1977a). Essentially, panopticon is a utopia and is polyvalent in its applications (Foucault, 1977a). As Foucault states, panopticon “serves to reform prisoner, but also to treat patients, to instruct school children, to confine the insane, to supervise workers, to put beggars and idlers to work” (Foucault, 1977, p. 205). Therefore, the panopticon is a; “type of location of bodies in space, of distribution of individuals in relation to one another, of hierarchal organisation, of disposition of

centres and channels of power...which can be implemented in hospitals, workshops, schools, prisons" (Foucault, 1977, p. 205).

Foucault says that panoptic schema may be used whenever one is dealing with a multiplicity of individuals on whom a particular behaviour must be imposed (Felluga, 2011). Here, the patients can be observed by doctors and nurses to ensure they are resting on the bed in a closed hospital environment. Patients, therefore, replace the prisoners in the panopticon prison. Prescribing bed rest to these fragile patients and ordering gaze helps overcome disorder, chaos, and abnormality in the cardiac ward (Hellerstein, 1959; Kahn, 1958; Williams et al., 1958). I now address why bed rest as a technology of discipline is crucial, and the discourses on bed rest and fragility.

Bed rest can also be viewed as a practice of governmentality. The figure (Figure 1) depicts how the patient was rested in bed as a form of therapy following an MI. Following the bed rest, cardiac patients were gradually organised to progress activities outside the home, which equated to 12 months of the treatment protocol, preventing the patient from participating at work (Roberts, 2017). Therefore, from a Foucauldian perspective, it is possible to argue that bed rest can be seen as a mode of social regulation. Cardiac patients were organised to rest in the bed under the hospital staff's observation, arraying their bodies in space and time. These patients were controlled to an extent where not only medical observations but also their diets were charted (Figure 2).

Figure 2.

Cardiac diet for patients at the hospital

Cardiac Diet

Breakfast: Egg, fish, toast with butter, 5 ozs. Tea 1 hour later

Dinner: Fish, meat, green vegetables, 1 small potato, milk pudding, stewed fruit

Tea: Fish, toast, bread and butter, 4ozs. of tea one hour later

Supper: 6ozs. hot water

- Contributed from Dunedin Hospital

Observations, practice, and control of cardiac patients form a compact model of the hospital's disciplinary mechanism. Although in their article, "The speed of healing of myocardial infarction", Mallory and colleagues (1939) stated that: that it takes about eight weeks to heal a large MI and about six weeks to heal a small one, patients stayed at the hospital for nearly a month (Mallory, 1939). This practice continued until the 1960s, as seen in Figure 2 below (Martin et al., 1974). These distinctive set of regulatory mechanisms such as strict treatment protocols for cardiac patients are part of the diffuse governmentality practice in society.

Figure 3.

Hospitalisation of heart attack patients 1939-1969

Table 1

Hospitalization of heart attack patients 1939–1969

	1939	1949	1959	1969
Days in hospital (survivors)	34	30	27	27
Chemistry tests	0.6	2.1	5.7	17
X-ray procedures	0.7	0.3	1.9	2.5
Electrocardiograms	2	3.5	4.5	6.2

From Martin et al, *Ann Intern Med* 1974; 81:289.

Hospitalisation of heart attack patients 1939-1969 by Roberts (2017), p. 1040.

Overprotection And Examination

Clinical diagnosis and treatment of MI was somewhat a new phenomenon in the 1940s, and medical overprotection by prescribing bed rest was potentially a strategy to maintain sovereign power by physicians (Roberts, 2017; Stroud, 1951). Patients had extended hospital stays for treatment, slow progressions with mobility, and increased fatality rates at 35% (Roberts, 2017; Stroud, 1951). Physicians were overanxious and overcautious to encourage patient participation in rehabilitation and resume former activities (Hellerstein, 1959; Neu, 1958). Hence, bed rest was a way of examining patients under the close surveillance of health professionals. Although physicians had

recognised the ill effects of excessive bed rest and there was enough theoretical, practical, and physiologic evidence for patients to be mobilising and commencing chair exercises, measures taken to counteract bed rest were still excessively restricted (Hellerstein, 1959).

In an article where cardiologists were questioned about the significant problems they faced during their efforts to rehabilitate and mobilise patients with CVD, the second most common response was 'iatrogenic over-restriction by the patient's family physician' (Figure 4) (Williams et al., 1958). Alternatively, the following quote, 'elimination of fear on the part of the patient and his family, ' also demonstrates that bed rest and fragility were common themes noted in the texts. This could be seen as an example of a sovereign power strategy in practice. The fact that Figure 4 writes about the problems faced by the practicing physician in his efforts to rehabilitate individuals with CVD suggests the hierarchical relations of power between the physicians and patients in an attempt to normalise the patients.

Physicians are the judges of normality, along with the educators or teachers, and social workers (Foucault, 1977a). Foucault mentioned that the judges of normality are present everywhere, and physicians were a paradigm case (Foucault, 1977. "It is on them that the universal reign of the normative is based; and each individual, where ever he may find himself, subjects to it his body, his gestures, his behaviours, his aptitudes, his achievements" (Foucault, 1977, p. 304). Patients followed instructions from doctors as they were viewed as a trusted profession that knew what was normal (Kendal & Diug, 2017). Medical doctors have a respected and trusted image within the community (Kendal & Diug, 2017). In a survey, Kendal and Diug (2017) demonstrated that doctors were the most trusted profession, with 89% of the public trusting them. The researchers noted that a trusted spokesperson, such as the doctors, can effectively persuade audience attitudes, opinions, and eventually create behaviour change (Kendal & Diug, 2017). Therefore, bed rest or the conversations around mobilising cardiac patients are examples of discourses that were noted with fragility.

Figure 4.

Major problems the practicing physician faced in his efforts to rehabilitate individuals with cardiovascular disease

TABLE I. MAJOR PROBLEMS FACED BY THE PRACTICING PHYSICIAN IN HIS EFFORTS TO REHABILITATE INDIVIDUALS WITH CARDIOVASCULAR DISEASE

PROBLEM	NUMBER OF CARDIOLOGISTS LISTING PROBLEMS, ACCORDING TO DEGREE OF IMPORTANCE		
	FIRST	SECOND	THIRD
Elimination of fear on the part of the patient and his family	17	6	
Iatrogenic overrestriction by the patient's family physician	5	5	
Difficulty with compensation laws and attitude of industry toward hiring cardiac patients	3	5	8
Medical problems (actual treatment of patient)	4	1	2
Keeping patients restricted within the limits of their physical capacity	2		
Personal economic problems of the patient	1	3	2
Inaccuracy of previous diagnosis	2		

Adapted from Williams et al., (1958), p. 108

Neu (1958) highlighted that physician's overprotection of patients by physicians occurred for various reasons. Firstly, physicians were fearful of being blamed for the patient's death, which could discredit their professional standing (Neu, 1958). This would negatively impact the physician's sovereign power in society. Physicians worried that if they lost a patient during the bed rest, no one would be held accountable; however, if a patient was lost during chair exercises or mobility, the physician might be blamed (Levine, 1951; Levine, 1960; Neu, 1958). Therefore, physicians' anxiety stemming from CVD's unpredictability and 'staying safe' with bed rest could be viewed as detrimental to patients rehabilitation (Levine, 1951; Levine, 1960; Neu, 1958). Neu (1958), further adds that occasional catastrophes could not always be avoided in CVD; however, physicians' anxiety should not limit patients recovery (Neu, 1958). Conversely, it could be that physicians potentially empathised with the patients and did not want them to suffer at the physician's hands.

Secondly, there could be personal benefits in protecting physicians' financial interests as traditional power was what was seen, shown, or manifested. In this case, physicians held the sovereign power to dictate their patients treatment plans (Lawrence, 2009). Lastly, physicians might be attempting their favourite method of therapy (Neu, 1958). It could be that the individual physicians were still getting

comfortable with returning cardiac patients to work and needed the courage to do so (Hochhauser, 1951). This demonstrates the shift from sovereign power to Foucault's concept of disciplinary power, and I explore this in the development of WCU's section.

I now consider the different CR definitions used by cardiologists and general practitioners to help the reader understand the discourses around the fragile patient and return to work.

Cardiac Rehabilitation Definitions

"Two examples of excellent definitions reflecting the opinions of most of the group were given by Dr Roy W. Scott, of Cleveland and Dr Clarence E. de la Chapelle, of New York. Dr Scott: "A rehabilitated cardiac patient is one who, within the physical limitation of his disease, has been psychologically oriented to accept his limitations, and who has been returned to a productive and gainful status in his community within these limitations, without fear or anxiety, and with a sense of usefulness in his own eyes and in those of his associates." Dr de la Chapelle: "Rehabilitation, as applied to patients with cardiovascular disease, to me means the art and science of restoring a person to that level of physical and mental activity which is compatible with the functional capacity of his heart." (Williams et al., 1958, p. 107).

GP's definition - "Rehabilitation is a positive action, the aim of which is to get the patient (and his relatives) in a healthy optimistic state of mind, and his body in as good functioning capacity as is possible, so that the patient may happily return to society as a producing, independent, creative member" (Williams, 1957, p. 792).

Foucault asserted that discourses are governed by analysable rules that govern the formation and potential transformation of subjects, objects, and concepts (Foucault, 1972a). These rules constitute systems of thought that determining what could be said by whom, the different positions from which subjects could speak, or present their viewpoints, interests, stakes, and institutional domains (Foucault, 1972a). Therefore,

the definitions above can be viewed as a strategy where a professional group such as doctors and cardiologists are establishing goals and disciplining CR patients. This kind of speech and discursive formation by the specialists' privileges the medical input and certain health professionals' involvement in CR. The question then is to think about what makes statements like these products for other subject positions such as nurses, allied health, patients, families. And, who gets to participate in the CR programme?

"Productive and gainful status" is associated with the importance of returning to work and contributing to society (Williams et al., 1958, p. 107). Due to the damage and losses from the WW2 and the economic expansion, there was an economic boom where everyone who could work or be 'restored' was encouraged to return to work (Eichengreen, 2015; Hilpert, 2015). Crowgey (1959) writes that rehabilitation and returning to work is essential as people with CVD might not be simply invalidated by their condition, which was quite surprising at the time. Health professionals, patients, and society were becoming tolerant and realising that activity after an MI could be seen as safe for the first time in history (Crowgey, 1959; Hellerstein, 1959).

Prior to patients attending vocational rehabilitation or WCU's, doctors and medical professionals were fearful of prescribing any exercise and limited mobility for the patients as they (doctors) were too fearful (Hellerstein, 1959; Kahn, 1958; Williams et al., 1958). Here, doctors and specialists seemed to be pressured from the society and the patients to gain a producing, independent, and creative community member and were therefore gradually becoming tolerant to the ideas of mobility and rehabilitation (Hellerstein, 1959; Kahn, 1958; Williams et al., 1958).

Rehabilitating patients indicates a disruption in treating cardiac patients as fragile by the health professionals and the community. Rehabilitation was seen as a 'positive' action by physicians and aimed to get the patient (and his relatives) in a "healthy, optimistic state of mind" (Williams, 1957, p. 792). I believe this is a very psychologically influenced definition, ensuring patients are happy, optimistic, and creative. Alternatively, it might suggest that the patient who had experienced MI or their families are not in a healthy, optimistic state of mind. Several authors have documented psychological effects from MI (Hellerstein, 1957; Vernon, 1959).

In a study at Cleveland WCU, 46% of the patients experienced fear, anxiety, and tension (Hellerstein, 1957). Similarly, psychological effects were recorded in 26 out of 30 patients studied at North Carolina Memorial Hospital (Vernon, 1959). Moreover, even in the most stable patient, anxiety and depression can prevail with CVD's onset (Hellerstein, 1957). Vernon (1958) highlighted that illness is often equated to failure, making it harder for cardiac patients to adjust post-cardiac events (Vernon, 1958). Combining the results from these studies and the definitions above, one can see the emphasis placed on the psychological effects of patients with cardiac disease.

In the definition above, it also appears that CR did not empower the patient or their families post-cardiac event, whereas physicians and GP's still hold power to rehabilitate patients. Therefore, patients were usually in the subservient position, and physicians could dictate the treatment protocols. Katz (1958) highlights that physicians are responsible for ensuring that patients receive proper medical therapy, handling social and emotional problems, advice regarding daily living, and appraisal and guidance regarding employment. Furthermore, physicians who think rehabilitation is somebody else's role disregard the beliefs of good medical practice (Katz, 1958). An example of this is described in the discussions around CVD, diet, and stress factors below.

Figure 5.

Good to be thin article in the Evening Post newspaper

GOOD TO BE THIN

The underweight individual apparently has a better chance to live longer than the so-called normal or ideal weight person, and evidence is accumulating that the popular weight standards for the best health are apparently too high, the New York Academy of Medicine was told by Dr. Herman O. Mosenthal, of New York, in the Hermann Michael Biggs Memorial Lecture. Dr. Mosenthal spoke on the present-day problems of diabetes treatment. The rising mortality rate in diabetes, cancer, **cardiac**, arterial and renal diseases, Dr. Mosenthal added, is associated, according to statistical evidence, with overweight, which in turn is increasing as a result of faulty habits of diet, lack of **exercise**, and sedentary habits. Every degenerative disease gives evidence that obesity has a very adverse influence on the life of human beings. Statistics show, Dr.

Good to be thin article in the Evening Post newspaper adapted from "The underweight individual" (1993).

According to Crowgey (1959), it was believed that social problems such as overeating and overworking were potentially connected with cardiac disease ("The underweight individual", 1933; Crowgey, 1959). As noted, in Figure 5 above, doctors from New York medical academy discussed the 'popular weight standards for the best health' and linked being overweight with cardiac disease ("The underweight individual", 1933). Physicians were challenged by the "enormous heritage of information, rapidly advancing knowledge" (p. 425) and having to take the responsibility of comprehensive care for cardiac patients (Hellerstein, 1959).

Physicians played an essential role in governing and disciplining cardiac patients, who were seen as fragile and were needed to create a functioning economy and society (Crowgey, 1959; Hellerstein, 1959; Williams, 1957). Physicians emphasized the activity, diet, medications, rehabilitation, and return to work to manage cardiac patients with the advancements in medical knowledge about CVD (Crowgey, 1959; Hellerstein, 1959). Overall, these discussions around diet and lifestyle factors further support the idea that physicians occupy a position of great importance and hold sovereign power to advise patients who are viewed as being 'fragile' after having MI.

Now that I have described bed rest and cardiac disease, rehabilitation, and its' definitions that aid the reader's understanding of a fragile patient. I attend to the discourses of WW2 and the developments in medicine affecting the management and treatment of a cardiac patient.

WW2: Fragile Soldiers And Patients'

"If any good can be said to come of war, then the Second War must go on record as assisting and accelerating one of the greatest blessings that the 20th Century has conferred on Man – the huge advances in medical knowledge and surgical techniques. War, by producing so many and such appalling casualties, and by creating such widespread conditions in which disease can flourish, confronted the medical profession with an enormous challenge – and the doctors of the world rose to the challenge of the last war magnificently." Brian J Ford. (Harrison, 2015, p. 19).

I will now consider how the developments from WW2 affected the medical profession and helped in disciplining patients affected by CVD. As surmised by Brian Ford in Harrison (2015), World war one (WW1) and two can be seen as a time of considerable advances in medical history. A proportion of this was a direct response to modern weaponry developed between 1939-1945 (Hampton, 2017b). Heavy artillery, barrage shelling, long-range cannons, and machine guns caused unprecedented devastation (Hampton, 2017b). Moreover, the vast nature of both wars forced medical professionals to be involved in huge numbers, including doctors, dentists, nurses, and physical therapists (Toman, 2007). While, WW1 taught the medical profession about the importance of ambulance, antiseptics, and anaesthesia, the elements of medicine taken for granted today, WW2 saw advancements in antibiotics and treatment of severely wounded soldiers from the war (Hampton, 2017b).

It is crucial to consider the connection between post WW2 soldiers and heart disease. Both situations resulted in men usually being injured or disabled from their societal work and activities for a prolonged period, thereby making them 'fragile'

(Toman, 2007). Hence, both groups of men were problematised. Rehabilitation of soldiers and people returning from war was a governmental strategy and was deemed necessary for society to be functional (Hampton, 2017b). After all, men and women involved in the war were not professional soldiers and were primarily citizens of their respective nations and had an expectation of returning to 'civil life' (Fadyl, 2013a). Both the war and CVD made men fragile and affected society in a mass way. These men were mentally absent and "psychologically damaged by experiences at the front and/or involvement in National Socialist crimes" (Kleinau & Schmid, 2019, p. 245). Kleinau & Schmid (2019) noted that soldiers suffering from 'shell shock' or 'combat fatigue' from WW1 and WW2 broke under stress and strains that would not have affected the 'ordinary' man to the same extent.

Cooper (2018) emphasized that CVD was seen as a 'mass disease', on a similar scale to smallpox or tuberculosis and identified it as a social phenomenon of similar characteristics. Mass disease meant that society would be out of order, and this could lead to significant social disruption, especially after substantial unsettled losses from the world wars (Cooper, 2018). Similarly, I believe, men returning from WW1 and WW2 affected by CVD back to a functional society can be linked with the notion of fragility. Therefore, during the mass rehabilitation of society and disciplining of returned soldiers and patients with CVD allowed medical doctors to build their respect and status in society with the new 'knowledge' and advancements in medicine (Fadyl, 2013a).

Progressions in medicine and the WW1 and WW2 highlight two critical discourses relating to the re-establishment of wounded men and fragile cardiac soldiers returning to the useful citizenry. Firstly, there is an explicit link between the returned fragile soldiers, employment, and recovery of the nation from WW2. Skilled and permanent jobs with the required education and training were encouraged. Secondly, there was a growing need to rehabilitate of fragile cardiac patients into useful jobs and citizenry (Crowgey, 1959; Hellerstein, 1959; Williams, 1957).

In Foucauldian terms, the idea of fragile soldiers and cardiac patients reintegrating into society and the workforce can be understood by the ideas in his book (*The Discipline And Punish*) (Foucault, 1977a). The government needed the fragile

patients or returned soldiers to return to work and contribute to the economic expansion post-WW2. This shift from fragility and treating those people as fragile to enabling them to work can be compared with the penal system and the creation of docile bodies. In this situation, the government, society, and health professionals were all part of a system where vocational rehabilitation or WCU is a new form of social control. These disciplinary apparatuses existed side by side in the space of the national and social agents. The imposition of power here creates new behaviour, new actions, and new techniques, which eventually leads to new breeds of people (Foucault, 1977a). Therefore, power here is not merely power per se in its conventional sense, but rather it is a power that encourages obedience and creates docile bodies (Foucault, 1977a). I elaborate on this in the establishment of the WCU section.

Cardiac Patients And The Emerging Issue Of Disability: Vocational Rehabilitation

Vocational rehabilitation can be seen as a practice of governmentality. Foucault defines governmentality as the 'conduct of conduct' and, as a term, ranges from 'governing the self' to 'governing others' (Li, 2007). Here, the government, such as a WCU, attempts to shape cardiac patients conduct by calculated means. Patients affected with CVD were initially advised by physicians to do only as much to enable them to stay alive (Crowgey, 1959). Due to the increased incidence of patients with cardiac disease with sedentary occupations, the pendulum swung in the opposite direction, and patients were instructed to exercise to tolerance (Crowgey, 1959). These fragile soldiers and cardiac patients cost the nation billions of dollars, substantial social readjustment, and economic problems (Crowgey, 1959; Waller, 1944). The concern here was the wellbeing of the population at large. Therefore, the purpose of WCU could be seen to secure the "welfare of the population, the improvement of its condition, the increase of its wealth, longevity, health, et cetera" (Li, 2007, p. 275).

The social and economic effects of CVD are still prevalent and affect society today. In South Africa, approximately 25% of South African healthcare expenditure is devoted to CVD's direct treatment (Pestana et al., 1996). In 2006, the United States spent an estimated \$403.1 billion, directly and indirectly, treating CVD (Thom et al., 2006). From the limited available research, it is thought that obesity-related diseases account for two to eight percent of all healthcare expenditures in developed countries

(Swinburn et al., 1997). Gaziano (2005) suggests that this is compounded by the fact that a significant proportion of CVD burden occurs earlier in adults of working age in developing countries (Gaziano, 2005). This leads to an enormous impact on a developing country's economic viability (Gaziano, 2005). Therefore, rehabilitating patients and encouraging them to return to work is a strategy to enable patients to feel less 'fragile' and more 'useful'.

In governmentality, power operates at a distance, and people are not always aware of how or why their conduct is being conducted (Li, 2007). President Roosevelt made a statement to the Secretary of War saying, that he was "deeply concerned over the physical and emotional condition of disabled men returning from the war" and that the "ultimate ought to be done for them" (Jarvis, 2010, p. 97-98). Jarvis (2010) commented that governments worldwide wanted to rehabilitate returning soldiers and ensure they had useful jobs to restore the nation (Jarvis, 2010). A letter on December 4, 1944, read "to return them to useful citizens – useful not alone to themselves but to the community" (Jarvis, 2010, p. 98). Texts around the re-establishment of returned soldiers to civilian life illustrated the importance of employment for the country's rehabilitation and called on the citizens to achieve this (Fadyl, 2013a). This is similar to the need for fragile cardiac patients returning to useful jobs to build the economy. Being useful in this context meant that returned soldiers had to work to earn money, support the economy and increase the production of their respective countries (Fadyl, 2013a; Jarvis, 2010). Primarily, this ignores the 'useful' nature of their contribution at home or family responsibilities, and the focus is on establishing the country, economy, and society post destruction from the WW2.

According to Foucault, the idea of discipline reconstructs power as it manufactures a 'new' behaviour (Mingers & Wilcocks, 2004). The new behaviour allows patients and soldiers to be re-integrated into society, so they are not seen as fragile. The evening post newspaper in New Zealand also published that "our sacred duty to do everything possible within the resources of the country in an efficient and useful way to show that we have discharged our debt" (A sacred duty, 1943, p. 3). Here, the NZ government pledged for returning, fragile, and wounded men to all kinds of work required to rebuild society ("A sacred duty", 1943). Reintegration of returned soldiers

was essential to ensure that their minds were alert and interested, leaving less time for morbid reflection (Davis, 2019). Persuasion might be applied in the practice of governmentality where the government sets conditions, “arranging things so that people, following only their own self-interest will do as they ought” (Scott, 1995, pp. 202-203). For example, when many veterans received the furniture and housing loans, low-interest business, and preferred allotment of statehouses (Davis, 2019; Derby, 2012). Trade training in the building industry was encouraged, and those willing to study for career training were also qualified for fee and resource allowances (Derby, 2012).

Returning to work is an important theme noted in the texts as returned servicemen and soldiers were considered to be fragile. Foucault explains that the “panoptic schema, without disappearing as such or losing any of its properties, was destined to spread throughout the social body. Its vocation was to become a generalised function” (Foucault, 1977a, p. 207). Trade training schools, government, and health professional involvement could mean that the soldiers and cardiac patients were under surveillance from various people under the panoptic scheme. Right from the trade training schools to people working at the banks providing loans created an automatic functioning of power and surveillance (Ball & Webster, 2019). Although surveillance is a popular idea in a panopticon where it is affixed to prison walls (Kietzmann & Angell, 2010; McKinlay & Starkey, 1998). Surveillance here can be seen from the government, bankers, trade schools, and in the most ordinary affairs of everyday things (Ball & Webster, 2019).

