Exploring Nurses' Documentation of their Contribution to Traumatic Brain Injury Rehabilitation in an Aotearoa-New Zealand Rehabilitation Unit

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Abstract

This thesis explores how a group of Aotearoa-New Zealand rehabilitation nurses documented their contribution for clients with traumatic brain injury and the influences on that documentation. A critical realist case study framework was utilised. In acknowledging critical realist principles of a layered reality, the research involved three phases.

- Phase A incorporated environmental description, and a questionnaire completed by two managers;
- Phase B involved an audit of nurses' documentation from their routine records and from the clients' timetables; and,
- In Phase C, nurses were interviewed to seek their perspective of their contribution and the documentation choices they made.

Preliminary themes arising from Phase A and trends from the nurses' documentation patterns