The ultimate result is that we now live in the panoptic machine. “We are neither in the amphitheatre, nor on the stage, but in the panoptic machine, invested by its’ effects of power, which we bring to ourselves since we are part of its mechanism” (Foucault, 1977a, p. 217). For example, a banker responsible for providing loans is working in the complex web of power, where they are also responsible for creating a ‘useful’ individual. The fact that power can be viewed in many situations shows that power is constantly located and discreet. Investing in these soldiers was found to be a positive investment for the country. Similar to the idea of wounded soldiers is the concept of patients affected by CVD who cost the nation. Therefore, it is right to assume that investing in WCU’s was beneficial for the country’s economy and social system.

Returning Fragile Cardiac Patients To Work – Becoming ‘Useful’

“The enormous proportions of the problem of heart disease with its effect on the socio-economic structure of family, community, and government is realised by all whose work lies in the social professions. The facts are well known – that in our country, heart disease is the leading cause of death. That 5 percent of our working population are afflicted, that 400,000 people with coronary artery disease are being added to the labour market yearly, that it exacts its heaviest toll from those who carry the heaviest responsibility, persons over forty, and that 653,000 man-years are lost each year as a result of cardiovascular disease” (Becker, 1960, p. 4).

According to multiple texts, allowing patients to return to work and contribute in the economic and industrial society was a discourse well noted since the 1940s (“A sacred duty”, 1943; Eichengreen, 2015; Hellerstein, 1959; Hilpert, 2015; Petrie et al., 1996; Rosner, 1955a). As mentioned above, CVD's socio-economic effects on families, communities, and government are noticeable and affect the community. CVD concerns the working population group as people affected with CVD are seen as being ‘fragile’. The fact that 5% of the working population group is afflicted also means that patients can survive cardiac disease now compared to the 1940s when there were limited medications and treatment options (Becker, 1960). Therefore, a loss of 653,000 man-years each year has a heavy toll on the community and work-force (Becker, 1960).

Historically, the 1930s was a time of economic recession, and unemployment rates were high. The economy was struggling, and banks failed to meet the demands and excess of loans (Eichengreen, 2015). Approximately 15 million people were unemployed in 1932, which was more than 20% of the US population at the time (Eichengreen, 2015). This was the time Roosevelt won elections, and in 1935 passed the social security act, which provided Americans with unemployment, disability, and pensions for old age (Hilpert, 2015). Therefore, more people were needed that were healthy and working to contribute and build up the economy (Eichengreen, 2015; Hilpert, 2015). Hence, different authors and researchers have mentioned CVD,

rehabilitation, and employment at various times (Clark, 1952, 1960; Cooper, 2018; Hegewald et al., 2019; Hochhauser, 1951; Petrie et al., 1996). These effects on the community and workforce were probably why CVD statistics were increasingly mentioned in the literature.

Vocational rehabilitation or WCU can be viewed as 'technology of security' where there is regulatory control of the population. Foucault was interested in the broader ideas of technology, such as activities, modes of organisation, and knowledge (Behrent, 2013; Hope, 2014a). As a term, technology can be defined as "the ways in which modern social and political systems control, supervise and manipulate populations as well as individuals" (Hope, 2015, p. 541). WCU has allowed the government and the state to prevent and compensate for dangers that resulted from the existence of cardiac disease and unemployment (Lemke, 2009). I now explore economic expansion and the development of WCU's and CR as a strategy to employ cardiac patients.

Economic Expansion And The Emergence Of Vocational Rehabilitation/Wcus

Foucault mentions that:

"we must distinguish the relationships of power as strategic games between liberties – strategic games that result in the fact that some people try to determine the conduct of others – and the states of domination, what are what we ordinarily call power. And, between the two, between the games of power and the states of domination, you have governmental technologies" (Foucault, 1988a, p. 19).

Power as strategic games here could take varying forms, such as the manipulation and change of ideas around the rehabilitation of cardiac patients. Several authors report that cardiologists, physicians, and medical educators were starting to recognise that treatment does not stop by merely making the patients medically well but it was seen crucial for patients to be well and useful in the society too (Crowgey, 1959; Hellerstein, 1959; Katz, 1958). The responsibility of general medicine and the growing needs of rehabilitation were also noted in the article around the American medical schools (Ham, 1958).

Medical students were starting to play a significant role in managing patients problems and developing effective rehabilitation plans for long term patients in the United States (US) (Hellerstein, 1959). The new curriculum at Western Reserve University, Ohio, was one of the first few universities that developed a programme focussing on a holistic approach towards healthcare (Hellerstein, 1959). Their programme involved psychological, somatic, social, and vocational needs required to treat the whole person and the MI (Hellerstein, 1959). This is one way of exercising power to “determine the conduct of others” such as patients with cardiac disease (Foucault, 1988a, p. 19).

Concurrent with the health professionals awakening to the newly formed ideas of CR, came the era of industrial or economic expansion (Kahn, 1958). Machine age was a time of limitless production, economic boom, and unrestrained competition (Eichengreen, 2015; Hilpert, 2015). People were needed in the workforce and encouraged to learn the specialized skills and techniques required to contribute to the economy (Eichengreen, 2015; Hilpert, 2015). Loss of a person as a result of CVD or injury resulted in the loss of acquired skills and meant that individuals were deprived of their earning and for maintaining their mental and physical wellbeing (Kahn, 1958). Alternatively, Kahn (1958) suggested that CVD and the resulting disability also deprived the society as each worker was a necessity and depended on each other. Illness or disability meant that the industry would suffer due to the lack of individuals' talents and skills more than the breakdown of a machine (Kahn, 1958).

Within these discourses, it was a concern that society and the country would be negatively affected if too many people became unwell with cardiac disease or did not recover from the WW2 (Eichengreen, 2015; Kahn, 1958). Patients were problematised and were seen as a ‘problem’ within the society. Therefore, CR or WCU was a strategy employed by the state to ensure patients were being ‘useful’ and felt able to return to work. It was seen that the machine could be easily replaced, whereas a skilled workingman could not (Kahn, 1958). Thus, rehabilitation was aimed to overcome the loss of specialized skillset of individuals from an injury or disease to attenuate the effects of the causative condition (Kahn, 1958).

Organisations such as the American Heart Association, state affiliates, and federal-state health departments were stimulating the establishment of WCU's or vocational rehabilitation clinics for cardiac patients (Rosner, 1955a). Rosner (1955) explained that WCU's allowed patients to return to life. WCU's were built on the discourse of disability and fragility, where patients will not be seen as permanently disabled or fragile following a cardiac event (Hellerstein, 1959; Rosner, 1955a). Furthermore, Kahn (1958) suggested that these WCU's would not only minimise unemployment and enforced idleness due to the CVD, but it will also maintain patients self-esteem and morale during the rehabilitation (Kahn, 1958). Therefore, power relations and exercise of power between the physician and the patient or the state and the patient were not necessarily a bad thing. In Foucauldian terms, returning to work and being 'useful' results in patients empowerment and responsabilisation.

Foucault's ideas around disciplinary power also help explain the development of WCU's. For example, CU provided a strategy of power and knowledge that allowed for control of the fragile cardiac patients. Initially, disciplinary power was exemplified by Foucault in Panopticon, a prison where individuals were controlled and supervised adequately (Kietzmann & Angell, 2010). This prison develops from the idea of discipline. Its' aims are not just to deprive individuals of their freedom but also to reform it (Kietzmann & Angell, 2010). Therefore, while one may argue that punishment only existed in prison, those ideas are equally relevant to the situation with fragility. Just as the people in prison were disciplined, the fragile soldiers and patients are disciplined by health professionals, government, university, and society. As mentioned, even the medical students were provided with new knowledge about the growing needs of rehabilitation. I believe WCU is an excellent example of an institution modelled around the panopticon. Patients here are disciplined and controlled with a vocational rehabilitation programme. Patients are also under the observation and gaze of various health professionals. Therefore, the ideas around prison, punishment, and discipline are present and penetrate our society in different ways.

In the next section, I examine how cardiac patients struggle for employment and the role of the Workmen Compensation Act in rehabilitating patients.

Workmen's Compensation Act, Patients, And Employers – A Response To Fragility

One of the barriers for cardiac patients to gain employment in the United States of America (USA) was the Workmen's Compensation Act (Rosner, 1955a). Similarly, this act was also present in 40 other countries around the world and was known as the Workers' Compensation Act 1956 in NZ (New Zealand Legal Information Institute, 1956). This act offered compensation to injured workers based on the levy paid by their independent employers (Nicholls, 2013).

"It is recognised that in certain areas of the country the problem of obtaining employment for the cardiac is becoming more acute because decisions under the Workmen's Compensation Law set the precedent that even usual and ordinary work exertion produces aggravation of heart disease and makes for unwarranted compensation claims" (Rosner, 1955, p. 15).

This suggests that employers were sceptical and lacked courage in employing cardiac patients as they were unaware of the amount of stress, burden, or pressure these cardiac patients could undertake while at work.

Discourses around fragility and cardiac disease were slowly challenged, and returning to work, and activity was a new concept for doctors and employers (Crowgey, 1959; Hellerstein, 1959; Kahn, 1958). Therefore, as per the structure, even cardiologists or employers probably became unaware aids in the establishment of a more comprehensive system of normalisation. According to Foucault, this is an example of moulding of physicians subjectivity through the control of externally compelled norms (Best & Kellner, 1991). Consequently, even health professionals or employers are not excluded in the disciplinary techniques. Even health professionals are included in the control and observation processes either directly or indirectly to ensure patients return to useful work. The fact that cardiac patients are not permanently incapacitated was a new idea for physicians and patients, and therefore both of them needed courage to return to work and their typical day to day activities (Hellerstein, 1959; Williams et al., 1958). Even today, the term 'cardiac invalidism' exists in healthcare as some patients

might develop physical and psychological disabilities despite an adequate physical recovery from MI (Logan, 1986).

“Because of fear of exacerbation of the disease, many doctors and families were discouraging the idea of work for the patient. A patient, who had been told that he could work, found resistance on the part of employers.” (Hochhauser, 1951, p. 743).

Patients being cleared by physicians to work still found resistance from employers (Hochhauser, 1951). Employers were unaware and uncertain of the working conditions that cardiac patients could be in and what they were able or unable to do in their jobs (Hochhauser, 1951; Rosner, 1955a). This resulted in cardiac patients struggling to find suitable work and potentially made them feel ‘fragile’ or disabled, hence also hindered their rehabilitation post-cardiac event (Rosner, 1955a). Physicians and cardiologists started to believe that returning to work would benefit patients by allowing them to recognise their potential industrial capabilities and eventually commence profitable employment (Hellerstein, 1959). However, it would be obvious to assume that most industrial or vocational rehabilitation programmes were concerned with patients obtaining employment.

Moreover, before any conclusions could be made about the employment and the problem of the Workmen’s Compensation Act, carefully conducted studies were seen as necessary (Rosner, 1955a). These studies could be seen to validate physicians’ and governments’ belief about returning to work. Studies were done in America, which compared cardiac workers with non-handicapped workers in similar jobs (Rosner, 1955a). In particular, one of the surveys done by the U.S Labour Departments reported that disabling injury frequency rates for cardiac patients were only slightly higher when compared with the non-handicapped (Rosner, 1955a). This is another indication that cardiac patients were considered disabled or fragile or handicapped. However, these studies potentially played a positive role in encouraging big companies such as Lockheed, General Electric, Kodak, and Ford Motor to accept ‘handicapped’ workers (Rosner, 1955a). Advertisements like these (Figure 6) were published in the newspapers and media to encourage cardiac patients who were seen as ‘handicapped’ or fragile to apply for jobs (Rosner, 1955a).

Figure 6.

Advertisements for returned soldiers and men with disability

STEVINSON AUTO & ELECTRICAL SCHOOL
31st Year

21 years experience counseling—training—placing—all types of handicapped

•
CLOSE SUPERVISION GIVEN AT ALL TIMES
•

AUTO BODY AND FENDER REPAIRING
AUTO MECHANICS
SPRAY PAINTING
REFRIGERATION AND ELECTRICAL APPLIANCE REPAIRING
COMMERCIAL REFRIGERATION AND AIR CONDITIONING
ELECTRIC AND ACETYLENE WELDING

Taught by practical experience — personal attention

C. H. STEVINSON, President
2008 MAIN STREET Telephone Grand 1827 KANSAS CITY, MO.

opportunities continue for

ENGINEERING ASSOCIATES

or technicians

... ideal work for many handicapped persons

•

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**Contact nearest Penn State Center for Catalog
Placement Service Available**

Handicapped Drivers!

DRIVE YOUR CAR

SAFELY — EASILY with new Mechanical GAS & BRAKE

HAND CONTROLS \$39 50
with copy of this ad Plus Postage

Kit Complete Can Be Assembled in 2 Hours

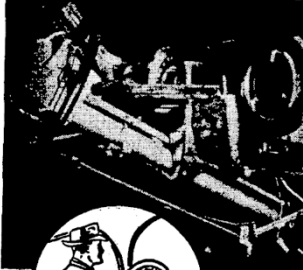
Here's the greatest development in handicapped driver controls. One lever does both operations —works both brake and gas—makes your car absolutely fool-proof. The slightest touch of your fingers now operates your car! Thirty years' experience in building automatic clutch and brake controls have gone into this new development.

BRAKE CENTER C

3716 QUEENS BLVD.
LONG ISLAND CITY
NEW YORK

CALL or WRITE for FREE PAMPHLET —be convinced!

Long Island's largest brake specialists



gives fool-proof control at all times

Phone STiltwell 4-6417

Adapted from Rosner (1955)

The visual signs and communication used above address the discourses around fragility and return to work. Publicity in the newspapers, economic and social pressures, and other societal mediums accentuated the fear of death in CVD patients, making patients believe they are 'fragile' or disabled and 'handicapped' (Rosner, 1955a). These advertisements act as strategies and disciplinary technologies employed by medical professionals as part of the rehabilitation to make patients feel less fragile. The advertisements in Figure 6 illustrate that there were various job options available for cardiac patients wanting to return to employment. It also seems like there were no restrictions on who could advertise for education and jobs for cardiac patients. Cardiac

patients were encouraged to gain training, such as diplomas or degrees for jobs that required further education (Rosner, 1955a).

The Engineering Associates advertisement shown above highlights the discourses where there was a desperate need of the government and society for people to return to work and be useful citizenry, possibly a result of the post-war economic boom and steady economic growth (Eichengreen, 2015; Hilpert, 2015). It was believed that:

"The patient with heart disease, with good compensation, does well in job assignments which do not require physical effort sufficient to aggravate the condition...with proper medical placement supervision, they can continue in active service for many years without shortening or jeopardizing life" (Association of Casualty and Surety Companies) (Rosner, 1955, p. 17).

Work was encouraged in society to build society (Eichengreen, 2015; Hilpert, 2015). This might have been the start of CR under the title of WCU with physicians leading the programme. Next, I explore the roles of other health professionals and who was involved in WCU and why.

Fragile Patient And The Role Of Physicians

Physicians started providing guidance and advice regarding returning to work for cardiac patients who were already employed and had a history of heart disease (Goldwater, 1956). Katz (1958) articulated that most, WCU or vocational rehabilitation was led by a cardiologist, social worker, and vocational counsellor (Katz, 1958). This article, in particular, is from the panel discussion on the rehabilitation of the cardiac patient that was conducted in conjunction with the Scientific Session on Clinical Cardiology at Music Hall Auditorium, Cincinnati, Ohio, on October 29, 1956 (Katz, 1958). The fact that these discussions were between physicians and cardiologists suggests that they decided the MDT and physicians could choose who could potentially be involved in CR.

Weedon's (1987) interpretation of Foucault's concept of power helps understand the hierarchy in healthcare. For example, power is: "a dynamic control of and lack of control between discourses and the subjects, constituted by discourses, who are their agents. Power is exercised within discourses in how they constitute and govern individual subjects" (Weedon, 1987, p. 113). Foucault focusses on how particular discourses shape and create meaning systems that gain the status and currency of 'truth' (Weedon, 1997). Moreover, how these discourses dominate our thinking and definition of how we organise ourselves as individuals and our social world while also marginalising, challenging and contesting other discourses (Pitsoe & Letseka, 2013, p. 792; Weedon, 1997).

Vocational rehabilitation or WCU in the form of CR was a dominant discourse exercised by the government, state, industry, and physicians. This is followed up by how disciplinary power works within the CR setting to help understand physicians' influence. Applying this to CR, a physician could be considered as a 'boss' or 'top of the food chain' in the pyramidal organisation. Still, the power is shared and distributed between shareholders and other health professionals involved, such as social workers and vocational counsellor (McArthur, 2005). Also, it may be possible that occasionally, these power dynamics and relationships receive more attention than the role of treating or providing CR or healthcare services to patients (Cramer et al., 2018).

Fragile Patient: Involvement Of 'Psy' Discipline

There is a need for vocational evaluation and guidance. Proper rehabilitation rests upon three elements:

"(1) the sympathetic, psychosomatically oriented, and the scientifically trained cardiologist; (2) the kindly psychiatrically trained medical social worker, and (3) operating as a team, with the physician as their leader, in a society that recognises that work is as much the fashion as birth, death..." (Katz, 1958, p. 114).

A WCU, which was part of a general cardiac unit, was established to ensure 'prescriptions for work' were dispensed, and a team of health professionals decided on

the patients outcome (Goldwater, 1956). Goldwater (1956) mentions that physicians were held responsible for ensuring that cardiac patients returned to work. However, even if the physician possessed all the fundamental skills to aid in rehabilitating the cardiac patient, they often lacked the time required to perform this care (Goldwater, 1956). Therefore, as noted in the quote above, psychosomatically oriented and psychiatrically trained medical social workers were needed for patients rehabilitation. One of the reasons for the involvement of psychology was because shell shock was seen as a grey diagnostic area and often relied on the sympathetic diagnosis of the physician on duty (Rae, 2007).

Rae (2007) mentioned that psychology and psychiatry played a significant role and gained recognition in rehabilitation. Roy Winn from Australia had suffered an injury during the first world war and had a growing interest in shell shock victims (Rae, 2007). Dr. Winn felt compelled to leave medicine in 1931 after struggling to convince his medical colleagues to embrace the emerging discipline of psychology (Rae, 2007). Like Emil Kraepelin and David Oppenheim, other physicians were also starting to research psychiatry and psychology (Butler, 1943; Singer, 2003). The increase in shell shock casualties from the first and second world wars improved the management provided by medical professionals to mentally fragile and shell shocked soldiers. The improved management also provided health professionals with new insights, 'power' and knowledge in health and psychology (Rae, 2007; Singer, 2003).

There is also a heavy influence of 'psy' disciplines in the above text. The psy disciplines are fields of knowledge associated with the mind, mental life, and behaviour (McAvoy, 2014). They include psychology, psychoanalysis, psychotherapies, and psychiatry; however, they also extend to several applied areas such as developmental, occupational, and educational psychologies (Burman, 1994; Rose, 1985). Psychology and related disciplines help establish universal scientific truths, recognise and administer normative measures to create order, human experience, and behaviour (McAvoy, 2014). This could be applied to cardiac patients rehabilitation, where physicians probably believed that the inclusion of psy disciplines could encourage normative behaviour such as returning to work and returning to normal activities. Hellerstein (1959) also affirmed that the psychiatric effects stimulated by heart disease require skilled management

(Hellerstein, 1959). As noted, psychologists provided mental courage to patients in WCU's due to the ill effects on mental health post WW2. Before this, Hochhauser (1951) stressed that cardiac patients were seen as more fragile than patients with a fracture or even kidney disease. Cardiac patients were also compared to tuberculosis patients and their gradual return to work (Hochhauser, 1951).

Hochhauser (1951, p. 774) mentions, "With heart disease, as with tuberculosis, unemployment is not only an economic problem, but in indolence, we have the psychological and social factors that often result in recurrent or prolonged illness". This comparison could be a possible result of improved treatments and surgeries, resulting in increased survival rates; however, patients are still treated as disabled and fragile. Organisation and production of psy knowledge allow for a means to classify, measure, and eventually exert social control (McAvoy, 2014). This is evident in WCU's as involving professionals with psy disciplines allows for 'social control' by encouraging patients to return to useful societal jobs and duties (McAvoy, 2014).

The postmodern critique argues that the psy disciplines do not represent the knowledge and truths that pre-exists them; instead, they create the expertise they then employ to categorise and measure (Rose, 1985). That is, psy disciplines bring into existence and produce particular expert knowledge they aim to measure. This can generate politically expedient measures of normativity that can shape specific kinds of socially desirable individuals (McAvoy, 2014). Understanding the psy influence is relatable to the text above as 'psy disciplines' formed and involved in the team to shape cardiac patients into socially desirable individuals (McAvoy, 2014).

Sharing responsibility with the family doctor or personal physician was also seen emerging from the cardiologists working in the CR unit (Goldwater, 1956). However, Goldwater (1956) comments that there is seldom mention of sharing responsibility with the patient, and patients were almost seen as passive recipients of healthcare (Goldwater, 1956). The potential reasons why patients were not equally involved in healthcare decision making could be related to the power that the medical profession held, destruction from WW1 and WW2, and the eagerness of the government to build a functional social and working economy (Eichengreen, 2015). The discoveries and

knowledge in cardiology and power gained by physicians post WW1 and WW2 also contributed to this inequality in decision-making (Eichengreen, 2015). In contrast, it could be questioned that involving patients in care is a weird new phenomenon. Not only the patients, but there was also no mention of other health professionals such as nurses or PTs in the WCU's or conferences.

Concluding Summary

The analysis written in this chapter describes the significance and ideas around fragility and returning to work. I started by exploring bed rest and how bed rest is used as a treatment for fragile patients. This leads to the idea around cardiac disease being a new phenomenon and differences in CR definitions by various health professionals. It was interesting to see the strong emphasis on the psychological state of the patient post cardiac disease. Another link with fragility was the return to work and having a 'productive and gainful status'. Therefore, according to health professionals, there was a concern around mobilising and exercising patients post cardiac disease.

I sought to understand why cardiac disease and fragile patients became a discourse around the WW2. Hence, I explored fragility with returned soldiers and noticed a comparison between soldiers and cardiac patients. Both groups of men were seen to be fragile and psychologically affected by WW2. Both groups were unable to contribute to society, and more importantly, the growing economy. Hence, although cardiac disease and fragility have been there for a long time, economic expansion was one of the reasons that led to the development of WCU's.

Relating this to Foucault and his ideas in his book (*The Discipline and Punish*), I believe establishing WCU, educating medical students regarding rehabilitation, the Workmen Compensation Act, and involving health professionals are all disciplinary strategies to encourage fragile patients to work. In Foucauldian terms, discipline is a series of techniques that can control the body's operations (Dreyfus & Rabinow, 1983). In the case of fragility, I believe individuals were created out of mass control of bodies and movement. WCU's encouraged cardiac patients to exercise and provided vocational rehabilitation. These units serve to provide vocational training and rehabilitation

programmes to cardiac patients so they can be less fragile, continue to work, be useful, and contribute to society.

Foucault mentions that disciplinary power usually has three elements: hierarchal observation, normalising judgement, and examination (Dean, 2010). With cardiac patients, the hierarchal observation by the doctors and staff involved in WCU's played a crucial role in normalising return to work. Patients were observed during their exercises and rehabilitation. I also address the concepts of normalisation and discipline in the third analysis chapter. Lastly, this chapter explored which health professionals were involved and why. Overall, these processes and the developments in medicine allowed for the development of the new norm, returning to work, and being useful. In the next chapter, I look at analysing the texts focussing on the involvement of PTs in CR, WCU's in practice, and the gradual normalisation of cardiac disease and CR.

Chapter Five: CR- Professional Tensions And Useful Patient

In chapter four, my analysis highlighted the discursive formations of a fragile patient, including bed rest, WW2, returning to work, and WCU's as a form of CR. This chapter addresses the loss of fear about CVD patients being fragile intersecting with the fear of cardiovascular health. Besides, the developments in medicine and science, and the involvement of a trusted profession like physiotherapy help create a 'useful' patient. Therefore, in this chapter, I start by briefly describing what being useful means. From here, I sketch the situation of WCU's and CR and explore the power relationships between the health professionals involved and who were marginalised during this process. Physiotherapy was gradually being involved in the CR programmes. This chapter will also detail the discursive formation of CR programmes and the changes in physiotherapy training. I also write about the importance of professional attributes in creating the physiotherapy profession, biomechanical influence, and normalisation of exercise. These are some of the conditions that made it possible to shift a fragile patient to become a useful patient.

Being Useful And The WCU's

It is essential here to describe what being useful means as useful can be defined in various ways. Patients surviving cardiac disease were seen by the government to be a burden on the medical and social system, especially post WW2 (Groeden, 1971). Therefore, patients with CVD were required to go back to being useful in society and serving the economy. For this thesis, being useful in this sense means that patients serve the industry and business interests.

However, useful can also be viewed as a disciplinary category. As Rose (2002) mentions, that Foucault's work drew him repeatedly to medicine as medicine was probably the first positive knowledge that took the form of expertise (Rose, 2002). Here, the patient is not only to be known but also to be the "subject of calculated practices of reform and transformation, legitimated by codes of reason and in relation to secular objectives, sectors and activities in public in an attempt to encourage wellbeing" (Jones & Porter, 2001, p. 49).

CR, for instance, could not have happened if it was not for patients needing to be useful in society (Hellerstein, 1959; Kahn, 1958; Kline, 1951). Useful, then, could be seen as a way for the government to define patients that did not exist 50 years ago. Health professionals and medical sites such as hospitals were bound to the mutation of political thought into its modern governmental form (Jones & Porter, 2001). The political authorities in alliance with health experts aimed to manage various problematic activities (Jones & Porter, 2001) such as the fragility from CVD. Therefore, being useful becomes essential because it means patients can be rehabilitated and turned into docile bodies.

Groeden et al. (1971) also explained in their article that:

“The problem of the future of these relatively young and useful citizens, who survive the attack, forces itself upon the cardiologist and it has to be admitted that the striking recent advances in management have not always paralleled by improvements in aftercare” (p. 756).

Therefore, “early ambulation and progressive exercise programs to the cardiac patient” (Wright, 1974, p. 1259) were considered crucial by the cardiologists. Dr. Goldwater also iterated that doctors were somewhat enlightened about the idea that many cardiac patients can work, and they are usually better at it than idle (Goldwater, 1956). Therefore, towards the end of the 1960s, Hellerstein, a well-known cardiologist in Cleveland, USA, encouraged by the positive results of his inpatient CR programme, chose to integrate physical exercise into an outpatient CR programme post-hospital discharge (Certo, 1985). Certo’s (1985) findings from his research clearly showed that cardiac patients could benefit psychologically and physiologically from gradual progressive exercise without adverse effects on mortality and morbidity. Over the years, progressive supervised exercise for cardiac patients has taken on an essential role in the healthcare practice (Certo, 1985), indicating that patients can be disciplined and returned to being useful in their society.

Alternatively, Rose affirms that medicine has a dimension that one may term strategic (Rose, 2002). This includes particular ways medical activity such as CR has been

organised through social campaigns, reforming of medical institutions, and staffing of different health professionals. As mentioned in chapter four, educating medical students about CR, having workmen compensation laws, and encouraging people to contribute to the economy are all examples of governmental and political strategies in practice. An example of medico-politics in practice can be seen as the beginning of a WCU. The first WCU for cardiac patients was opened at Bellevue Hospital, New York, in 1941 (Clark, 1952). The development of this WCU was requested by the New York State Employment Service to the New York Heart Association for assistance in securing medical information that was essential for suitable work placements (Goldwater, 1956).

This unit was established by the physicians and gave them (physicians) a chance to afford research in vocational rehabilitation for cardiac patients (Goldwater, 1956). However, the direction for WCU came from the employment service rather than the heart foundation or association. This seems to highlight that health professionals (in particular, the cardiologists and physicians) were not instigators and rather servants/followers of what the state needed. Here, it is crucial to understand that returning patients to work and making them useful was not just a healthcare strategy but also a political and social strategy.

Employment and ensuring that patients were 'useful' has been an essential theme in this thesis. Establishing a WCU and organising conferences were aspects of disciplinary approaches taken by physicians to regulate their conduct in the professional society. Other strategies employed were reports and statistics being published in medical and trade journals (Goldwater, 1956). Dr David Gelfand from the Philadelphia WCU reported that most of the patients medically improved or remained unchanged while working (Katz, 1958). 55% of those patients were rheumatic heart disease patients, 76% comprised of hypertension, and 65% were CVD (Katz, 1958). Hellerstein & Ford (1957) also reported on follow up studies from cardiac patients and WCU's, finding that 70-75% of the cardiac patients have either improved or remained unchanged while working.

Furthermore, 60% of the initially unemployed patients during the first visit of WCU were now subsequently employed (Hellerstein, 1957). Moreover, although these

statistics alone prove very little, they add to the factual evidence of the established axiom that most cardiac patients can successfully return to work, be useful, and are employable. However, the question then would be to decide who would be involved in CR and why. I consider this question in the next section. I also explore the origins of CR in NZ and the importance of profession and physiotherapy. This is followed by the biomechanical discourse, its' role in allowing PT's to be a part of the CR practice and enabling patients to become useful.

CR – Responsibility And Involvement Of Various Health Professionals

Figure 7.

Note to the Editor by Mr Howell Wright (US Marine Corps Education Centre) in 1974

The Myocardial Infarction Rehabilitation Center

To the Editor.—The Heart Disease Advisory Committee's article, "Optimal Criteria for Care of Heart Disease Patients" (226:1340, 1973) disappointed me because within their hospital categories no mention was made of the long-term care of heart disease patients. Now is the time for more hospitals to go one step further and establish postmyocardial infarction exercise rehabilitation centers.

The value of early ambulation and progressive exercise programs to the cardiac patient is being more favorably documented each day. Publications on this topic, however, point to exercise environment controls that must be maintained if additional catastrophes are to be prevented. Where can a physician and his patient find this controlled environment? Possibly a YMCA, recreation center, or nearby university has a specialized adult fitness program. Unfortunately, these programs, when found, often lack experienced professional personnel and emergency equipment.

The addition of a physical educator to a hospital staff would complete the team concept of physician, patient, and physical educator. This team

could provide each community with its own rehabilitation center. Patient and referring physician alike could be more confident in the safety and success of the program.

In the future, possibly, the Heart Disease Advisory Committee can look at the ways and means by which hospitals can extend their services to this too rapidly growing population of cardiac patients.

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Adapted from Wright, 1974

Discussions around who will execute or be responsible for CR or WCU's has been one of the core components of this study. The text above (Figure 7.) was taken from a

1974 article in *The Journal of the American Medical Association*, one of the most renowned and oldest journals in medicine (Wright, 1974). Mr. Wright from the Education centre in US Marine Corps writes, “the value of early ambulation and progressive exercise programs to the cardiac patient and rehabilitation” (Wright, 1974, p. 1259). Following this comment, Mr. Wright expresses his concerns about the long-term care of a patient with cardiac disease, stating, “where can a physician and his patient find this controlled environment” (Wright, 1974, p. 1259). This poses a question that if CR is beneficial and implemented at the hospital or community, who is responsible for it and why?

Over the last 30 years, the health professionals involved in CR have changed, and the boundaries have been mapped or shared depending upon the rehabilitation facility (Mampuya, 2012; Mooney & Rhodes, 2018). Rose (2002) states that medicine is a site for the deployment of diverse forms of expertise. Hence, different types of knowledgeable persons who had perhaps made medicine their business or did business out of health and sickness were involved in the WCU’s and CR (Rose, 2002). For instance, a committee of medical consultants worked on the Rating of Physical Impairment of the American Medical Association (Clark, 1960). These consultants formulated a guide for evaluating impairments of the cardiovascular system (Clark, 1960). Although these consultants were not directly involved face-to-face with CR, they still played a subject position in the CR programmes.

On the one hand, Mr. Wright (1974) writes that “the addition of a physical educator to the hospital staff would complete the team concept of physician, patient and physical educator” (p. 1259). McClellan (1951), on the other hand, mentions that “Early passive movement two or three times a day by either the nurse or the physical therapist is considered of value in preventing this complication” (McClellan, 1951, p. 35). Furthermore, McClellan (1951) also adds, “The physician will specify the distance to be covered and the walk having the proper grades for his patient” (McClellan, 1951, p. 35). Groeden et al. (1971) compared which health professional can provide CR with orthopaedic and traumatic rehabilitation post-war provided by orthopaedic surgeons and rheumatologists. Just like physicians who directed what will happen during the recovery of soldiers post-war, they called physiotherapy and occupational therapy, a

form of 'curative therapy' (Hunter & Ross, 2014). Post-war physiotherapy offered at the hospitals and privately run convalescent homes was performed under the surveillance and approval of medical experts (Hunter & Ross, 2014).

These texts and quotes above address two crucial issues around boundary tensions. Firstly, that physicians wanted to share the CR space with other health professionals and were considering the addition of a 'physical educator' to their team. However, PT's would work under the physicians' surveillance, indicating the control and sovereign power held by physicians in the healthcare system. The fact that physicians were deciding who could be involved in the CR team suggests that the physicians felt they were responsible for patients CR. In an article of cardiologists' opinions about CR, one of the cardiologists asserted that the primary responsibility for the cardiac patient's rehabilitation should be held by the physician and not by those working in related fields (Williams et al., 1958). It seemed fairly clear that the physicians believed their role and relationship with the patient was of utmost importance (Williams et al., 1958). However, I question who gave the physicians or cardiologists the authority to decide the CR team in the first place. Furthermore, the inclusion of CEP's in CR today might be equivalent to PTs' addition to the team during the 1960s and '70s.

Interestingly, physicians were deciding which health professionals could be involved in CR in the 1960s, and continue to do so today (Benatar et al., 2016; Kira et al., 2016; Wood, 2013). A policy statement from the CR section of the European Association for Cardiovascular Prevention and Rehabilitation that is endorsed by the Committee for Practice Guidelines of the European Society of Cardiology stated that the CR programmes should consist of a programme director, a medical director who can be a cardiologist, trained professional for medical emergencies and then the MDT (Piepoli et al., 2014). Today's medical director can be compared with the cardiologist in the 1950's and 60's where they were responsible for patient's rehabilitation and deciding on who could be involved (Piepoli et al., 2014). This again highlights that both healthcare and the professional boundary tensions between the PT's and physicians may have remained virtually unchanged.

Secondly, the development of antibiotics and antisepsis during and post-WW1 and WW2 meant that physicians and surgeons had new drugs and approaches to focus on, leaving a vacuum for rehabilitation that physicians filled (“One hundred years”, 2013). Hence, the early passive movements can be carried out by “either the nurse or the physical therapist” (McClellan, 1951, p. 35). However, while trying to differentiate the roles of PT’s and nurses, Cleather (1995) states that physicians “considered physiotherapists to be more independent than nurses; they couldn’t be bullied as much” (p. 10). This highlights that physicians considered themselves to be sovereign, at the top of the hierarchy, could dictate, and now were not interested in rehabilitation.

Another reason PT’s could have been involved with CR was that they were already working with the physicians and specialists. PT’s were acknowledged for their rehabilitation and massage services, especially during the WW1 and WW2 (“One hundred years”, 2013; “St Nicholas' Home”, n.d.; Clarke, 1917; Ross, 1921; Souttar, 1919; Walter, 1918). In an article exploring physiotherapy practice over the 100 years, Nicholls commented that physiotherapy “gained as much from the war as people in the war gained from having us there to help them” (“One hundred years”, 2013). Additionally, Rowley Bristow, an orthopaedic surgeon, wrote that “the work of the physical therapy department is to re-establish the function. The interdependence of the surgical and after-treatment departments is nowhere more closely connected than in orthopaedics” (Bristow, 1918, p. 181). Souttar (1919) also wrote that without the masseuse:

“the muscles would waste beyond repair, the joints would stiffen and consolidate, the skin would become unhealthy and covered with sores, and the whole limb a useless encumbrance she has to perform outside all that the nerve would do from within” (p. 257).

Physiotherapy not just helped people through WWI, but also through epidemics such as polio, influenza, and TB. As a profession, physiotherapy “had been respected for some time” (“One hundred years”, 2013). These comments above highlight that PTs were provided an opportunity to be a part of the healthcare team, work with physicians and be recognised for their work. In turn, this probably allowed PTs to be a part of the CR team.

Now that I have addressed the role of various health professionals involved in CR and explored some of the reasons for it, I question the importance of patients role in CR.

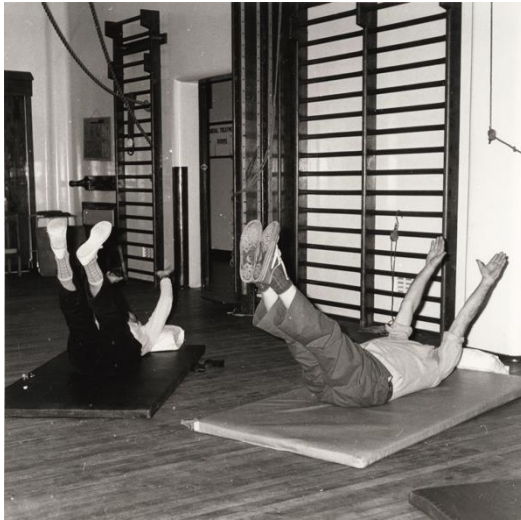
CR: Where Is The Patient?

Another crucial member of CR is the patient. In NZ, CR programmes began around the late 1960s and early 1970s and helped to ensure patients continued to be useful in society and the community. Dr. Ted Nye, a cardiologist who had returned to NZ from his sabbatical in Sweden, where he was working with an exercise physiologist, had been developing CR programmes post-myocardial infarction (“Dunedin doctor”, 2017). Dr Nye decided to establish something similar for cardiac patients in NZ, and hence progressing from the idea of WCU, the first CR programme was established in Dunedin, NZ (Wood, 2013).

As outlined above, there is mention of boundary mapping within health professionals. However, there is not much reference to patients and their position during CR. PT’s in NZ started conducting the CR classes in the late 1960s under the guidance of physicians and cardiologists, where PTs observed the patients exercise during a CR class (Wood, 2013). The picture below was taken from the Phoenix club in 1968, where the PTs would conduct CR and observe their patients while they were exercising in the Hanover complex in Dunedin (Phoenix Club, 1968a).

Figure 8.

Physiotherapists observing patients exercise during a CR class

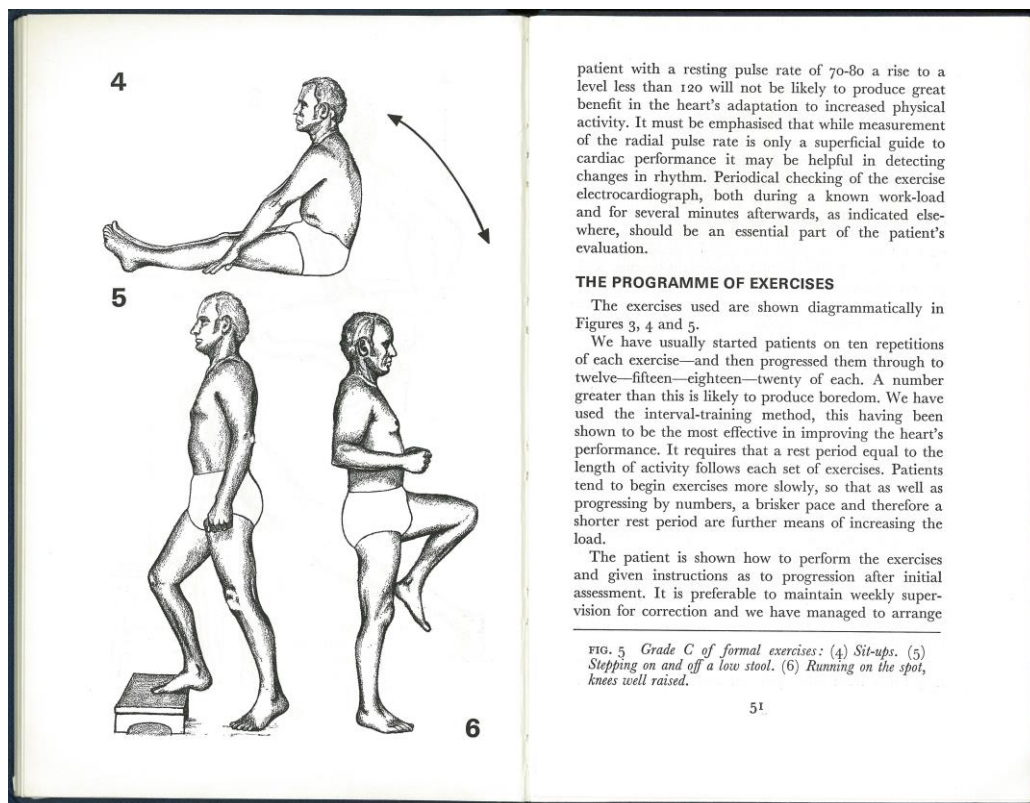


Adapted from 1968 Phoenix club (Dunedin)

Foucault mentions that ironically, the closer a PT observed the cardiac disease and exercise of a patient, the farther away the patient became. When the patient is viewed with the 'cardiac disease' lens incorporating his objective reports and surgery, it objectifies the patient. The 'fragile' patient who had initially come for assistance to the health professional becomes intellectually separated by their illness, losing their identity. An example of this is depicted in Figure 9 below. There is mention of periodical checking of the exercise, electrocardiograph, radial pulse, and a reference to exercise progressions (Nye & Wood, 1971, p. 51). However, there is no mention of how the patient is feeling during their exercises. Moreover, there is no sign of subjective signs or recordings during CR. This portrays the patient, who was once viewed as being fragile as an 'object' during their CR now. This form of biomechanically-influenced rehabilitation, however, gives PT's some control over their patients CR.

Figure 9.

Patients as 'objects'



Adapted from Nye and Wood (1971), p. 51

During the CR class, a medical registrar or Dr. Nye was always present. From a power-relationship view, once the patients entered the Phoenix club, they were under the scrutiny of the medical gaze and became the object of PTs and the physician present. This allowed a new 'body' to be produced literally and metaphorically. Linking this to the biomedical model of healthcare, patients had less power than clinicians and could feel disembodied, powerless, and at the mercy of the health practitioner. The idea that patients could be disempowered is supported by the picture above, where there is no mention of the patients feelings during the exercise programme. While PT's noted and gradually progressed exercises to twelve, fifteen, eighteen, and twenty of each, patients knowledge about their reassessment and progressions acts as an invisible enforcer of compliance with their CR programme. This enforced compliance allowed for patients bodies to be produced not only as an effect of biomedical discourse but also transformed by the medical gaze of PT's and physicians during the CR.

The concept of surveillance is closely intertwined with power relationships, especially when the registrar or Dr. Nye was present during the CR classes. While it acted to ensure that patients felt safe, it also allowed physicians to closely observe what the PTs and patients were doing during their rehabilitation. The physicians' involvement also allowed considerable support from the department of cardiology and school of medicine in Dunedin, highlighting the 'power' physicians held at the university and within the healthcare system. It also encouraged support nationally from organisations such as the Heart Foundation and Prof John Hunter (Wood, 2013). They later decided to fund the film unit to make a film on recovery from the cardiac disease (Wood, 2013). This film included the input from Gay Wood (PT), who was involved in the CR programme, which also allowed the PT profession to establish themselves further as an essential role in running of the CR programmes. I write about that in the next section.

Physiotherapy And The Importance Of A 'Profession'

Rose (2001) mentioned that medicine is a matter of assemblages, meaning that it is a combination of spaces, techniques, and people within which medicine has been deployed. It does not involve just the hospital, the consulting room, or the pharmacy, but also the factory, the town, the home, the community, the insurance system, and the schools. Foucault called these complex and heterogenous apparatuses *dispositifs* (Callewaert, 2017). A *dispositif* was defined as "an intellectual network of assembling different thoughts together in a way making certain understanding/action possible" (Callewaert, 2017, p. 30). In my study, a medico-administrative *dispositif* can be seen as establishing the PT school close to the medical school or within the same complex in Dunedin. Some of the other *dispositifs* include establishing a PT curriculum, having a registration system for PT, teaching the PT course using the books with biomechanical influence, and lastly, books or texts on normalising exercise. I now explore some of these *dispositifs* in the next few sections.

Figure 10.

Physiotherapy School at Otago



“Profession is a disciplined group of individuals who adhere to high ethical standards and uphold themselves to, and are accepted by, the public as possessing special knowledge and skills in a widely recognised, organised body of learning derived from education and training at a high level, and who are prepared to exercise this knowledge and these skills in the interest of others” (Australian Council of Professions, 2003).

One of the potential reasons PTs were closely involved in CR was because of their close relationships with medicine at the Otago University and Dunedin Hospital. Gay Wood, a physiotherapist in Dunedin, explained in her interview on the 100 years of physiotherapy website that it was around that time when Billy McLeod (PT) had taken over the Otago Physiotherapy School (Wood, 2013). She moved the physiotherapy education from the hospital to an education institution which eventually placed the Physiotherapy School under the Otago Polytechnic umbrella in 1976 (Wood, 2013). Billy was involved in progressing the physiotherapy education, which allowed for PT education to be at the same University as Medicine in Dunedin (“The University of Otago”, 2013). The advancements made by PT's to move from hospital-based to university-based learning and qualification potentially helped PTs to form close ties with the doctors and the medical profession. I now explore what constitutes a profession and how physiotherapy developed as a profession in NZ to create a 'useful' patient.

Cree and Macaulay (2005) mention that for an occupation to be considered a profession, it depends on its ability to match the traditional professions of law, medicine, and ministry. The attribute approach can be used to compare the other occupations to these traditional professions by extracting the characteristics of the conventional professionals and using that as the matching criteria (Cree & Macaulay, 2000). Although the core characteristics are varied in literature, some characteristics are generally more acceptable (Cree & Macaulay, 2000; Freidson, 2001; Larson, 1977). Knowledge and service are commonly noted (Kemshall, 2000). However, other components include control, recognition, monopoly, responsibility, and accountability have also been considered in the literature (Cree & Macaulay, 2000; Larson, 1977).

According to Friedson (2001), one of the essential characteristics of a profession is its monopolistic control. This is where an occupations' domination on a particular task and knowledge controls a profession in the occupationally guided labour market (Freidson, 2001; Parkin, 1979). Larson (1977) adds that by equating the length and quality of training to asserting monopolistic control in the occupation market. Professional training is often prolonged, theoretical, and specialised (Larson, 1977). However, there is no mention of how long is too long for this type of training.

“Early Training in Massage – Before 1913 opportunities to train in massage were limited, unless students were willing, and wealthy enough, to travel to Australia or England. In Rotorua, Dr Wohlmann trained a few unqualified staff at the sanatorium, but otherwise massage pupils chanced their hand with private practitioners who offered classes as a means of supplementing their incomes. One such was Ellen Everitt, a London trained nurse...” (“Prior to the First”, n.d.)

Before 1913, NZ did not have a formal education or registration system for trained masseurs (“When the School”, 2013; Blackman, 2017). As mentioned in the text above, England and Australia had a training system, and masseurs would have to travel to those countries if they could afford it. Without official training, masseurs would carry out the doctors' prescriptions under the surveillance of the hospitals' medical superintendent (Blackman, 2017). Shaw (2013) mentioned that there was some

informal training. However, it was not until Dr Martin and other doctors employed at the School of Medicine, Otago University used masseuses during the orthopaedic surgery, which exerted pressure on the Otago Medical school to legitimise massage (Shaw, 2013). Dr Martin had used massage for cases as diverse as sports injuries to anorexia (Shaw, 2013). Nurses in England who had legitimised massage also knew of the benefits of formalising their examinations, registrations, and curricula (Shaw, 2013). Therefore, nurses who migrated around the world, including NZ, broadcasted for legal professional bodies, and legislations for Physiotherapy (Shaw, 2013).

The University of Otago School of Massage was established in 1913 (Blackman, 2017). Mark Wright, (2013) in an article for the University of Otago, writes that the move of physiotherapy school with the existing Medicine and Dentistry schools was a crucial move for the Physiotherapy profession. Masseurs were already accepted by physicians by the 1890s and were present at the hospitals (Wright, 2013). Further, physicians had recognised the value of electrical and massage treatment and were encouraging masseurs to have proper training (Wright, 2013). Therefore, medical doctors influenced the curriculum at that time, and they were initially employed to deliver the anatomy, pathology, physiology, and physics content of the course ("When the School", 2013). An article from the University of Otago medicine also mentioned that the massage students were introduced to a robust anatomy-based teaching model advocated by the Australasian Massage Association (Wright, 2013).

Louise Shaw, in the 100 years of Physiotherapy History in NZ, also described how both the Auckland and Dunedin Hospitals in NZ, introduced a massage certificate course in 1912 where medical specialists delivered anatomy and physiology lectures (Shaw, 2013). Whereas, two massage teachers taught the practical hands-on skills. The sound anatomy knowledge and hands-on experience aided PT's to gain official recognition and legitimacy alongside the more trusted and established medical profession ("When the School", 2013; Shaw, 2013). Dr Jennifer Pryor, cardiothoracic physiotherapist, and highly regarded academic commented that NZ PT's probably did not appreciate "how leading-edge" they are (Wright, 2013, p. 1). She also linked the professional legitimacy with the "excellent relationship with the medical profession" and the excellent training at the university (Wright, 2013). Furthermore, Dr Pryor mentioned the important

professional link PT's had with the already established medical profession (Wright, 2013). Therefore, having a robust medical focussed model, association, and relationships with the medical doctors played a crucial part in further establishment of the physiotherapy profession.

“To do massage properly and be able to follow intelligently the direction of the medical man, some knowledge of anatomy is essential” (Palmer, 1901, p. 3).

I chose the quote above for a few reasons. Firstly, this quote describes how the teachers at PT school wanted to develop a course that had strong ties with the Medical school. Thus, anatomy and physiology training was at the core of the curriculum. Secondly, the quote has a reference to ‘medical man’, highlighting that medicine was a dominantly male profession. Conversely, PT was and still is a female-dominated profession and usually consisted of women with middle and upper-middle-class backgrounds (Short, 1986). Although PT's enjoyed the higher occupational prestige than speech therapists, OT's, nursing, and social work at the time, PT's history can eventually be viewed as a history of a middle-class feminine profession (Short, 1986). The figure below (Figure 11) also depicts the female dominance at the PT's class of 1950 in Otago (Gibb, 1950). I believe gendered roles at the time put women in subservient relationships to men, so this might have seemed ‘natural’, and resisting this hierarchy would have seemed impossible.

Figure 11.

Class of physiotherapy students in 1950



Adapted from Gibb (1950)

Anatomy knowledge has historically and is still considered ‘essential’ in physiotherapy training (Dahl-Michelsen, 2015; Nicholls, 2017). During the early stages of the physiotherapy programme, the biomechanical discourse was given primary importance (“When the School”, 2013). It helped in forming the physiotherapy schools’ relationship with medical colleagues and college (“When the School”, 2013). I explore this in the next section of the chapter. Thirdly, the establishment of a physiotherapy school in 1972 in Auckland can be seen as a strategy to emphasize the monopolistic control of PTs (“It became clear”, 2013).

Furthermore, setting up a syllabus committee for the PT course and electing Fran Elkin in 1973 as a tutor in charge of the school adds to it. After Dunedin, Miss Derbridge, vice president of the Medical Association of NZ, mentioned that Auckland was felt to be the only centre which could be associated with medical teaching and be within a hospital complex while selecting an institution for physiotherapy course (“It became clear”, 2013). These close ties highlight the importance of professional closure maintained with the traditional profession of medicine (“It became clear”, 2013).

Influence Of Biomedicine

Biomechanical discourse has been deeply embedded in PT training and practice, influencing why PT’s practice and continue to practice in particular ways (Anderson, 1977; Barclay, 1994; Bentley & Dunstan, 2006; Darnell, 2007; Morus, 1999). In this

section, I look at how biomechanics was employed and evident in the development of the PT profession and CR classes. On reviewing the early texts of the PT curriculum, it is clear that anatomy, physiology, and biomechanical texts dominate the teaching of the early PT curriculum (Anderson, 1977; Barclay, 1994; Bentley & Dunstan, 2006; Darnell, 2007; Morus, 1999). While training is essential in setting the PT profession's standard and accountability, I want to highlight that the biomechanical discourse was repeatedly noted during data analysis.

“The shampooing done in a Turkish bath is not massage; it is pleasant and useful, but it is not scientific, and is done by persons who have no knowledge of anatomy; nor is it necessary they should have, but to do massage properly and to be able to follow intelligently the directions of the medical man, some knowledge of anatomy is essential” (Palmer, 1901, p. 3).

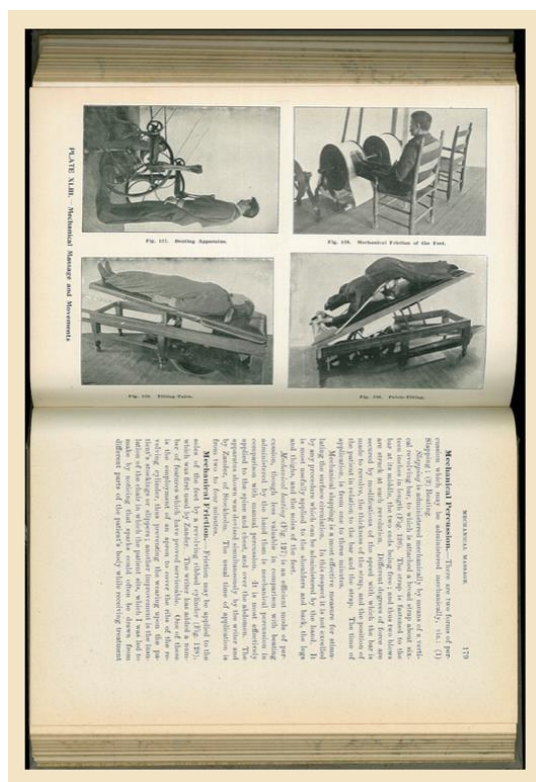
Going back to the establishment of massage as a medical treatment, Nicholls and Gibson (2010) emphasize that adopting the biomechanical discourse encourages a bio-anatomical, objective, and depersonalised view of the body. As seen in the quote above, depersonalising the body was a strategy employed by masseuses to establish the professions' legitimacy during its early days by separating themselves from the untrained masseurs (Nicholls & Gibson, 2010; Palmer, 1901). At this time, physiotherapists hoped that this biomechanical training encouraged closer ties with medical doctors and helped in gaining the trust of the general public. Viewing the patients body as an anatomical atlas with a dispassionate gaze also removed the association between sensuality and touch (Nicholls & Cheek, 2006). Overall, depersonalization played an essential role in the foundation of physiotherapy practice in England. Moreover, it was a system that could be translated to other emerging practices around the world (Nicholls & Gibson, 2010).

As seen in the picture below (Figure 12), taken from the Art of Massage book by John Harvey Kellogg (Kellogg, 1895, p. 170), within the books used for PT teaching, there is a considerable influence of biomechanical and biomedical focus on the body. The titles used in the book to divide sections on the second page also divides sections by titles,

‘mechanical percussion’ and ‘mechanical friction’, emphasizing that the body was viewed from a mechanical perspective. The body was metaphorically viewed as a machine, and if a machine had broken or had stopped working, it needed to be repaired or fixed by well-trained health professionals. This was important because eventually, CR would also allow patients to return to work and be useful.

Figure 12.

John Harvey Kellogg 100 years of physio



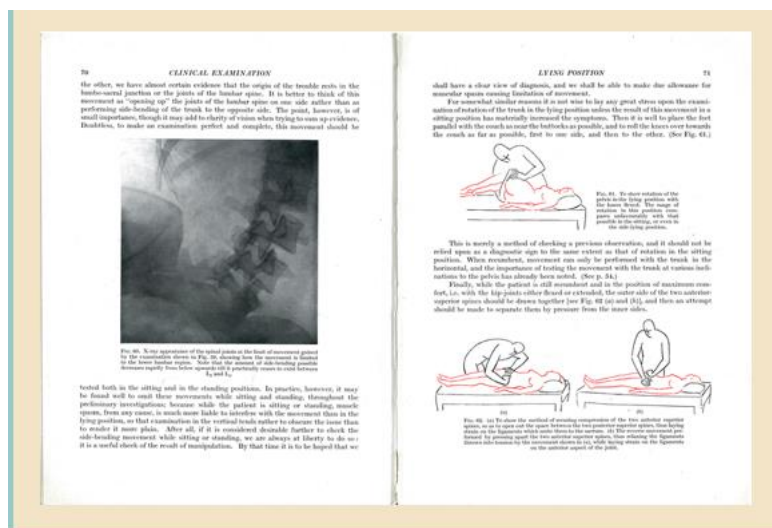
Adapted from Kellogg (1895), p. 170

The link between biomedicine and PT allows PTs to associate themselves closely with medicine and practice alongside doctors in the healthcare system. The biomechanical view is highlighted in the picture below (Figure 13), where the therapist is mobilising the patients body; however, it has no facial features and is represented in a mechanistic manner. While this is a patient’s body, having no facial expressions and depersonalising the body also represents the detachment of a therapist from the patient. Biomedicine privileged specialisation, precision, scientific medicine, standardisation, and technology, but lacked the representation of humanistic qualities in patients and health professionals such as compassion, devotion, loyalty (Warner,

2011). A patient here cannot be differentiated based on their age, gender, sex, or race, allowing a functional view of the body where a ‘problem’ in the muscle or joint will be ‘treated’ (Warner, 2011).

Figure 13.

Biomechanical view of patients body



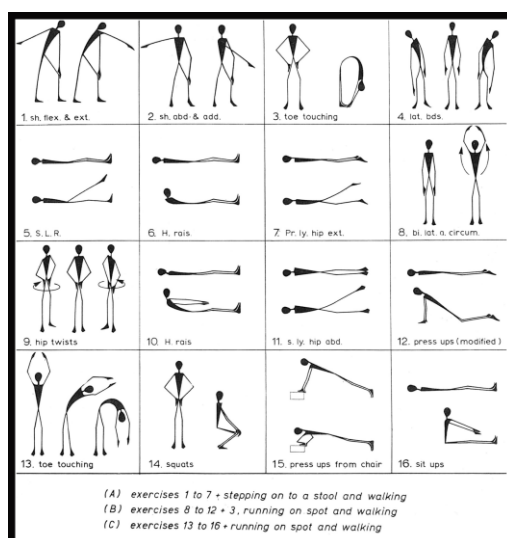
The lack of human facial expressions also suggests that movement and mobility were critical during PT's early teachings. This links with the economic expansion explained in the previous chapter, where people were needed to work to build the society. People played an essential role in re-establishing the industry. Therefore, movement and mobility were vital to allow cardiac patients to return to work, mobility, and useful citizenry.

The picture below (Figure 14) showing the physiotherapy exercises from 1970 also portrays the biomedical influence noted in the CR literature (Wood & Nye, 1970). Once again, the body is shown as a machine where if a patient has a ‘cardiac impairment’, they need to be ‘fixed’ or rehabilitated. While biomedicine has helped in the development of the PT profession, it also dehumanized the body by using a narrow set of biomechanical principles, resulting in a quality of care crisis in health practice (Marcum, 2004; Nicholls & Gibson, 2010). These pictures avoid seeing the person holistically, with the mind and body interlinked. One can only see the body through a biomechanical lens. It marginalises the social and cultural knowledge, limiting the health professionals’ understanding of the breadth of illness experienced by patients. Other

health care models, such as the biopsychosocial model (Engel, 1981) and the International Classification of Functioning Disability and health model (2001) (Mittrach et al., 2008), played a role in PT practice. However, it was the biomechanical discourse that allowed PT's to gain control of CR initially.

Figure 14.

Physiotherapy exercises



Adapted from Wood and Nye (1970)

The prevalence of biomechanical discourse also impacts musculoskeletal physiotherapy and neurological rehabilitation by treating the patients body as a machine, comparing it to clinical norms, and standardising measurements (Schibye et al., 2003). The biomechanical discourse depersonalises the patient, making the person an 'object' during the treatment. This discourse is an important concept because while PT's were associating themselves with an influential profession such as medicine, patients were becoming 'objects' of the disease. This impacted on the complex power relationships between PT's, doctors, and patients.

Power relations between the patients, PT's and health professionals have traditionally been unequal (Eisenberg, 2012; Thornquist, 1994). Historically, PT's in Canada, USA, and Britain evolved as a profession closely aligned to medicine, which meant that their initial relationships formed with patients were based mainly on the medical model (Cleather, 1995; Nicholls & Cheek, 2006). During the evolution of the PT profession, the assumptions of the dominant discourse of biomedical thinking became

associated with PT. From the genealogical perspective, PT's are not allowed to have personal relationships with their patients and are used to maintaining professional boundaries to ensure therapeutic efficiency and efficacy are preserved. This allowed for professional power to be legitimized by professional PT bodies, internalized by PT's, and in turn, disciplined the PT's.

“Doctor and patient are caught up in an ever greater proximity, bound together, the doctor by an ever more attentive, more insistent, more penetrating gaze, the patient by all the silent irreplaceable qualities that, in him, betray - that is, reveal and conceal – the clearly ordered forms of the disease (Foucault, 1975, p. 15-16)”.

Although this quote above does not cite PT's in the context, it nevertheless applies to the PT profession as well as PT's were used to being involved in the vocational rehabilitation post- WW1 and WW2 and were capable of observing patients in large groups, submitting them to the 'medical gaze'. This allowed PT's to draw certain conclusions about various diseases and their progressions during rehabilitation programmes as mentioned in the chapter earlier about how the analysis of cardiac disease allowed physicians to define it during WW2.

In the chapter so far, I have explained the physiotherapy profession in the pursuit of territorising CR. Some of these practices included disciplinary affiliation with the medical profession, setting up a new PT school, and using biomechanical discourse within PT practice. I have described how biomechanics played a vital role in defining the physiotherapy profession and its' subjectivity. I now argue the impact of exercise boom on the physical exercise component of CR and PT profession and discuss the changes in perceptions of exercise and normalisation of cardiac disease and exercise.

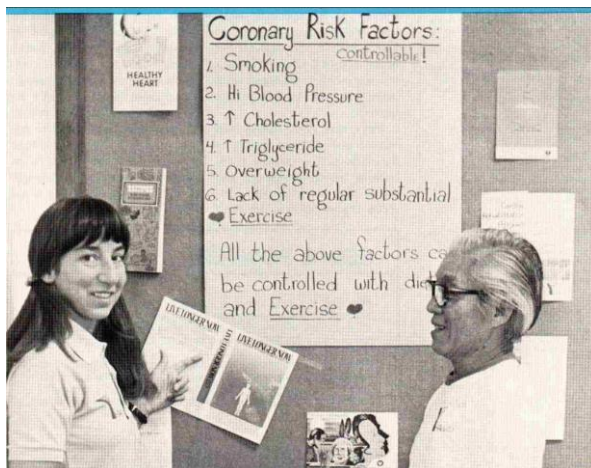
Normalisation Of Exercise

The 1970s was an era where physical fitness rose above the shouts of protesters, and the most significant positive health movements were hitting the United States and globally (Volkwein-Caplan, 2004). Fitness growth was virtually a grass-root movement, a discourse with various manifestations (Stern, 2008; Van Doorn, 1978). Exercise boom,

'all-natural', or 'extremely low in saturated fat' written on food labels and millions of joggers crowding the streets were some of the responses to the ever-changing mindset around fitness and health (Green, 2013; Institute of Medicine Committee, 2010; Volkwein-Caplan, 2004). The governments in Britain, Canada, and Australia, along with many European countries, established national organisations to encourage community involvement in sport and recreation (Stothart, 2014). In Britain, this included the Sport For All programme, in Canada, Participation, In NZ, Come Alive and Keep Fit, and in Australia had The Highly Successful Life Be in It campaign (Green, 2013; Stothart, 2014). Cardiologists and health professionals were starting to recognise that "mileage instead of medication – that's the credo held by a particularly aggressive cardiac rehabilitation program" and exercise was on the rise for treatment and rehabilitation of cardiac patients (Schroeder, 1976, p. 68). This is highlighted in the picture below (Figure 15). Here, the pendulum has moved from bed rest and fragile patients to exercise and being useful.

Figure 15.

Coronary risk factors



Adapted from Schroeder (1976)

New York Magazine in 1978 stated that: "A new class has come among us" and running was on the rise (Van Doorn, 1978, p. 36). The National Jogging Association formed in 1968 was a strategy employed not just to counter lopsided arguments against positive benefits of jogging but also to increase general interest in jogging (Eisenman & Barnett, 2012; Green, 2013). Eisenmann and Barnett (2012) cited that over just one year, this association resulted in a dramatic increase in joggers from 8000 participants

in 1975 to 51,000 in 1976 participating on National Jogging Day. In NZ, The Come Alive campaign was based on a successful Auckland programme, Fitness for living (Stothart, 2014). This programme included the successful Round the Bays run (Stothart, 2014). The success of the fitness industry and movement was not merely a chance but a discourse that emerged in response to the times and the people.

The fitness industry was promoted in a way to strengthen the nation through improved health of its' citizens post WW2 (Stern, 2008). Data from The American Journal of Medicine (2014) suggested that the increasing number of deaths from CVD and heart attacks up until the mid-1960s was due to an increase in smoking, dietary changes, lack of exercise, and obesity (Dalen et al., 2014; Kreiter, 1978). In 1968, Dr Kenneth Cooper coined the word 'aerobics' and encouraged people to commence regular exercise and running (Kreiter, 1978). Jacki Sorensen, an Air Force wife, took Dr Cooper's knowledge of aerobic exercise and put together a 12-week aerobic dance programme (Figure 16) (Kreiter, 1978). These dance classes seemed to have encouraged women to exercise while having fun. Aerobic Dancing, Inc was formed from these classes, and this form of exercise even received the endorsement from the President's Council on Physical Fitness and Sports, rating it as the best overall form of exercise (Kreiter, 1978). Hence, doctors writing books and approval from government authorities were encouraging average citizens and cardiac patients to commence exercise after CVD.

Figure 16.

Aerobic dancing



Adapted from Kreiter (1978)

The exercise movement in the 1970s resulted from concerns for the nation's mental and physical health compared to the economic expansion post WW2. "Change your shape and salary the way Wall Street does through aerobics" (Rosenfeld, 1977, p. 18). Referring to this quote by Paul Rosenfeld highlights the impact of the increasing popularity of aerobic exercise by Dr Cooper. This article named some of the wealthiest and most prestigious CEO's and executives that were involved in an annual running event, Tyler Cup International (Rosenfeld, 1977). This cup was limited to people over the age of 35 who were in one of the top 10 positions in their company and were able to run two miles (Rosenfeld, 1977). This meant that the participants involved in the race were people who held power in the democratic society and controlled billions of dollars and eventually disciplined various people (Rosenfeld, 1977).

Fitness and fit people, therefore, became a status symbol and an emblem of an individuals' self-control, moral health, personal discipline, and purchasing power (Rosenfeld, 1977). The Tyler Cup Race could be seen as the topmost executives using disciplinary power to normalise and encourage exercise in the community. An event like this suggested that if men who were leading busy lives could have time to promote

fitness in their companies, this could increase the awareness of aerobic exercise in other population groups.

Dr Cooper stated, “with our preventive medicine, program of proper weight, proper exercise, proper diet and no tobacco, we can attack heart disease” (Rosenfeld, 1977, p. 18). While this statement may be right about the prevention of cardiac disease, Dr Cooper was claiming and creating a space where doctors would not be scared of exercising cardiac patients. It appeared that exercise was re-invented. The focus was not solely on rehabilitating patients to return to work but instead being useful in the society, workplace, and preventing cardiac disease. This time exercise and physical fitness encouraged events like the Tyler Cup, where top CEOs and executives were involved. If these CEO’s and executives had money and power to control and discipline so many people at work, they were seen as being influential. These publications and books by Dr Cooper also had an advantage that exercises were discussed by a doctor – a trusted professional in society. It seemed that once knowledge like this became accessible and available to people, patients could discipline themselves better. Foucault describes this as a gaze and human sciences technologies of disciplinary power (Jones & Porter, 2001). Here, patients themselves will be creating useful citizens and members of society.

More research was being done to see the benefits of exercise and encourage exercise in the community (Fixx, 1977; Glasser, 1976). For example, Fixx (1977), mentioned that running was not just a joyful experience for these men and women - it gave patients a sense of being able to take charge and control the world. Glasser (1976) added that exercise was seen as a positive addition and promoted increased self-control and inner strength by helping people develop mental and physical strength. There was also an exponential rise in books published with a focus on exercise, personal challenge, and self-actualisation including Mike Spino (1976) *Beyond Jogging: To the inner spaces of running*, Thadeus Kostrubala’s (1976) *Joy of Running*, and George Leonard’s (1977) *The ultimate athlete* (Kostrubala, 1976; Leonard, 1977; Spino, 1976). These books encouraged fitness not just for patients but also for the general population. Together, The Tyler’s Cup, fitness books, and public events mentioned above present an example of creating ‘useful’ citizens and patients by normalisation of exercise. It highlights that while aerobic exercise and fitness industry was encouraged by doctors and the

government, people like CEO's and executives also helped in creating useful patients and citizens.

In NZ, Dr Nye promoted physical fitness through the participation of cardiac patients and their families involved in the Phoenix Club ("Dunedin doctor", 2017; Nye & Wood, 1971).

Figure 17.

Phoenix Club tramps cartoon



Adapted from Scales (1977)

This cartoon above (Figure 17) was featured in the local Otago Daily Times newspaper in 1977, where the 'whole family' was welcomed to participate in the Phoenix club tramps (Scales, 1977). The cartoon depicts how family members struggled to keep up with exercise during the various tramping trips undertaken by the club members. The cardiac patients were a lot fitter post-treatment and rehabilitation. Hence, newspaper articles and photographs of patients living an active lifestyle acted as disciplinary technologies and positive reinforcement for other people to exercise and be active. Along with encouraging the 'whole family', Phoenix club members also participated in other sports such as water polo and table tennis, allowing them to return to normal activities and sports (Figure 18) (Phoenix Club, 1968b, 1968c). Overall, there was a rise in exercise discourses, which encouraged cardiac patients and their families to be active and return to being useful in society.

Figure 18.

Phoenix Club members participating in sports



Adapted from Phoenix Club (1968b & 1968c)

Conclusion

This chapter addressed the varying views of cardiac disease and the increase in survival rates due to improved management of patients with CVD. There was also a fear of increasing numbers of patients with CVD who were needed in the workforce. This meant that more patients were needing CR, and patients were now viewed as being useful and not fragile. Patients had to be useful, and I highlighted how ‘useful’ could be interpreted and understood in this study. I used Foucauldian principles of observation, examination, normalisation, and governmentality to explore the conditions that made this shift possible. These included the changes in physiotherapy training, the gradual development of physiotherapy schools, and its' impact on professionalisation of physiotherapy practice.

I also discussed the discursive formation of CR and the professional tensions between physicians, nurses, and PT's. I addressed some of the reasons why PT's were initially involved in CR. Here, it was crucial to mention the biomechanical influence of medicine on the physiotherapy profession. Lastly, I wrote about the legitimization and normalization of exercise and its impact on CR. In the next chapter, I describe the boundary tensions and power relationships between the CEP's and the PT's in the current practice of P2CR in NZ, along with the neoliberal and health commodification principles of CR.

Chapter Six: Professional Boundary Tensions And P2CR Practices Of CEP's And PT's

I began this study with the concern that CEP's are an emerging profession in NZ and could be posing a professional boundary threat to cardio-respiratory PT's practicing P2CR in NZ. The current international guidelines for cardiac and pulmonary rehabilitation programmes (Allison et al., 2017; Association of Chartered Physiotherapists in Cardiac Rehabilitation, 2015) involve a significant exercise component that was historically prescribed by PT's (Association of Chartered Physiotherapists in Cardiac Rehabilitation, 2018; Best Practice Advocacy Centre New Zealand, 2017). However, more recently, CEP's have started sharing the P2CR and pulmonary rehabilitation practice in NZ (Mooney & Rhodes, 2018).

To explore the boundary tensions and professional relationships within health professionals such as CEP's and PT's practicing CR, I analysed the changes to patients status in the eyes of health professionals, the discursive construction of CR, and physiotherapy practice in Chapters Four and Five. Chapter four detailed physicians' fear towards rehabilitation and the importance of recuperating and returning fragile men to being useful in society. This led to the beginning of WCU's in the 1940s and 1950s. The second analysis chapter (chapter five) focussed on the loss of fear about CVD patients being fragile, returning to work and being useful, and PT's involvement in P2CR. I detailed the influences of biomedicine, close ties with the medical profession, the establishment of PT schools, and normalisation of exercise in helping cardiac PT's practice of CR.

Hird, Upton, & Chesson (2004) highlight that rehabilitation and return to so-called normal activity are widely known. Therefore, problematising and commodifying exercise and rehabilitation such as exercise and P2CR, in this case, has vast marketing possibilities. In my final analysis chapter, I examine the boundary tensions and power relationships between CEP's and PT's, and the current discourses of CR in NZ. By current, I refer to the contemporary P2CR practice in NZ and how CEP's practice of CR provides a challenge for how CR could be viewed differently from the disciplined hospital outpatient CR practiced by PT's in NZ.

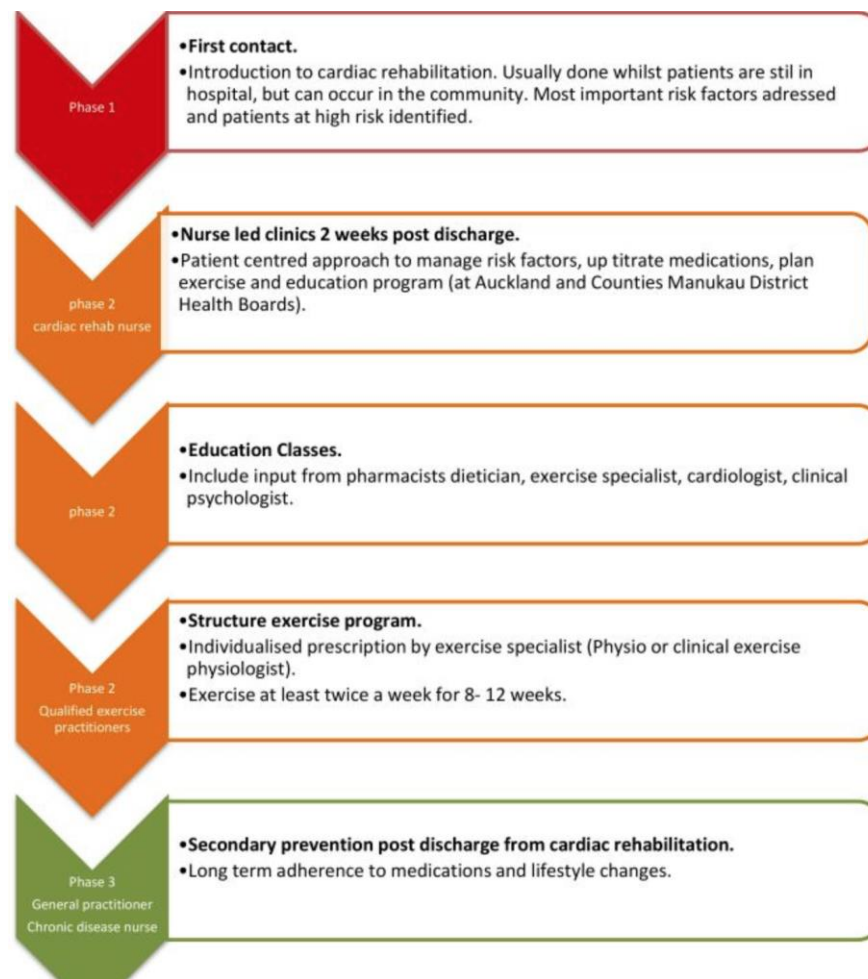
I explore how the CEP practice in Auckland is destabilising the known normality of rehabilitation using Foucault's principles of governmentality and neo-liberalism. During the process of offering innovative ways of practice, CEP's at this practice have adopted alternative language that separated it from traditional PT practice at a large DHB in Auckland. I refer to the CEP practice by the pseudonym, 'Movement Clinic,' to maintain confidentiality and use it as a case study. The Movement Clinic has potentially created new markets for future patients not only wanting to resolve their health issues but also to improve health outcomes, longevity, and quality of life. Here, I also explore the power relations and subject positions developed through the Movement Clinic's actions. Lastly, I question the possibilities created by CEP's for the future practice of P2CR in NZ.

Cardiac Rehabilitation In NZ

In NZ, CR is conducted in three phases (see Figure 19). The first phase encompasses education regarding recovery details following the cardiac event and discharge from the hospital (Benatar et al., 2016). Phase two entails intensive education regarding risk management, returning to activities of normal living, lifestyle changes, and a supervised exercise programme (Benatar et al., 2016). This programme may range from six to twelve-week and usually begins once patients are discharged from the hospital. The last phase of CR, phase three, takes place in the community. Phase three involves ongoing lifestyle modifications, community gym programmes such as green prescription programmes, and peer support groups. This phase aims to encourage patients to continue with the health improvements achieved earlier in the programme (Benatar et al., 2016).

Figure 19.

Phases of CR



Phases of CR figure by Benatar et al., 2016.

In NZ, CR programmes are funded by District Health Boards (DHB), occasionally in partnership with Primary Health Organisations (PHO) (Benatar et al., 2016). Within this large DHB, patients are mainly recruited to CR during the inpatient phase (phase 1). Few DHB's in NZ, have started CR nurse-led clinics, usually, two weeks post-hospital discharge. These clinics operate under physician/cardiologist supervision and facilitate medication prescription and help solve self-management issues for patients (Benatar et al., 2016). Patients are then referred to cardiac PT's who are responsible for initial assessment involving exercise testing, such as the six-minute walk test (Benatar et al., 2016). Following initial testing, patients are enrolled in a six to eight week CR programme, consisting of education and exercise in the community or at the hospital (Benatar et al., 2016). This process is clearly defined and has existed in the large DHB since the early 2000s; however, the introduction of CEP's practice in 2017 created power

tensions in the role of cardiac PT practice. CEP's are considered to be adequately skilled to run a CR programme for cardiac patients and are seen as a potential threat to cardiac PT's practice. Therefore, I write about the similarities between CEP's and PT's work in the area of exercise, CR, and the boundary tensions that result from this shared workspace.

Exercise: Who Is Responsible For It?

The World Health Organisation (WHO) statistics state that Non-Communicable Diseases (NCDs) account for over 68% of the annual death toll globally (Chestnov et al., 2014). Over 80% of these deaths occur in low to middle-income countries (Chestnov et al., 2014). These NCDs include CVD, cancers, diabetes, obesity, chronic kidney diseases, hypertension, and hyperglycaemia (Chestnov et al., 2014). WHO mentions that the economic impact of these NCD's is staggering (World Health Organisation, 2011). For example, Bloom et al (2011) found that between 2010 and 2030, NCDs' total costs are expected to exceed the US 30 trillion dollars and will eventually place an unprecedented strain on healthcare systems and national economies. Although the benefits of exercise have been well-known since the 1970s, there is a growing body of evidence that indicates that exercise can be used to manage, treat and prevent many NCD's, including CVD (Archer & Blair, 2011; Ciccolo & Kraemer, 2013; Hird et al., 2004; O'Matheson et al., 2013; Warburton et al., 2006). Greg Anson and Jim Stinear from the University of Auckland advocate: "Exercise is good for you – and it can save your life...Physical activity is an essential part of living well" (Ballance, 2015). Exercise can prevent illness and help with recovery from NCD's (Ballance, 2015).

According to Hayhurst (2006, p. 50), exercise and CR are crucial because:

"these patients now are living. Before, if they survived at all, they'd stay in a home or in a hospital. But now we're saving them, and we're helping them to be functional again. And they're not just traditional heart attacks and bypasses; they have muscle-pump dysfunction, or they have musculoskeletal limitations, or they've had a stroke with a heart attack – all these different impairments that we didn't see before".

This extract above demonstrates the development of CR and treatment available for CVD patients over the years (Hayhurst, 2006). As Hayhurst (2006) comments, more people are now surviving CVD and are 'living'. Developments in CR are partially due to the increased patient survival rates with improved and experienced surgeons, medications, management of comorbidities, and medical procedures, for example (Abrams et al., 2011; Hoeve et al., 2015; Schlitt et al., 2015). Hayhurst (2006) added that patients now have 'all these different impairments' and complications potentially not seen before.

Exercise is one of the most effective interventions used by PT's to improve the health and function of people with various musculoskeletal and cardiopulmonary conditions (Mooney & Rhodes, 2018). Exercise is a core business for PT's (Mooney & Rhodes, 2018). Exercise has been described as a physical activity that is planned, repetitive, structured that aims to maintain or improve aspects of physical fitness (Caspersen et al., 1985). Dr Ted Nye, along with PT's, have been running the exercise-based CR programmes since the 1970s in NZ. However, in recent years, there has been a growth in a parallel profession such as CEP's that also consider exercise to be their core business (Cheema et al., 2014; Mooney & Rhodes, 2018; Rankin, 2014).

Mooney and Rhodes (2018) state that the CEP practice challenges the orthodox and traditional P2CR programme run by PT's (Mooney & Rhodes, 2018). An increase in demand for CEP's and exercise based degrees have also been noted in countries like the USA, Australia, UK, China, and NZ (Cheema et al., 2014; Hilpern, 2008; US Bureau of Labor Statistics, 2020; Zhou et al., 2019). Furthermore, there is increased involvement of CEP's pointed out in exercise-based rehabilitation (Boone, 2015; Cheema et al., 2014). An example of this can be seen where Benatar et al. (2016, p. 69) express many NZ based CR programmes are "generally run by physiotherapists and CEP's who are qualified to prescribe exercise after a functional test". This indicates the invisibility of cardio-respiratory PT's input in CR programmes. Therefore, I question whether CEP's are a threat to PT's running of P2CR programmes or if they are potentially an emerging profession that will be of added value to patients. To explore CEP's and PT's practice in Auckland, I look at the ideas around neo-liberalism and some of the conditions that

made it possible for CEP's to emerge as Allied Health professionals in NZ and other parts of the world.

CEP And PT Professional Roles

First, I explore definitions of CEP's and PT's and then define the PT's role in CR over the years. CEPNZ board identifies CEP's as "an individual who specialises in the delivery of exercise, lifestyle and behavioural modification programmes for the prevention, management, and rehabilitation of chronic conditions and diseases, and injuries." A similar definition has been mentioned by Exercise and Sport Science Australia, 2015 (Allied Health Professions Australia, n.d.). In a slightly different vein, Physiotherapy NZ defines PT's role as a health professional who "will use their in-depth knowledge of how the body works, combined with hands-on clinical skills, to assess, diagnose and treat your symptoms. They can even help you prevent many injuries and health conditions" (Physiotherapy New Zealand, n.d.). Both CEPNZ and PNZ acknowledge that CEP's and PT's work across a broad spectrum of health conditions. These definitions indicate that both PT's and CEP's claim exercise and health to be their business and practice as allied health professionals. However, both CEPNZ and Exercise and Sport Australia both state that CEP's specialise in exercise delivery (Allied Health Professions Australia, n.d.; Clinical Exercise Physiology New Zealand, 2010).

CEP's pride themselves as being recognised as "experts in exercise prescription and rehabilitation" and "exercise specialists" (Mooney & Rhodes, 2018, p. 50). CEP's are also promoting themselves as professionals who are not just specialists in exercise delivery; however, their exercise is also specialised ("Clinical exercise physiology", n.d; The Exerscience Clinic, 2017). In contrast, the Physiotherapy Board in NZ only allows for PT's to refer themselves as specialists once they have passed a specialist scope of practice criteria (Physiotherapy Board of New Zealand, 2016). Despite this, PT's have used exercise as a form of treatment modality for years (Mooney & Rhodes, 2018). It is interesting to note that CEP's have claimed that they are specialists in exercise delivery. Therefore, not surprisingly, of record, there are only a handful of cardio-respiratory physiotherapy specialists compared to all the CEP's practicing and calling themselves to be specialists (Mooney & Rhodes, 2018).

Before the emergence of CEP's, I have not come across cardiac PT's in NZ writing about themselves this way in cardiac physiotherapy history. However, cardiac physiotherapy has not been exposed to competing market conditions and consumer possibilities like this before. Therefore, the boutique CEP clinic's emergence can be seen as a contingent response to the possibilities and tensions formed by the shift in welfare-dominated approaches to post-modern and eventually neo-liberal views of healthcare. This allows for the commodification of the healthcare system, especially in a country like NZ, with a smaller economy and population.

The emergence of the Movement Clinic and the tactics and strategies used by the clinic, highlight a rupture and a new way of practice, situated at the margins of traditional physiotherapy, experimenting, as it grows, how far the conventional PT's will accommodate it. This is similar to how the PT's eventually benefited from establishing vocational rehabilitation centres during the 1930s and '40s from welfare plans and the establishment of CR in NZ in the 1970s. Similarly, the Movement Clinic is the beginning of new, boutique practices, due to neo-liberal economic changes affecting the healthcare systems. Therefore, I now consider how the neoliberal principles are influencing the P2CR practice in NZ.

Neoliberalism In Health Care

Through the lens of NZ's healthcare reforms, the global economic downturn of the 1980s encouraged an ideological shift in the execution of public healthcare (Alameddine et al., 2012; Kelsey, 1997). NZ governments have actively pursued a neoliberal agenda of deregulation of financial markets and privatisation of assets owned by the state (Kelsey, 1997). The term neo-liberalism has been described as a pervasive ideology and refers to beliefs about "the superiority of individualised, market-based competition over other modes of organisation" (Mudge, 2008, p. 706). It is systematically present in every level of social and political apparatus of the NZ government (Kelsey, 1997).

Neoliberalism theories address various themes including deregulation of private enterprise (Harvey, 2009) consumer responsibility and choice (Binkley, 2009; Dilts, 2011), privatisation of social services such as health care (Gauld, 2016) and governing

society through the use of market mechanisms (Mudge, 2008). Re-evaluation of the NZ healthcare system has developed new problem spaces within health professions, consumers, and state institutions, allowing for improved relationships between private health facilities and public institutions (Kelsey, 1997; Mudge, 2008). Reid and Larmer (2007) argue that PT's must be able to change their practice delivery with shifts in legislative reforms such as the Accident Compensation Corporation (ACC) in NZ (Reid & Larmer, 2007). I explore the changes in funding, support of musculoskeletal PTs in the community, and patients ability to select their practitioner in the next section.

A Decline In Cardio-Respiratory PT's

For over 20 years, cardio-respiratory PT's have been challenging to recruit and specialise in NZ (Reeve et al., 2012). There has been a steady decline in PT's wanting to specialise in this area. A similar trend continues to be seen in the National Health System in the UK, Australia, Portugal, Sweden, and Canada too (Ferreira et al., 2016; Gauld, 2016; Hussey et al., 2017; Marques et al., 2017; Mulcahy et al., 2010; Öhman et al., 2002; Öhman et al., 2001; Reeve et al., 2012). An audit in Canada revealed that only 2.1 percent of PT's worked in cardiopulmonary area, compared to 40.9% working in musculoskeletal practice (Canadian Institute for Health Information, 2013). The reason for this discrepancy range from fewer options for postgraduate education (Martín-Martín et al., 2012; Reeve et al., 2012), lack of professional supervision and academic role models (Ferreira et al., 2016; Reeve et al., 2012; Roskell & Cross, 2003), and low competency levels (Roskell & Cross, 2003). Unsurprisingly, interest in musculoskeletal physiotherapy practice has grown exponentially (Öhman et al., 2001; Reid & Larmer, 2007). As an example, in 2018, of the total of 5,133 physiotherapists registered in New Zealand, 58% worked in musculoskeletal physiotherapy (Physiotherapy Board of New Zealand, 2018).

By funding between 70 and 80% of musculoskeletal injuries in NZ, ACC influenced how PT's could assess and treat acute musculoskeletal injuries in NZ (Nicholls et al., 2009). ACC encouraged private musculoskeletal PT's to incorporate the traditional musculoskeletal ways of practice with complementary approaches (Maclachlan, 2012; Nicholls et al., 2009). No doubt, more people were going to physiotherapists for musculoskeletal injuries (Accident Compensation Corporation, 2009). The rise in patient

numbers was even reflected in the gradual increase in PT treatment claimants' percentage by 74% between 2000 and 2008 and that in 2008 (Accident Compensation Corporation, 2009). Moreover, ACC paid over \$125 million for physiotherapy services (Accident Compensation Corporation, 2009). With this ACC policy's help, several PT's stepped outside the stable and secure public health board system to private practices (Nicholls et al., 2009; Reid & Larmer, 2007).

While, the CEP's are not funded in NZ by the public health system to conduct exercise programmes for chronic conditions such as diabetes, cardiac, and respiratory disease, CEP's are commonly practicing in the public system in countries like Australia, the UK, and the USA (Hilpern, 2008; US Bureau of Labor Statistics, 2020; Zhou et al., 2019). Since 2006, the Australian government recognised CEP's as allied health professionals who can provide services with the national Medicare system (Zhou et al., 2019). These professionals are regulated by the national organisation, Exercise and Sports Science Australia (Zhou et al., 2019). Gillam (2015) mentioned that over the past 20 years, CEP's have grown to almost 5000 practitioners and are an integral part of the health system in Australia (Gillam, 2015).

Similarly, the American Society of Exercise Physiologists (ASEP) in the USA has encouraged CEP's advertisement, accreditation, and certification since 1997 (American Society of Exercise Physiologists, 2020). Boone (2015) added, "exercise physiology is the 21st-century healthcare profession to help prevent and manage acute and chronic lifestyle-related diseases". Boone (2015) also mentioned that there is no doubt that regular exercise is medicine. Therefore, exercise medicine is medicine (Boone, 2015). The US Bureau of Labour Statistics (2020) also emphasized that CEP's have been working in hospitals to develop fitness and exercise programmes. Their statistics predict that CEP's employment is projected to grow 10 percent from 2018 to 2028 (US Bureau of Labor Statistics, 2020). This growth is faster than the average for all occupations (US Bureau of Labor Statistics, 2020). "Demand may rise as hospitals emphasize exercise and preventive care to help patients recover from cardiovascular and pulmonary diseases and improve their overall health" (US Bureau of Labor Statistics, 2020).

Likewise, in the UK, Gordon McGregor, a clinical exercise physiologist at University Hospital, Coventry, speculates that demands may rise in hospitals once the

NHS becomes more aware of the CEP profession and their work (Hilpern, 2008). Conversely, China, Hong Kong, and Taiwan do not have the title of CEP's; but, they have recognised a greater need for sports and exercise professionals to meet the country's healthcare demands (Zhou et al., 2019). Messages like the one from Gordon McGregor, the establishment of CEP boards, accreditation objectives, code of ethics, and encouraging academic staff to support the future CEP's, are strategies used to build an emerging profession like CEP's. The data above also indicates a decline in cardio-respiratory PT's compared to the gradual increase in CEP's. I now explore the role of PT's in traditional P2CR and professionalisation are affecting the practice of cardio-respiratory PT's in NZ.

Specialisation: CEP's And PT's

Since the beginning of CR in the 1970s, one thing that has remained almost the same are the aims of P2CR and components of CR by PT's (Hayhurst, 2006; Hoeve et al., 2015).

“Physiotherapists serve as educators, teaching people about the importance of prevention, about the dangers of being overweight or obese, of smoking, stress, or poor diet; and helping them to make healthy life- style changes before they develop serious cardiovascular/pulmonary complications. They take blood pressures, measure heart rates, listen to breath sounds, and observe reactions to exercise, all to find clues to potential problems that otherwise might go unnoticed” (Hayhurst, 2006, pp. 47-48).

The structure of CR and PT's role is still based on the same biomedical approach, pathologies, evidence-based learning, relationships with MDT's, including cardiologists, nurses, and other allied health team members (Hayhurst, 2006). While PT's are required to understand cardiac disease's pathophysiology, it is usually the physical mobility and mechanistic nature of the activity that is important in practice (Allison et al., 2017; Association of Chartered Physiotherapists in Cardiac Rehabilitation, 2015; Hoeve et al., 2015). The basic ideas and principles of rehabilitation have remained somewhat similar since the development of WCU's post-WW1 and WW2 in the early 1940s and 1950s. CR, which began in the 1970s for the management of cardiac patients, also emphasizes

exercise and mobility to maximise independence, improve quality of life and return to work (Abell et al., 2016; Hayhurst, 2006; New Zealand Guidelines Group, 2002). Therefore, a cardiac PT's role also remains mostly unchanged in its purpose of optimising daily physical functioning, lifestyle modifications, and improving exercise capacity (Hayhurst, 2006; Hoeve et al., 2015).

Physiotherapy training in the cardio-respiratory subfield is also limited in New Zealand, and no New Zealand university currently offers a sub-specialization in cardio-respiratory PT (Reeve et al., 2012). Conversely, three colleges and universities offer a postgraduate course in Clinical Exercise Physiology in NZ, including the University of Auckland, Waikato Institute of Technology, and Universal College of Learning. Larson (1977) highlights that training helps set the standard of professions. The profession is allowed to “define the very standards by which its superior competence is judged...professionals live within ideologies of their creation, which they present to the outside world as the most valid definitions of specific spheres of social reality” (p. 13). Education can be seen as a normalising process for PT's and CEP's. It allows for both professions to be compared, differentiated, excluded, or see where they are positioned in the hierarchy (Larson, 1977). Therefore, postgraduate courses, university degrees, and a syllabus outlining the physiotherapy and CEP programmes play a vital role in enhancing the professions and set standards of the norm for PT's and CEP's (Larson, 1977; Reel, 2012).

The physiotherapy profession has seen a decline in the cardio-respiratory specialisation. Having a university degree carries privileges, status, and power (Beddoe, 2014). It is also socially worthy of merit where people who have a professional degree are seen to be of a higher social class (Beddoe, 2014). While there are minimal options for cardio-respiratory postgraduate courses in NZ, the postgraduate diploma in Health Science (Manipulative Physiotherapy) was approved in 1993. This aided musculoskeletal PT's in maintaining high standards, monopolistic control, and dominance in the profession. Hence, the search for excellence and educational standards holds merit (Beddoe, 2014; Marshall, 1998). The knowledge gained during postgraduate training allows for the description of the musculoskeletal specialisation and PT's. In this case, it

also helps in constructing the norm for musculoskeletal PT's to practice in a particular way.

However, a lack of courses in cardio-respiratory Physiotherapy specialisation in NZ could have discouraged PT's from working in this area (Reeve et al., 2012). In contrast to the flourishing musculoskeletal private practice, cardio-respiratory PT's and practice have both deteriorated (Reeve et al., 2012). Although the practitioners running the public health services and teaching at universities are trying to retain an interest in the area, little attention has been paid by cardio-respiratory PT's to the changing strategies, funding, population demographics, and health promotion (Reeve et al., 2012). To explore this situation, Foucault suggested that normalisation is complex, and there are many competing and overlapping points to consider. He contended that the "knowledge we learn in our culture and schools shape us, forces us to understand, see, and know only a biased, individualised, limited, and unique view of the world" (McNicol, 2005, p. 80). Hence, the lack of cardio-respiratory specialisation and support from ACC may have discouraged PT's from working in this area.

So far, I have addressed how ACC legislation in the 1970's encouraged new business opportunities for PT's to grow private musculoskeletal practices. I now describe how the changes in the Health Practitioners Competence Assurance (HPCA) Act (2003) affected the PT profession and allowed blurring of professional boundaries and diversification of similar professions such as CEP to merge and practice in NZ (Ministry of Health, 2003).

HPCA Act

The purpose of HPCA act (2003) is to "to protect the health and safety of members of the public by providing for mechanisms to ensure that health practitioners are competent and fit to practise their professions (s 3(1))" p.12 ("Health Practitioners Competence Assurance Act," 2003). This act replaced profession-specific legislation with individual profession-specific legislation such as the Physiotherapy Board to govern registration and continuing professional development. HPCA allowed for 16 responsible authorities to define their scope of practice and permitted similar professions and organisations to enter public health care ("Health Practitioners Competence Assurance Act," 2003).

Some professionals, such as CEP's, do not have registered under the HPCA Act to practice privately ("Health Practitioners Competence Assurance Act," 2003). While the HPCA Act allows flexibility and individual practice freedom, it also means that professions are held accountable for their professional practice and ongoing education. In contrast, being recognised as a responsible authority under the act, certain provisions allow the scope of the HPCA Act to be extended to enable other professionals that provide health services ("Health Practitioners Competence Assurance Act," 2003). Moreover, although the New Zealand Physiotherapy Board welcomed the HPCA Act changes, the rehabilitation space held traditionally by PT's became a more open ground for other professions (Nicholls, 2008a).

“Selected for Audit — What Next?

“The purpose of an audit of Professional Development is to assess your compliance with the Board’s Recertification Programme. Your Professional Development Report is evidence you are engaging in Continuing Professional Development (CPD) activities relevant to your area of practice and that you are meeting the Board’s recertification requirements” (Physiotherapy Board of New Zealand, n.d.)

Not all changes within the HPCA Act have been positive. These changes have given the Physiotherapy Board of New Zealand greater authority and autonomy to define a physiotherapist’s scope of practice and impose responsible self-surveillance. There is now a need for every physiotherapist working in New Zealand to re-register yearly and be accountable for their continuation of professional competency (Physiotherapy Board of New Zealand). Not every physiotherapist is asked to demonstrate evidence annually. However, the board can randomly select five percent of all registered physiotherapists to be audited. This strategy is no different from the Panopticon example of surveillance, making physiotherapists docile practitioners or docile bodies.

Furthermore, changes in the HPCA Act have been a limiting factor for PT practice where PT's are operating under a 'rigid system' of evidence-based practice, professional

surveillance, and legislative compliance. Whereas, CEP practice confronts some of these orthodox tensions by promoting health consumerism, public health promotion, and normalisation of cardiac disease. It is essential to highlight here that CEP practice is not necessarily offering a new approach to CR - it is the use of strategies, tactics, subject positions, and objects in CR in the context of changing contemporary health practice.

Kelsey (1997) states that legislative reforms in NZ lead to public scepticism of traditional practice, promoting welfare institutions to open and encourage individuals to control their rights and responsibilities (Kelsey, 1997). This grew 'consumerism' in healthcare, where people had choices in healthcare. Therefore, accounting for critical characteristics of neoliberalism such as plasticity, flexibility, marketization, and multiplicity, and its core values - meritocracy, competitiveness, efficiency, individualism, profit, and responsibility, created a space for possible professions such as CEP to emerge and resist conventional physiotherapy (Harvey, 2009; Kelsey, 1997).

The cornerstones of neo-liberalism are accountability and efficiency (Mayes et al., 2016; Young et al., 2017). As a result of neo-liberal changes in NZ, patients have been reformed into consumers of health services allowing relocation of experts within the healthcare market governed by accountability, consumer demand, and competitive commercialism (Young et al., 2017). With these healthcare changes, an increasing emphasis has been placed on patients to co-pay or user-pay for their health care services (Mayes et al., 2016; Young et al., 2017). There has also been an increase in individual autonomy, and choice for health services have gradually increased (Mayes et al., 2016; Young et al., 2017). Consumers have individual autonomy, re-iterating the importance of individual freedom to select health services best suited to their needs (Mayes et al., 2016; Young et al., 2017). Therefore, with greater options for rehabilitation models and a boutique practice in central Auckland, CEP practice at The Movement Clinic is a prime example of consumerism in healthcare.

NZ health policy has recently also seen the re-introduction of rhetoric, which shaped the health policies in the 1980s (Public Health Advisory Committee, 2004). NZ health policy became and still is peppered with comments such as: "tighten their spending belts," "disproportionate amount of costs," "an exasperating problem for

DHB's struggling" (Hart, 2019). Like other political rhetoric, a language like this has shaped the NZ health system by placing pressure on public health care and partnering with private industries to make up for shortfalls in budgets. Fitzsimmons also described this in NZ healthcare as "the public sector itself has undergone considerable downsizing as successive governments have pursued the privatization agenda...There has been a clear shift away from universality to a modest safety net" (Hart, 2019). These changes destabilise the old welfare goals of equality, belonging, and participation.

The emergence of the shadow state allows for a reduction in the government's responsibilities and places pressure on the philanthropic trusts to provide and cater for a higher capacity than what they are currently working at (Argyrous & Stillwell, 1996; Peters, 1997). Within healthcare, the notion of contestability suggests an increased number of treatments be provided by more therapists entering the competition or 'contest' in the market (Peters et al., 2000). During this contest, the therapists are paid for by the savings made, eventually lowering the price of the treatments or services provided (Peters et al., 2000). The government may provide funds for additional therapists, support services, and private practices from the savings collected. Therefore, the government has encouraged a market environment where the efficiencies are maximised while supporting the welfare service (Peters et al., 2000). Similarly, government policy is gradually shifting away to provide a minimum safety net. Usually, the surplus gathered from this process is euphemistically known as the 'efficiency dividend' and is the neoliberal way of defining social equity (Peters et al., 2000).

Now that I have addressed the decline in cardio-respiratory PT's, increase in CEP's and education for both professions, I use Foucault's concepts of governmentality and neo-liberalism to describe the Movement Clinic based in Auckland. Foucault explains that governmentality is "the way in which the *conduct* of individuals or of groups might be directed – the government of children, of souls, of communities, of the sick ... *To govern, in this sense, is to control the possible field of action of others*" (Foucault, 1983, p. 221). Hence, I describe the different governmental technologies used to guide and shape cardiac patients conduct to achieve specific objectives. According to Rose (1996), these technologies could include methods of examination and evaluation, P2CR routines and timing of activities in particular locations, standardised training

tactics, therapeutic techniques used, architectural form in where P2CR takes place, i.e., the clinic space, and techniques utilized for P2CR by health professionals (Rose, 1996). Here, it is essential to look at the dynamic interplay of elements and technologies to understand how governmentality and power influence and shape the practice of P2CR.

In the next section, I explore how CEP's in this practice are treating patients with cardiac disease, interactions between CEP's and patients, and CEP's and PT's in Auckland. While this clinic alone is not enough to indicate a change in P2CR practice in NZ, this practice was chosen partly due to cardiac patients referrals from one of the DHB's to this clinic once the DHB affiliated CEP practice in Auckland was closed. Analysis of this practice will help understand boundary tensions felt between the PT's and CEP's practicing P2CR in Auckland. This could indicate a potential future change in the practice of P2CR. This section explores the various objects, subjects, concepts, and strategies employed by CEP's to run a boutique P2CR programme for cardiac patients. To ensure confidentiality, the CEP clinic's practice manager will be known as Miss A (pseudonym).

CEP Facility For Rehabilitation: Auckland, NZ

In this section, I focus on the practice of exercise and rehabilitation developed by CEP's at the Movement Clinic to govern patients with CVD. However, I do mention other Auckland-based practices similar to the Movement Clinic. Governing is "the totality of interactions, in which public, as well as private actors, participate, aimed at solving societal problems or creating societal opportunities; attending to the institutions as contexts for these governing interactions; and establishing a normative foundation for all those activities" (Kooiman, 2003, p. 4). Hence, I look at how CR has been problematised and involves public hospital PT's, governmental organisations, physiotherapy, and CEPNZ boards in creating more options for P2CR.

CEP's have a recently opened private clinic in a central and busy suburb of metropolitan Auckland, New Zealand. The Movement Clinic is a clinic where patients from one of the largest DHB's in New Zealand are referred to if they prefer private CR following a cardiac event. This clinic can be seen as a practice of neoliberal governmentality. Along with other CR facilities, The Movement Clinic could also be seen as an institution to normalise activity and patients.

The Movement clinic is single storey healthcare facility and accommodates four small-medium sized clinic rooms, a gymnasium, patients lockers, and an open reception area with a waiting area. The reception of this Movement Clinic provides an open and welcoming feel to the clinic space. Clinic rooms could be viewed as a mini science laboratory where exercise tests are conducted, and patients initial assessments occur. The clinic is run by Miss A, along with three other CEP's. It primarily offers services such as pre-rehabilitation, rehabilitation, and exercise tests. Although, there are other CEP clinics such as Advanced Rehab, the Health and Performance clinic, Proactive, and BodyLab. The Movement Clinic is one of the emerging CEP clinics in Auckland, where patients are usually referred by a health professional or self-referred to the clinic for CR. Patients attending these programmes typically have to pay a premium price compared to the free programme offered by DHBs. With the practice of CR here, power seeps through various crisscrossing webs in the social body, involves different actors and technologies, new areas of knowledge and expertise that are being connected in new ways.

The Gymnasium At The Clinic

CEP's appear to be making cardiac disease and decreased exercise capacity their business. At the Movement Clinic, CEP practice offers an approach to rehabilitation unseen previously in Auckland. The slogan "Applying the science of exercise for health" are the words patients first see when they attend the clinic, which targets the idea of consumerism. Similarly, the CEP's at another clinic also mention "Improve your training and performance in our lab" and "improve your respiratory condition drug free" (Body Lab, n.d, n.d.). Furthermore, a different CEP clinic also suggests that the clinic provides "best sports science support, irrespective of your requirements whether it be rehabilitating from an injury, improving your strength and power, honing your cardiovascular fitness, or acclimatizing to heat" (AUT Millenium, 2020). At the Movement clinic and the other CEP clinics, health is promoted to appeal to its consumers or patients. Therefore, I start by looking at the architecture of the Movement clinic, and I focus on this CEP practice.

According to Foucault, the structure and design of space (clinic, hospital, or school) as an organisation can be traced back to past social ideologies that aimed for docility and productivity utilising observation. For example, many schools or hospitals are designed similarly to the heterotopia, utopian body, and/or panopticon-like scheme. Panopticon, in simple terms, is the architectural structure of observation (Briscoe, 2008). Panopticon, therefore, provides a paradigm for understanding the processes around which health practice is managed and structured. This shows that power is embedded within these spaces to discipline the activities of potential students or patients.

In *Discipline and Punish* (1977), Foucault also explored how an object can be controlled or manipulated through the creation of institutions. He stated, “discipline is, above all, analysis of space; it is individualisation through space, the placing of bodies in an individualized space that permits classification and combinations” (Foucault, 2007a, p. 147). These can be schools, factories, hospitals, or asylums. The microscopic details, such as the arrangement of clinic space with exercise bikes, desks, and blood pressure equipment, must be viewed as a part of the relations of power operating at a micro-political level. These are often hidden from scrutiny but exist to discipline and govern patients attending CR at the clinic. Foucault mentioned that the aim of these technologies or panopticon like places is threefold.

Firstly, to exercise power at minimal effort or cost. Secondly, to extend the effects of social power as discretely as possible and at its maximum intensity. Lastly, to increase the docility and utility of all the elements of the system. In a nutshell, these places or technologies aimed to create a docile body that can be subjected, used, improved, or transformed most rationally and economically possible (Dreyfus & Rabinow, 1983). After all, “the hospital constitutes a means of intervention on the patient. The architecture of the hospital must be the agent and instrument of cure” (Foucault, 1976). Although I am referring to the Movement Clinic in this section, Foucault’s example of the hospital applies to the health clinic space here. Therefore, I address the architecture and design of the Movement clinic here as the architectural plans could indicate how society is starting to organise itself and disciplining patients.

Figure 20.

Gymnasium at the clinic



Photograph from The Movement Clinic

As seen in Figure 20, the design and layout of the gymnasium and clinical space, CEP's at this clinic are moving away from the traditional orthodox physiotherapy practice into a new space of allied profession or alternative medicine. Turning its back on the serious and dull hospital physiotherapy space and austere medical ward department, the Movement Clinic resists several functionalist constraints enforced by orthodox PT's. The reception is lively with bold colours around the reception, three multi-colour paintings, and a large plant, creating a more homely and inviting feel.

There are subtle clues about the clinic's modern and sophisticated practice philosophy when entering the Movement Clinic. For example, there is a standing desk on the side of the gym with two sleek computers suggesting a modern clinic space concept. Hospital plinths have been removed, and the exercise equipment provides a clinical feel with multiple machines stationed in an organised manner. The standing desk in the corner and a gym setting where the CEP's can observe patients from multiple angles also illustrate the importance of observation. This CEP practice seems to have become one of the institutions to adopt and implement the pervasive process of observation and supervision (panopticism) in its effects to govern, discipline, and normalise patients.

Furthermore, the gym and the CEP's working at the Movement Clinic can address the inequalities in patients heart rate, muscle movements, and exercise intensity using surveillance. The front window, which depicts a patient on a rowing machine with ECG

leads, adds a 'science-based' feel, which is the clinic's selling point. Only a manual blood pressure machine in the gym space reminds patients of the clinics' cardiac and respiratory roots (Figure 20). Attention has been paid to create a contemporary image as compared to the more traditional public hospital space. The art of distribution of equipment in the gym and enclosure and space segmentation allows for control of patient activity (Foucault, 1977a). It also enables CEP's to know how patients are placed in relation to each other in the gym and eventually discipline patients.

Difference between CEP's and PT's local practice in Auckland

Governmentality is about:

"The emergence of specific regimes of truth, exploring the ways in which various modalities of speaking the truth are formed, authorised truth speaking persons designated, and areas in which, about whom and from where, statements, discourses and practices rooted in truth are generated".

Hence, I now look at how the truths, such as new knowledge about CR are put into practice and by whom. By looking at the differences in the practice of P2CR and what the Movement clinic offers, I explore the conflicts, alliances, and subordinates present to the other truths. One of the main aims here is to explore the possible 'enunciation fields', the practices that connect and illuminate the various relationships between words and concepts, and the conditions of possibility for stating serious statements (Dreyfus & Rabinow, 1983).

While describing the new facility, one of the CEP's states:

"DHB's do offer basic cardiac rehabilitation but a new clinic in Auckland, the Movement Clinic, has been established to offer an in-depth programme where at-risk people are heavily monitored as they exercise and progress back to health.... Miss A says the intention of the new facility is to provide rehabilitation programmes where exercise is closely monitored before, during and after a patient's workout." ("The statistics are harrowing", 2017).

Figure 21.

Notes from the CEP clinic

The image shows two pages from a spiral-bound notebook, likely used for clinical documentation. The left page is divided into two main sections: 'SOAP Notes' and 'Cardiorespiratory'. The 'SOAP Notes' section has columns for 'Date', 'Description', and 'Initials'. The 'Cardiorespiratory' section has a 'Pre' column and a 'Post' column, with various physiological parameters listed for recording. The right page is divided into two main sections: 'Body Composition & Blood Profile' and 'Week 1'. The 'Body Composition & Blood Profile' section has 'Pre' and 'Post' columns for various measurements. The 'Week 1' section has three columns for 'Date', 'Pre', and 'Post', with various physiological parameters listed for recording.

Photograph from The Movement Clinic

As detailed in the quote above, stating that the CEP clinic is a ‘new clinic’ makes the practice sounds exciting and exclusive. Moreover, “offering an in-depth programme” raises a question about PT practice, which is also monitored; however, it has not been expressed this way previously. Heavy monitoring is done by CEP’s at this clinic using a constant heart rate monitor on patients during their rehabilitation programme. These objects offer another form of surveillance and examination to promote panopticon-like philosophy and discipline. The knowledge obtained from examination and evaluation is documented during the patient assessments and rehabilitation (Figure 21). This form of surveillance allows the subject (patient) to be an ‘observee’ or a passive recipient while exercising. Constant monitoring allows CEP’s to closely observe the intensity of cardiovascular exercise during the programme. If, for example, the patient is not reaching his targeted heart rate, CEP can record and notice the patient during exercises. This allows for surveillance and discipline to collide, as the patient undergoing rehabilitation can be ‘seen’ and is present in the clinic, so consequently can be policed.

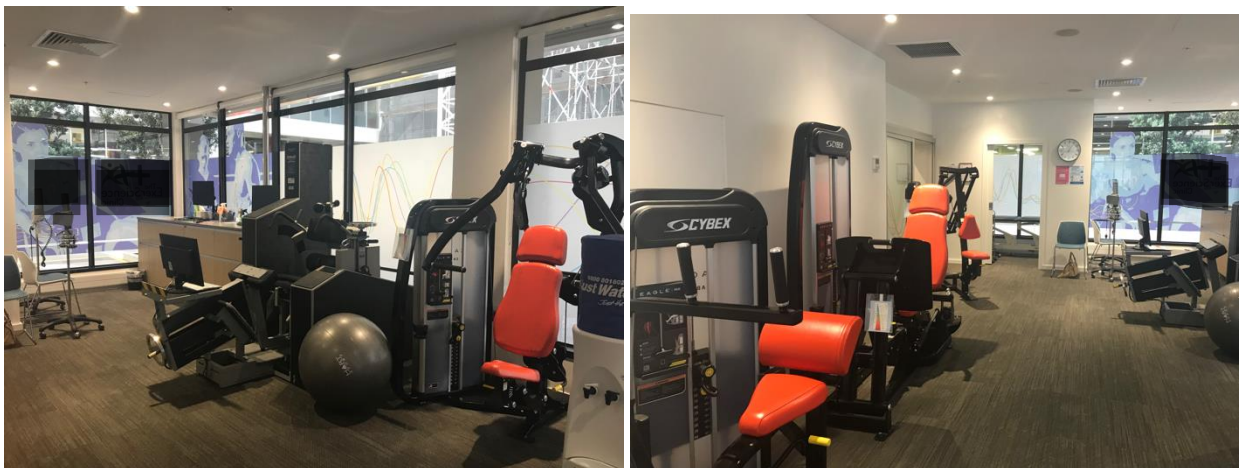
This data and the recording of other measures like regular blood pressure, incline/watts, fitness category percentile, weight, and oxygen saturation allow CEP’s to

track if the rehabilitation is progressing. Principally, codifying of the body measures plays an important role (Ostrander, 1987). Now, if the patients data was is recorded in such a detailed numerical manner, it draws them towards self-reflection and monitoring of lifestyle measures such as disciplined dietary patterns and regular exercise to help with their overall rehabilitation.

Recording data in such a detailed manner for every patient allows a transition from self-surveillance to self-discipline, as well as internalising a discerning gaze similar to Foucault's' description of Panopticism (Ostrander, 1987). Here, surveillance flows in various directions, with patients playing both 'observer' and 'observee' at different moments during their rehabilitation. These voluntary associations with surveillance during rehabilitation make it a powerful strategy in inscribing healthy lifestyle changes during patients rehabilitation. Furthermore, it encourages consumerism as it allows patients' to select if they would like rehabilitation of this sort and eventually allows for reform in healthcare practice (Ballance, 2015; Hayhurst, 2019).

Figure 22.

Gymnasium at the CEP clinic



Photograph from The Movement Clinic

Most of the clinic rooms have exercise testing equipment, highlighting that this practice is focussed on specialised and scientific exercise testing and rehabilitation (Figure 22). This is similar to the other CEP clinics in Auckland. It provides a sterile, biomedical, and functional environment where the scientific tests provide clinical data that can be interpreted only by a CEP. This situates the patient as a passive recipient

during treatment, while CEP's are building on their profession's legitimacy. Although the physiotherapy room layout of the plinth, computer, basic wooden desk, and a sink in the middle of the room provided a layout that played a vital role in establishing the profession since its early days, it also limited the professions ability to change its identity with the shifting culture of healthcare (Nicholls, 2008a). These minor changes in the layout of the CEP practice challenge several of the critical discourses that underpin PT's professional identity.

Figure 23.

Treatment options at CEP clinic

	The Works	The Basic	The Kickstart	Build Your Own
INITIAL ASSESSMENT	CONSULTATION Medical history EXERCISE TESTING Resting and Stress ECG Exercise Test (VO2 max) BODY COMPOSITION Weight Waist Circumference DEXA Scan BLOOD TESTS Cholesterol and Blood Glucose STRENGTH TESTING Chest Lower Back Legs	CONSULTATION Medical history EXERCISE TESTING Resting and Stress ECG Exercise Test (VO2 max) BODY COMPOSITION Weight Waist Circumference STRENGTH TESTING Chest Legs	CONSULTATION Medical history EXERCISE TESTING Resting and Stress ECG Exercise Test (VO2 max) BODY COMPOSITION Weight Waist Circumference STRENGTH TESTING Chest Legs	CONSULTATION Medical history EXERCISE TESTING Resting and Stress ECG Exercise Test (optional VO2 max) BODY COMPOSITION Weight Waist Circumference STRENGTH TESTING Chest Legs
	TAILORED EXERCISE PRESCRIPTION 36 CEP monitored exercise sessions Recommended to be used over 12 WEEKS EDUCATION SEMINARS NUTRITIONAL RECIPES	TAILORED EXERCISE PRESCRIPTION 36 CEP monitored exercise sessions Recommended to be used over 12 WEEKS EDUCATION SEMINARS NUTRITIONAL RECIPES	TAILORED AEROBIC EXERCISE PRESCRIPTION 12 WEEK MEMBERSHIP AT BODYTECH GYM Unlimited access to BodyTech gym. Strength circuit overseen by BodyTech staff. PROGRAMME PROGRESSION Fortnightly catch-up with a CEP to check and progress exercise prescription.	TAILORED EXERCISE PRESCRIPTION CEP MONITORED EXERCISE SESSIONS Single sessions and concession cards available. HOME-BASED PROGRAMME PROVIDED
	POST PROGRAMME EXERCISE & STRENGTH TESTING POST PROGRAMME DEXA SCAN & BLOOD TESTS REPORTING Specialist GP Client Medical Clearance sought for independent exercise FUTURE EXERCISE PRESCRIPTION	POST PROGRAMME EXERCISE & STRENGTH TESTING REPORTING Specialist GP Client Medical Clearance sought for independent exercise FUTURE EXERCISE PRESCRIPTION	POST PROGRAMME EXERCISE TESTING REPORTING Specialist GP Client FUTURE EXERCISE PRESCRIPTION	POST PROGRAMME EXERCISE & STRENGTH TESTING REPORTING Specialist GP Client Medical Clearance sought for independent exercise FUTURE EXERCISE PRESCRIPTION
	From \$2,550	From \$2,250	\$1,250	Initial testing & programme: from \$250 60 minute exercise sessions Single sessions: \$80 10x concession \$720 30 minute exercise sessions Single sessions: \$50 10x concession \$450

Adapted from The Movement Clinic's website

By offering alternative rehabilitation models, CEP practitioners at the Movement Clinic are testing the boundaries and destabilising other technologies used in orthodox physiotherapy practice. As depicted in Figure 23, several options for treatment and rehabilitation, and packages range from “build your own” to “the works” programmes. With these options, the prices differ, and a consumer gets what they pay for. For

patients who can afford the private, scientific-based CR, it makes the cardiac disease more exciting and innovative due to the services and options offered at the clinic. Unfortunately, for patients affected with cardiac disease, in most need of CR, they might not be able to afford services offered at private facilities like these.

Recent statistics from the Ministry of Health highlight the disparities in CVD indicators between Maori and non-Maori (Ministry of Health, 2019). A Maori person with CVD is 1.5 times more likely to be hospitalised compared with a non-Maori. In healthcare, "Maori and Pacific adults and children are more than twice as likely not to have collected a prescription due to cost than non-Pacific and non-Maori adults and children respectively" (Ministry of Health, 2019). These disparities are observed throughout the healthcare system from poor health outcomes, hospital attendance rates, and cardiovascular mortality rates (Kirk, 2018).

NZ Health Minister, David Clark reviewed the system and commented:

"we need to face up to the fact that our health system does not deliver equally well for all. We know our Māori and Pacific peoples have worse health outcomes and shorter lives. That is something we simply cannot accept" (Kirk, 2018).

These statistics from the health ministry raises several points. Firstly, there is a clear indication of healthcare utilisation between Māori and non-Māori due to the lack of healthcare affordability. These differences separate the patients within the health system where the wealthy patients can afford private care compared to the population groups such as the Maori and Pacific peoples who must use the public health system. Ultimately, creating differences in the healthcare system.

Figure 24*Cardiovascular disease indicators***Table 22a: Cardiovascular disease indicators, by gender, Māori**

Indicator	Males	Females	Total
Total cardiovascular disease mortality, 35+ years, rate per 100,000, 2010–12	346.9 (328.6– 365.9)	232.3 (219.2– 246.1)	286.8 (275.7– 298.3)
Total cardiovascular disease hospitalisation, 35+ years, rate per 100,000, 2012–14	3725.6 (3660.3– 3791.8)	2710.2 (2658.6– 2762.6)	3186.4 (3145.3– 3228.0)

Table 22b: Cardiovascular disease indicators, by gender, non-Māori [\[1\]](#)

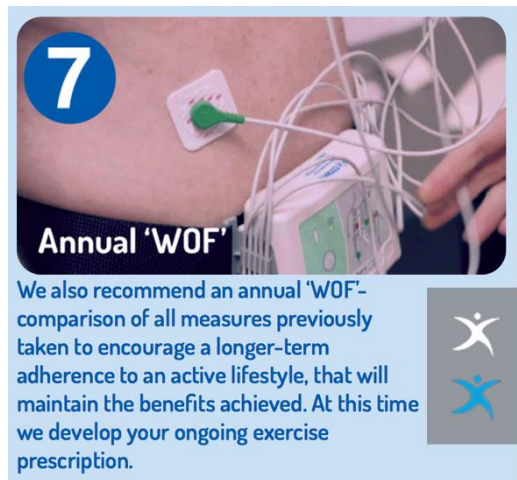
Total cardiovascular disease mortality, 35+ years, rate per 100,000, 2010–12	168.2 (165.3– 171.0)	99.2 (97.6– 100.8)	132.4 (130.8– 133.9)
Total cardiovascular disease hospitalisation, 35+ years, rate per 100,000, 2012–14	2537.2 (2522.1– 2552.3)	1376.0 (1366.5– 1385.7)	1938.6 (1926.9– 1947.4)

Cardiovascular disease indicators by Gender adapted from (Ministry of Health, 2018).

Currently, there are no private cardio-respiratory PT clinics in NZ that offer CR options as CEP's provides to consumers. The Movement Clinic also uses techniques such as spirometry, prescribing safe exercise programmes, and monitoring that has been used by cardio-respiratory PT's for many years. However, the difference here is that CEP's have commercialised and colonised the rehabilitation previously territorised by PT's due to reasons such as changes in ACC and decline in cardio-respiratory PT's, to name a few. I explore the Movement Clinic's promotional material first and address some of the health professional boundary tensions between the two professions.

Figure 24

Promotional material



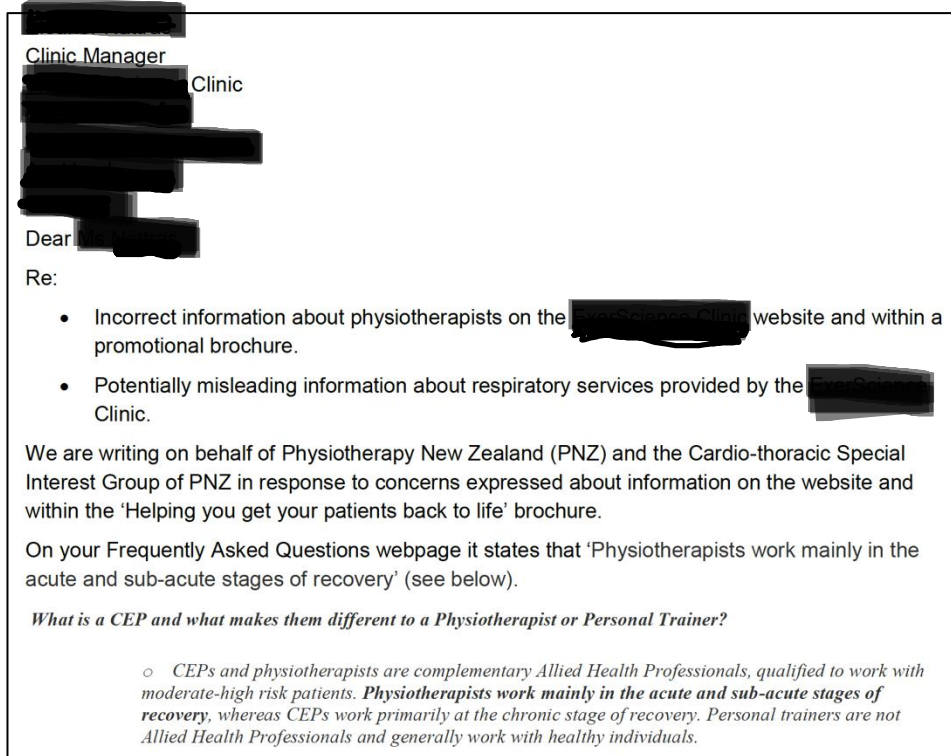
Promotion material adapted from The Movement Clinic website

Another noticeable strategy used by CEP's is the language in the promotional material and articles that have become their marketable commodity. As shown in Figure 12, patients are encouraged to have an 'annual WOF' to compare objective measures previously taken to help support the design of an updated exercise programme. PT's have been monitoring patients progress and updating patients exercise programmes for many years. However, as seen in Figure 13, CEP's in this clinic have colonized this technique by making it their own, promoting their roles and scope of practice on their Clinic website (Figure 13).

In the section above, I focussed on the different strategies and technologies used by CEP's at the Movement Clinic and PT's during their practices of P2CR in Auckland. Next, I write about how the recent tensions between the CEP's and PT's in Auckland can be viewed from the governmentality lens. The difference between CEP and PT roles in rehabilitation mentioned in one of the CEP brochures sparked tensions between two professions (CEP's and PT's).

Figure 25

CEP's and PT's – 'territorial' debate



As mentioned earlier, CEP's and PT's are complementary allied health professionals, qualified to work with moderate to high-risk patients. However, the Movement Clinic handouts provided at the 2017 Cardiac Society of Australia and New Zealand Conference and the clinic mention that PT's work "mainly at the acute and subacute stages of recovery whilst clinical exercise physiologists work mainly at the chronic stage of recovery" (The Exerscience Clinic, 2017, p. 8). There was a comment about PT's and CEP's in the frequently asked question section, which raised concerns about the different roles CEP's and PT's play in health care practice. "Physiotherapists work mainly in the acute and sub-acute stage of recovery" can be seen as an incorrect statement, as pointed out by the Cardio-Thoracic Special Interest Group (CTSIG) board.

Amid tensions between CEP's and PT's in NZ, this letter is one of the many ways CEP's and PT's have aimed to protect their 'territory' or profession. Here, PT's are possibly threatened that CEP's will take PT's work (P2CR) traditionally done by PT's in NZ. The letter explains that CEP's were required to be subject to government measures that would deal with issues of territory and professional boundaries encroachment. Ms. X and Ms. Y from the Cardio-Thoracic Special Interest Group (CTSIG) at the

Physiotherapy New Zealand board (PNZ) wrote the letter above on 17th May 2017 to the clinic manager of one of the CEP clinics.

“CEPs and physiotherapists are complementary allied health professionals, qualified to work with moderate-high risk patients. Physiotherapists work mainly in the acute-sub acute stages of recovery, whereas CEP’s work primarily at the chronic stages of recovery. Personal trainers are not Allied Health Professionals and generally work with healthy individuals”.

The statement above sparked tensions between PT’s and CEP’s in early 2017 for several reasons. Firstly, there is a lack of appropriate description of PT’s working in the rehabilitation area, particularly, cardio-respiratory PT’s running CR and pulmonary rehabilitation classes. This has disrupted the rehabilitation practice of PT’s, causing a situation where PTs are upset with their description of work by CEP’s. Secondly, PT’s believe there is a possibility for this information to be misinterpreted by the general public who want to make an informed decision about their healthcare. This makes rehabilitation a problem relating to the safety and recovery of the population. Lastly, it is not the role of one profession or a clinic to comment on other professions' scope of practice, such as PT’s work, mainly at the ‘acute and subacute’ stages of recovery.

These tensions and PT’s response can be viewed as a practice of governmentality. Foucault used governmentality to highlight how power formations were historically possible (Dean, 2010). Foucault was interested in the archaeological interrogation of various discourses and statements to understand how power and knowledge are constructed (Dean, 2010). In simple terms, Foucault used governmental analyses to portray that the possession of power and knowledge are not progressive; however, often contextual and incidental (Dean, 2010).

PT’s have expressed concerns about the information CEP’s have included on their website and promotional material. In this letter (Figure 25), CTSIG has used clear and direct language in the letter by using the words ‘incorrect’ and ‘misleading’ twice to refer to the information that was publicised by CEP’s on their website and promotional

brochure. PT's are unhappy and upset about CEP's using PT's as a reference point to write about their roles as professionals. Like other professions, Physiotherapy as a profession has gradually established boundaries of what, how, and why they do their practices in a certain way. Moreover, for CEP's to use PT's as a comparison has created feelings of anger, unhappiness, and a threat to PT's.

PT's have been working as health professionals for over a hundred years (Nicholls & Larmer, 2005), and for a new profession like CEP to comment on PT's role within healthcare was not approved by PT's. This challenge by CEP's was also seen as a threat to physiotherapy professional boundaries. The statement about the scopes of practice of PT's and CEP's suggests that CEP's are unaware of PT's scopes of practice; however, due to statements like these, PT's feel that CEP's are encroaching the professional territory within the healthcare system. This may be seen as CEP using PT's already acclaimed hierarchy or status in the health industry to prove themselves. However, CEP's are now recognised as Allied Health Professionals in NZ, similar to Australia, USA, and the UK. In NZ, CEP practice could be viewed as a threat by the PT's because there are only two DHB's in Auckland that have a P2CR programme. If a clinic like the Movement Clinic would start a CR programme, it would potentially have a significant professional impact on the traditional CR practice by PT's.

This letter can be viewed as PT's conducting the way they want CEP's to behave and practice regarding their rehabilitation practice. Ms. Y has some power within the PNZ and comes across as bold, confident, and concerned for PT's. However, Ms. Y has raised her concerns about PT's professional boundaries with Ms. X as she has the title of Professional Advisor – Policy and Practice. Therefore, according to governmentality, this letter can be viewed as a strategy used by PT's to threaten another profession and acquire power over CEP's. This letter may also be viewed as a group of professionals, that is PT's trying to reign back a potentially successful clinic. I have already mentioned CEP being widely accepted in several countries around the world. This letter is one of the strategies that PT's could have employed to express their concerns as well. It is essential that the letter is sent by the people in charge of CTSIG and are in a commanding position within the PNZ to create an impact.

Interestingly, the letter is addressed to Miss A. She is the clinic manager at the CEP Clinic, highlighting that the topmost influential person at the PNZ board is sending a letter to the topmost CEP clinic. While there are other CEP clinics such as BodyLab, Human Potential Clinic, Axis Sports, and Proactive, the Movement Clinic is highly regarded by health professionals and was used as a referral point for private CR patients within one of New Zealand's largest DHB's. However, the letter is still sent to a local clinic in Auckland and not the CEPNZ board. According to Foucault's concept of governmentality and disciplinary technologies, sovereign power is owned by neither Ms. X and neither the PNZ. PNZ board deciding PT laws and practice probably has some sovereign power; however, sending the letter to Miss A is a softer approach to threaten a single CEP practice. It appears to me as if an established allied health profession is threatening an upcoming clinic as compared to the CEP profession, hoping the points addressed in the letter will not be a big issue. Therefore, I believe the letter is still defensive as the issue addressed here is a professional issue and not a legal issue.

It is not currently possible to argue that the Movement Clinic's CEP approach to rehabilitation moves away from the mainstream, traditional orthodox care by providing future patients with a consumer-focussed and boutique approach to health. This is known as healthcare commodification (Yang, 2017). Here, the "access to healthcare service depends primarily on the ability to pay for the services rather than on medical need" (Yang, 2017, p. 64). Health commodification, as done by CEP's, can occur for various reasons. Such as patient dissatisfaction, long waiting queues at public hospitals, or even inattentive staff (Yang, 2017). However, CEP's claim their approach to rehabilitation stemmed from 'lack of medically-focussed exercise rehabilitation clinic of this kind in NZ' (The Movement Clinic, 2019). In contrast, it is essential to mention that I have only considered a single CEP practice in Auckland. This boutique approach might not be the case in other CEP practices in NZ. NZ also does not have CEP's as part of the P2CR and pulmonary rehabilitation team at the hospital. This is potentially another reason why CEP's are involved in private CR programmes.

Conclusion

I began this chapter with the idea that there is a rupture happening in the practice of CR in NZ. I believed part of the reason PT's in NZ were threatened was

because of minimal P2CR options and for a similar profession to emerge would affect PT's professional status and role in healthcare. To explore this, I addressed how CEP's are recognised allied health professionals in countries like the USA, UK, Canada, and Australia. CEP's are already practicing in the rehabilitation departments in public hospitals and healthcare. Secondly, I used Foucault's ideas of governmentality and neoliberalism to understand the emerging practice and commodification of P2CR by CEP's in Auckland. A critical point addressed in this chapter was the commodification discourse, which also resulted in boundary tensions between PT's and CEP's in recent years. Here, I highlighted reasons such as changes in ACC, HPCA act, professionalisation, and decline in cardiac PT's.

Lastly, I described the various strategies, practices, subjects, and instruments developed by CEP's that have varied with conventional physiotherapy's orthodox material practices in NZ. I have highlighted how the Movement clinic practice is testing boundaries while operating at traditional physiotherapy margins by problematising CR with a new lens in Auckland. Overall, looking at the data presented in this chapter, I believe there is potentially a gradual change happening in healthcare globally. CEP's could become part of the national public healthcare system in NZ. This could mean that the profession that best reflects the changing world of healthcare and the practice of P2CR will be the one that 'wins'. While having CEP's as another health professional in the community could be beneficial in providing more options for patients rehabilitation. It might require addressing of professional boundary roles and tensions between CEP's and PT's in NZ.

Chapter Seven: Discussion

This study began with a concern that an emerging profession such as CEP's, pose a professional threat to an established profession of PT's practicing CR in Auckland, NZ. This professional threat and shared space of CR practice resulted in PT's trying to protect their professional identity and territory. Therefore, this study analyses the boundary tensions and overlapping roles between healthcare professionals practicing P2CR in NZ. The study focussed on power relationships between CEP's and PT's practice of P2CR in NZ by concentrating on how things are currently and how they could be otherwise. This study looked at disciplinary technologies, discursive formations, power, and governmentality to explore how the practice and boundaries of CEP's and PT's are evolving.

I addressed two crucial discourses that have shaped and constructed the PT's involvement as a profession and their participation in CR. These include biomedicine and normalisation. These discourses aid in understanding how the practice of CR came to be practiced in specific ways. My findings in the thesis support that although CEP's are practicing private CR outside of the free P2CR offered at DHB's in Auckland and are posing a threat. They (CEP's) are not necessarily taking over CR in NZ. Professional tensions such as these have also been noted in the past between complementary or alternative medicine and medicine (Mizrachi et al., 2005; Orr et al., 2019), or between chiropractors and musculoskeletal PT's (Naidoo & Buhler, 2009; Skargen et al., 1997; Theberge, 2007). Therefore, the empirical evidence in this study does not support a clean sweep for CEP's practicing P2CR in NZ; instead, it explores small shifts in P2CR that have resulted in PT's reaction to protecting their professional boundaries.

In this chapter, I aim to consolidate, interpret, and describe my findings' significance and consider the potential implications and insights emerging from re-thinking CR practice in healthcare. This chapter is divided into four sections, followed by strengths and limitations, recommendations for further research, and conclusion.

Good Citizenry

One of the themes evident from the analysis is the interplay between what is understood as being a good and useful citizen, returning to work, and the aim of WCU or CR. I mentioned in chapter four that WCU in the 1950s can be understood as what CR is now. This is partially due to the similarities noted between the two forms of rehabilitation. Both WCU's and CR involved multiple health professionals (physician, cardiologist, psychologist, nurses, PT's, and more recently CEP's), aimed at returning patients to the useful citizenry and normal society, and this process involved some form of exercise and rehabilitation. WCU's possibly helped shift a cardiac patient from being a sick and disabled patient to being a useful member contributing to the economy and normal societal functions.

In the years following the First and Second World War, economic and industrial pressures were a real danger to the society and country (Eichengreen, 2015; Hilpert, 2015). The impact of disability was a significant loss to a country's economic growth (Eichengreen, 2015; Hilpert, 2015). Casual and temporary jobs for men were not seen as reliable, and there was a threat that these men would also become a social burden to their families and country's economy (Hellerstein, 1959; Kahn, 1958). Skilled and permanent jobs were encouraged, and people were rehabilitated into suitable jobs (Crowgey, 1959; Hellerstein, 1959; Katz, 1958).

Chapters five and six address the need of disabled soldiers and patients to return to work, contribute to the economy and society, and be good citizens. Being a good citizen had potential benefits as patients were rewarded with job training, financial benefits, and long-term jobs that would benefit their families and the economy (Eichengreen, 2015; Hilpert, 2015; Rosner, 1955b). Disability and fragility, post-cardiac event, and WW2 were seen as a critical discourse that helped establish WCU's (Kahn, 1958; Katz, 1958).

While the establishment of WCU's can be seen as a beneficial move for the country's economic and social growth, these discourses also created possibilities for medical doctors, nurses, and psychologists. Health professionals, mainly physicians, were requested by the state to increase participation of the returned soldiers and

patients with disabilities post-cardiac event to return to work (Hellerstein, 1959; Jarvis, 2010; Kahn, 1958). This is partly because physicians were trusted by the people and the state (government) to provide rehabilitation (Eichengreen, 2015; Hilpert, 2015). Physicians were also experienced and had provided treatments during WW1 and WW2, influenza, plague, and typhoid epidemics in the early 1900s. Therefore, the medical profession carried authority and autonomy in society (Wright et al., 2017).

It was not just the patients who were good citizens, but also the health professionals involved in the WCUs and CR programmes that helped create good and useful citizens. In the context of good citizenry, the involvement of PT's in CR programmes is an example of how PT's have benefitted professionally from being good citizens in the eyes of the state and people. This is illustrated in my analysis, where I have addressed how physiotherapy gained its professional status by having close ties with the medical profession. Physicians were already well regarded as a profession, and PT school had a curriculum strongly influenced by biomedicine and anatomy that allowed PT's to be closely associated with the physicians. The establishment of the Physiotherapy school in Dunedin and Auckland, the involvement of PT's like Gay Wood in the initial CR programme initiated by Dr. Nye in Dunedin, access to the public health system and patients, funding from ACC, and being rewarded a professional status are all examples of PT's being regarded as good citizens and supposed benefit of being good citizens.

Boundary Tensions And CR

The role of boundaries in healthcare is a concept that I have addressed throughout my study. Boundaries can be defined as "socio-cultural differences between groups that may lead to discontinuity in action or interaction" to emphasize action, activity, and work usually required at different boundaries (Akkerman & Bakker, 2011, p. 133). Craemer and colleagues (2018) highlight that patients with MI need various health professionals and departments to act on them, their families, and towards them (Cramer et al., 2018). This makes patients boundary objects (Akkerman & Bakker, 2011). Different professions work towards and against each other in the same space, often focussing on protecting their workload and autonomy to ensure the patients with MI

are receiving optimal care and attention (Akkerman & Bakker, 2011; Cramer et al., 2018).

Initially, the idea of boundary tensions stemmed from the increased growth of CEP's competing in a similar business of CR rehabilitation and exercise as PT's (Mooney & Rhodes, 2018). However, boundary negotiations and tensions over responsibility, specialisation, territory, and workload operate at different stages of treatment and CR (Cramer et al., 2018). Once the patient is discharged from the acute hospital, they are referred to an outpatient appointment with the cardiologist or a cardiologist supervised nurse specialist clinic (Benatar et al., 2016). Here, the nurses have specialised and developed their scope of practice to see these cardiac patients following acute hospital discharge (Benatar et al., 2016).

With the re-negotiating of boundaries, Foucault's understanding of power also helped in understanding boundary tensions. Power can be viewed as a relational force that connects the entire social body in a "web of mutual influence" (Karlberg, 2005, p. 4). In this sense, power constructs hierarchy in a social organisation by producing discourses and truths, imposing discipline, and moulding human subjectivities and desires. Therefore, during the analysis, power was viewed as being productive and repressive.

At DHB's, nurses act as boundary negotiators and play an enhanced role across the cardiac patients journey at the hospital (Benatar et al., 2016). They can prescribe medications and reduce dependency on cardiology doctors (Benatar et al., 2016). Nurses can complete extra tasks such as prescribing, which was traditionally done by physicians, and has expanded the boundaries in healthcare. Contrarily, nurse specialists in some of the other hospitals were merely involved in patient monitoring and data recording (Benatar et al., 2016). Hence, nurses can be seen as negotiating relations, hierarchies, and patients as boundary objects that are continually changing in status with differing settings (Akkerman & Bakker, 2011; Cramer et al., 2018).

In my analysis, I have addressed how different discourses have led to changes and adaptations in the delivery of CR and its effects on CR practice in NZ. I mentioned

about the vacuum of cardio-respiratory PT's in NZ and the growing lack of interest for a future student to pursue this area as a specialisation (Mooney & Rhodes, 2018). PT board indicated that in 2013/2014, less than five percent of the respondents to the survey worked in out-patients cardio-respiratory settings at the DHB's (Mooney & Rhodes, 2018; Reeve et al., 2012). However, with the increasing demands of CR and exercise-based rehabilitation, there is a gap in the market for cardiac PT's. It also raises questions if the PT's want to give up on the cardio-respiratory practice. One of the district health boards in Auckland also advertised for a CEP's job opportunity to provide cardiac and respiratory rehabilitation (Mooney & Rhodes, 2018). This raises questions about PT's desire to share the rehabilitation space or to the least, protect their role in the market.

In my analysis, I have also mentioned that cardio-respiratory PT's are gradually becoming invisible in the guidelines and literature (Mooney & Rhodes, 2018; Reeve et al., 2012). This is partially due to increased work-loads and involvement in exercise-based rehabilitation (Mooney & Rhodes, 2018). From my experience of attending the Cardiac Society of Australia and New Zealand conference in 2017 and 2018, four PT's in 2017 and two in 2018 participated in the national conference. It is good to see some representation of cardio-respiratory PT's at the conferences, which predominantly involve cardiologists, surgeons, nurses, and other MDT's such as dietitians and theatre staff. However, it is also a setback for the physiotherapy profession where CEP's are present in huge numbers and are equally recognised by cardiologists in providing CR services.

An example of this is when Dr Benatar and colleagues wrote that CR programmes are "generally run by physiotherapists or clinical exercise physiologists who are qualified to prescribe exercise after a functional test" (Mooney & Rhodes, 2018, p. 69). This shows that CEP's are considered at par with PT's or potentially even better in some respects as they are known as "exercise specialists" (Benatar et al., 2016; Mooney & Rhodes, 2018). I have also highlighted the lengthy and tedious process required for PT's to register as specialists under the specialist scope of practice with the Physiotherapy Board of NZ in chapter six (Physiotherapy Board of New Zealand, 2016, p. 133). This continues to create boundary tensions between CEP's and PT's and requires further investigation.

Therefore, in the next section, I discuss the developments and adaptability of health professionals in the practice of CR.

CR – Developments And Adaptability Of Health Professionals And Patients

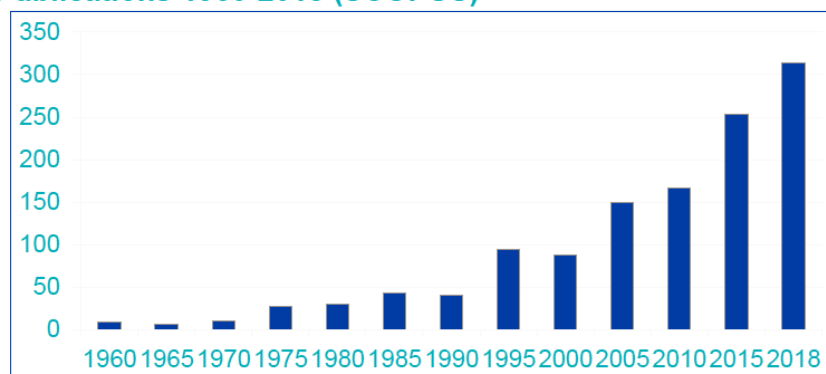
During the analysis, I addressed the different social and economic discourses that shaped the discourses of a fragile and useful patient, changes in CR, and how the discourses intersect and play a role in modifying each other as they construct contemporary CR practice. Texts from the 1960s and 1970s analysed in chapter five showed a gradual change in how CR had evolved, and PT's were playing a significant role in P2CR. From inpatient post-CABG and MI rehabilitation in the 1960s to outpatient CR in lower-risk patients in the 1970s, CR evolved to comprehensive secondary prevention programmes (Certo, 1985; Feigenbaum & Carter, 1987; Mital & Mital, 2002). The first home-based CR studies that emerged in the 1990s and 2000s saw CR expand to additional CVD's such as valve replacements, transplants, and peripheral artery disease (Imich, 1997; Mital & Mital, 2002).

The growth in CR was partly due to an increasing number of patients surviving cardiac disease due to improved surgeries and medications (Imich, 1997; Mampuya, 2012). The benefits of CR were also made widely known. A decrease in total mortality rates, reduced CVD events, lowered re-hospitalisation costs, improved quality of life and functional status, and better risk factor control are some of the benefits noted in several studies (Certo, 1985; Mampuya, 2012; Wilson & Franklin, 1988). More research was happening in the area of cardiac disease, and patients were no longer seen as fragile. The graph (Figure 26) below is a clear illustration of an increase in CR publications, indicating the potential interest in CR programmes (Thomas, 2018).

Figure 26.

Cardiac rehabilitation

**Cardiac Rehabilitation
Publications 1960-2018 (SCOPUS)**



Adapted from Randal Thomas presentation at University of Auckland (Thomas, 2018)

In this research process and growth of rehabilitation, CR was revisited. The involvement of various other health professionals increased, making CR a multi-disciplinary programme (Association of Chartered Physiotherapists in Cardiac Rehabilitation, 2015; Mampuya, 2012; Resurreccion et al., 2017). Like the early period of WW2 and societal development, the focus of rehabilitation moved from WCU's to MDT CR programmes (Mampuya, 2012). Patients are now being offered various rehabilitation options, and their participation in normal living and goals involving high-intensity training were encouraged (Garcia et al., 2019). This could be viewed as a drastic change from a patient who was once viewed as fragile to now being an active individual in society. Patients are not sheltered anymore, and at the same time, doctors and specialists were moving away from orthodox fearful rehabilitation options to high-intensity interval training (Garcia et al., 2019; Kahn, 1958; Mampuya, 2012).

Notions of fear around rehabilitation that had initially constrained the patients and their families are now being challenged with the variety of CR options available (Certo, 1985; Wilson & Franklin, 1988). Furthermore, discourses that constructed the PT profession were now challenged by newer discourses of consumerism emphasizing the need for contemporary CR options (Binkley, 2009; Dilts, 2011; Mudge, 2008). In particular, Chapter six (third analysis chapter) explores how neoliberalism helps in

understanding the boundary tensions and contemporary CR practice. Next, I write about how the current practice of CR is challenged and might change future practice.

The Current Practice Of CR And Neoliberalism

Chapter six highlights the three different phases of government-funded CR offered at the public hospitals in NZ. P2CR ranges from six to twelve weeks. It consists of intensive education regarding risk management, returning to normal living activities, lifestyle changes, and a supervised exercise programme. The NZ government has funded a supervised exercise programme for patients with cardiac disease since the beginning of CR in the 1970s in Dunedin. However, in recent years, CEP's at the Movement Clinic have offered CR in NZ's private sector. CEP's charge a substantial cost for their CR programmes compared to the government-funded free CR service provided at the DHB. This section explores the changes in healthcare and how private CR caters to a smaller population group in NZ and ideas around neoliberalism.

The culture of health professionals and healthcare is changing (Keene et al., 2016; Nicholls & Larmer, 2005). There is a growing burden of the complex and aging population, which adds to the rising financial pressures in providing adequate healthcare services to older citizens (Rosenberg & Keene, 2018). Furthermore, various health professionals, including doctors, allied health workers, nurses, and pharmacists, have been involved in strikes and pledged for financial support over the last few years (Keene et al., 2016; Peters, 2019). Moreover, the National government has underfunded NZ healthcare, and now, there have been promises to address inequality and poverty in the Labour party-led government (Akoorie, 2018; Peters, 2019). However, as the economy is becoming more volatile with a chance of recession, the government is trying to cut spending on education, healthcare, and other essential services (Peters, 2019). For example, the Ministry of Health instructing 20 District Health Boards around New Zealand to reduce their operating deficits. Although DHB's drive to reduce operating costs totalled \$240 million in the last financial year, the majority of DHB's remain in deficit in 2018-19 (Akoorie, 2018).

With tight budgets and governments struggling to meet public healthcare needs, neoliberalism encourages free markets to regulate themselves. Neoliberalism has

impacted the public healthcare services offered in NZ, and I have addressed how it has played a part in CR's recent developments. Neoliberalism allows the re-distribution of the economy, and healthcare services offered to patients. Here, tax and regulation are minimised, and public services such as healthcare are privatised. The state steps back from the market's way and maintains state expenditure within fiscal limits. For businesses, the state keeps business speculation mostly free from regulatory control and low taxes for people. Privatisations are:

“intended to reshape the entire society by fundamentally altering economic and political institutions and by transforming economic and political interests. Systemic privatisation seeks to lower people's expectations of what government can and should be held responsible for, reduce the public sector's oversight and enforcement infrastructure and transform the interest group landscape to make it less supportive of governmental growth” (Feigenbaum, 1998, p. 43).

For cardiac patients, this is ultimately resulting in more CR options to choose from if they can afford to do so. Privatisation of CR allows CEP's to target a niche population group that can afford to pay for CR as compared to the funded service at the hospital. This change can be viewed from a neoliberal aspect. Patients who can afford the Movement Clinic also access a boutique clinic in Auckland city, more objective measures, recording of data, and a contemporary clinic setting. Chapter six also explored the changes in the economy, how patients with cardiac disease are viewed, developments in CR and emerging practices of CEP's, changes in the professional boards of CEP's and PT's, and their education system are all examples of neoliberal reforms in healthcare.

Contrary to the benefits of neoliberalism, such as greater consumer choice, the breakdown of service monopolies, and the challenge to the power of old elites (like medicine). There are certain population groups or patients who might not be able to afford the private CR. Offering private CR services in NZ can be compared with the ACC funded treatments and private insurance treatments. Patients with private insurance are allowed to select their specialists and, at times, have their treatments or surgeries

earlier than waiting in the public system. While privatising health services such as insurance and CR is an option, it is only an option for people who can afford it. Therefore, privatisation can work well when the government needs an exit strategy to “achieve short term objectives of reducing the budget deficit” (Feigenbaum, 1998, p. 42). Hence, for patients who have money and can afford private CR, it is an option. However, it also creates inequities for patients who cannot afford private healthcare and rely on government-funded healthcare.

I believe the neoliberal and privatisation of healthcare shifts are crucial to consider. My analysis chapters have mentioned that health professionals and state gradually view cardiac patients as less fragile and more useful in society. However, several authors have noted that these patients are still live with a heart disease and need medical and rehabilitation input to make healthy lifestyle choices, reduce the risk of future cardiac events, reduces angina, ischemia, hospital admissions, mortality and improve quality of life (Anderson et al., 2016; Edwards et al., 2004; Hambrecht et al., 2004; Lawler et al., 2011; McMahon et al., 2018; Milani et al., 1996). A meta-analysis of 63 randomised clinical trials from 1974 to 2014, compared patients who attended CR to no-exercise control group found that exercise reduced cardiovascular mortality (10.4 percent versus 7.6 percent) in patients with cardiac disease (Anderson et al., 2016). Hospital admissions were reduced at one year (31 vs. 26%), health-related quality of life increased, and the cost of healthcare resources decreased (Anderson et al., 2016).

Another study in 2004 reported exercise training as part of CR reduced symptoms in patients with angina, and CR may be as effective as a percutaneous coronary intervention in the short term (Hambrecht et al., 2004). Patients participating in CR also demonstrated reduced coronary events at 12 months, and exercise training was linked with a higher event-free survival (88% vs. 70% control) and lower cost of healthcare (\$3429 vs. \$6956 Canadian currency) (Hambrecht et al., 2004). Lastly, a meta-analysis of 36 randomised controlled trials demonstrated a reduction of 36% in cardiac mortality, a 26% reduction in total mortality, and a 47% reduction in reinfarction (Lawler et al., 2011). These studies explain the importance of CR for patients with cardiac disease. It also highlights that while cardiac patients have not been on bed rest for months and are returning to work early. Patients will ultimately remain ‘fragile’ as they

have a cardiac disease that has a high mortality rate. This leads to questioning if privatisation of healthcare and CR will eventually starve patients from equal healthcare opportunities and is the government playing with peoples' lives.

Comparing CR services offered by CEP's and PT's is just one case study I have presented in my study. Outside of healthcare, Dr Toby Boraman from Massey University, New Zealand, also reported that NZ's neoliberalism has resulted in inequality in the economy. According to Oxfam (Oxfam, 2016), two of the wealthiest New Zealanders own as much wealth as 30% of the New Zealand population. Whereas, Statistics New Zealand (2014-2015) stated that the bottom 50% of New Zealanders own only three percent of New Zealand's wealth. Child poverty monitor also mentioned that 28% of children live in poverty. Therefore, it is questionable whether neoliberalism can aid economic growth and whether it has generated considerable inequality amongst society.

In the paragraphs above, I have argued the pros and cons of neoliberalism and its effects on NZ. However, reconsidering my research questions of boundary tensions and professional tensions between CEPs and PT's practicing CR in NZ, I now discuss the power shifts encouraged by neoliberalism. Chapter five and six mention that since the 1970s, PT's have been involved in running CR programmes offered in the public health system in NZ. However, with the neoliberal changes, and commodification and privatisation of healthcare in NZ, CEP's have entered the CR space previously only owned by cardio-respiratory PT's. This means that the power once colonized by cardio-respiratory PT's needs to be reconceptualised and tailored to meet patients needs and demands with cardiac disease.

By shifting power in the practice of CR, I refer to Foucault's account of power. According to Foucault, power can be understood as:

“multiplicity of force relations immanent in the sphere in which they operate and which constitute their own organisation; as the process which, through ceaseless struggles and confrontations, transforms, strengthens, or reverses them; or on the contrary, the disjunctions and

contraindications which isolate them from one another; and lastly, as the strategies in which they effect”.

Therefore, the emergence of the Movement Clinic in Auckland is an example of shifting from the traditional power exercised by PT's in CR to a power that now needs to be redistributed and shared with CEP's and private CR clinics by CEP's. Although, PT's have been practicing CR in the government-funded programmes since the 1970s, CEP's have created a space for themselves in the private market. This created another form of power shift and tension between PT's and CEP's and was seen as a threat by PT's practicing CR in the hospitals. My thesis analysis explains that CEP's have created a niche market for themselves in the private CR practice.

As discussed in the analysis chapters, the existing power relations between physicians and PT's are gradually challenged under the contemporary CR practices and privatisation of services. Physicians still hold the power to refer their patients to CR. While patients have more rights than they did in the past about their rehabilitation, physicians can choose to refer their patients to other clinicians that they consider offer 'better' CR consider offers better CR. This means that the profession that allies themselves better with the medical language, terminology, assessments, and treatments might get the CR referral and gain more control over CR's practice in NZ. Moreover, the shift in power tensions also means that the power once held by PT's through the alliance with physicians is challenged.

From the influence of biomedicine, anatomy, organisation of clinic space, and uniforms, PT's have worked closely with physicians. These factors enabled PT's to work in the CR space in NZ initially when Dr Ted Nye began CR in NZ. However, with competition from CEP's offering private CR, the PT's and physicians' relationship is challenged. This is partially because CEP's at the Movement Clinic are promising CR that is more scientific, influenced by biomedicine, and maintains close surveillance of patients participating in CR. By practicing this way, CEP's are going beyond what traditional CR used to be and how CR might change in the future.

So far, I have discussed good citizenry, changes, and adaptability in CR, and neoliberalism's impact on disciplining people, healthcare, and society. Next, I mention the limitations of the study and recommendations for further research.

Strengths/Limitations Of The Study

In this study, I aimed to address the professional boundary tensions and overlapping roles of healthcare professionals in CR practice in NZ. The theoretical and methodological work of Michel Foucault informed my study. Having a background in cardio-respiratory PT, conducting Foucauldian discourse analysis, was a considerable challenge. An example of this in PT practice is treating patients as subjects of CR, as compared to patients being the practices themselves. During this study, I had to think and ask questions such as what discourses are producing knowledges or making practices visible? What CR practices are making the patients experience visible and why? What power relations are being made visible and why? These questions allowed me to approach CR from a different perspective. While being a PT and working in CR practice gave me experience and understand what CR entails, considering the study from a Foucauldian perspective allowed me to question the daily practices that can be taken for granted.

I will now write about two strengths in my study. While the texts selected for this study and study's applicability or generalisability for CR practice can be seen as a limitation. The texts collected for this study are limited to what was accessible. At times, it was a struggle to find texts from the early 1900s about the history of CR or the practice of CR in NZ. There were no other primary contacts or sources that could be used to collect this material. I am also aware that I cannot provide a complete history of CR or the health professionals involved. That was not my aim with the study. However, this can also be viewed as a strength for my study as these are all the texts I could access or have. I have tried to use a variety of texts to provide a reasonable analysis. Furthermore, I have used various photographs, interviews, and articles from the 100 years of physiotherapy website in my second analysis chapter. My search stopped once it reached the "point of origin for some later search". Using Foucault's methodology, I was continually going back and forth with the data collected and analysing the texts.

Secondly, although I have limited my study to the boundary tensions felt between CEP's and PT's in Auckland, NZ, I believe my study will serve as an example of gradual changes in the CR practice. Furthermore, this study will also be an example of more significant changes in healthcare under neoliberalism, limited government budgets, changing healthcare needs, populations and demographics, and growing demand for healthcare options. Analysing the roles of health professionals, critically analysing history, and a governmental analysis provides value in understanding how other healthcare sectors might be facing similar tensions.

Lastly, I was cognisant of the work of other sociologists such as Everett Hughes (Hughes, 1994), Eliot Freidson (Freidson, 1984), Sarfatti Larson (Sarfatti-Larson, 1977), Andrew Abbott (Abbott, 1988), and Edmund Pellegrino (Pellegrino & Thomasma, 1981, 1998) who have all published literature on medicine or healthcare and professionalisation. Freidson and Sarfatti-Larson's focus was neo-Weberian, so it was not directly relevant to my methodology. Abbott's was closer, however, still not strictly Foucauldian. Therefore, I was aware of other sociologists; however, I decided to focus on the work of Michel Foucault to answer my primary study questions.

Recommendations For Further Research

During my analysis, I focused on three critical moments in my analysis chapters and have used Foucault's ideas around power, truth, knowledge, and governmentality. However, my analysis could be strengthened by Foucault's later views on neoliberalism and beyond liberalism. As well as Deleuze's societies of control to understand how there is a fundamental shift from Foucault's disciplinary technologies.

"We're definitely moving toward 'control' societies that are no longer disciplinary, Foucault's often taken as the theorist of disciplinary societies and of their principal technology, confinement (not just in hospitals and schools but in schools, factories, and barracks). We're moving toward control societies that no longer operate by confining people but through continuous control and instant communication" (Deleuze, 1995, p. 174).

Deleuze suggests that in the modern world systems are open, interconnected, and flexible. Foucault's disciplinary societies encouraged the "organisation of vast spaces of enclosure and the individual moved from one enclosed space to another: the family, the school, the barracks, the factory, possibly the hospital and, paradigmatically the prison" (Peters, 2011, p. 22). These enclosed systems were initially designed on distribution and concentration processes aimed to discipline people post WW1 and WW2 in society. According to Peters (2011), these environments of enclosure are now breaking down.

For example, the panopticon became the utopian space that allowed new knowledge and enhanced disciplinary technologies of power. Chapter four explored how the hospitals and WCUs were used to discipline patients with cardiac disease and create docile bodies. Patients were supervised and examined by health professionals during their rehabilitation. Once rehabilitated and trained, there were vocational jobs for fragile patients with cardiac disease and disabled soldiers who had returned from WW2. I believe professions can be viewed in the same way where PT's in NZ, for example, disciplined patients during CR in the Hanover Street pool in Dunedin in the 1970s. Patients were contained within that complex, and PT ensured the patients behaved well, attended their CR, did their exercises, and adhered to their medications.

However, Deleuze suggests that the enclosure principles are now under crisis, and newer institutional forms of education, health, and punishment are introduced in society. The enclosed space system and institutions are gradually being replaced by an open system based on the flexible network control model. As mentioned in the last section, neoliberalism has encouraged entrepreneurialism and privatisation of services. For example, students confined to a closed school surrounding are now allowed distance education or lifelong education and continuous training.

CR programmes are now offered via telehealth, and education sessions can be recorded so patients can view them according to their convenience and freedom. Telerehabilitation in CR is growing and might be a cost-effective measure for patients living in remote areas or those having difficulty travelling to hospitals or rehabilitation centres (Mesa et al., 2014). It might also result in longer-lasting maintenance

rehabilitation and follow-ups using technology than hospital-based rehabilitation (Mesa et al., 2014). Pedometers and smartphone applications that record patients steps and distances are simple examples of how patients can be monitored or under surveillance during their tele-CR programme (Thorup et al., 2016).

Deleuze explains that as the world is transitioning in a progressive and dispersed way, the open system dominates the way people are disciplined (Peters, 2011). Barry (2018, p. 131), writes that:

“Adaptation, cooperation, and trust are at the centre of rehabilitation. Artificial intelligence and robots enhance adaptation with guidance for movement, cues for sensation, control of environment, and improved situational awareness. That said, how do we decide to trust complex technologies that might seek personal information or control dangerous equipment?”

Just like the Movement Clinic offers a new way of conducting CR that is more scientifically- based and has detailed recording of objective observations such as BP, heart rate, oxygen saturation, weight, glucose levels, lipid profile and lean mass (kg) for example. There are transitions noted in other areas as well. Schools are introducing continuous assessment, there is deinstitutionalisation of mentally ill patients based upon new medication in hospitals, and electronic tagging can track people entering and leaving a workspace. These are some of the ways in which money, people, and products are manipulated that are different from the closed factory system. Therefore, while I have used Foucault's methodology to understand the boundary tensions and professional relationships within CEP's and PT's, Deleuze's society of control could help understand how people can be disciplined in the present era, and how it encourages us to rethink traditional healthcare boundaries.

Conclusion

I began this study with the professional boundary challenges experienced as a cardio-respiratory PT practicing P2CR at a large DHB.

From here, I developed a list of questions that influenced my analysis. These were:

- How do knowledge and power shape PT's present professional boundaries, and what do these boundaries make possible for cardiac PT's and what do they deny?
- In what ways are the boundaries changing or being altered, and what might it mean for the future?
- What are the critical social, political, historical, and cultural discourses that construct present experiences, knowledge, and perspectives of CR in the NZ healthcare system?

In this thesis, I have used Foucauldian discourse analysis to analyse the boundary tensions and professional relationships within healthcare professionals such as CEP's and PT's practicing CR in NZ. Therefore, I explored the history of CR practice, its discursive formations, the impact of power relations, and boundary tensions and how it shapes the future of PT practice in the society and healthcare system. Keeping in mind archaeological and genealogical principles, I aimed to present the current construction of CR practice, what made it possible, and how to do, speak, and think about CR.

During my analysis, I aimed to address the questions above. In chapters four and five, I considered how cardiac disease and fragile patients became a discourse around WW2. Understanding Foucault's ideas of discourses being historically contingent, I explored the social, political, and cultural influences on returning cardiac patients to work and rehabilitation. Here, I discussed the different subject positions, strategies, objects, and tactics the government and health professionals employ to enable cardiac patients to return to work.

The second analysis chapter discussed the main discursive influences and construction of CR and physiotherapy. I explored how these discourses shaped PT's conduct over the years and how power and knowledge shape the present profession. With the changes in CR, healthcare, economic, social, political, and physiotherapy profession, changes were also noted in how the cardiac patients were viewed. Therefore, along with the boundary changes and power relationships between the health professionals, it was essential to consider how the boundaries were being altered. What power relations allowed different knowledges to be privileged or

marginalised. My final analysis chapter focussed on the CR practice in NZ and used the Movement Clinic as a case study. I also used Foucault's ideas of neoliberalism, governmentality and power to explore the emerging practice and commodification of CR by CEP's in Auckland.

Throughout the analysis chapters, I aimed to write about the construction of a patient and how the health professionals and society viewed them, construction of the CR practice, and how it is now challenged in the current times. From the analysis, I included three key discussion points, addressing the discourses shaping CR's practice, boundary tensions, the impact of technology, and current practice of CR and neoliberalism. The discussion should be viewed as a building block from the analysis. There are certain things that I tried to make visible from my interpretation and engagement with the thesis, however, it is still open for discussion, criticism, and interpretations from other researchers.

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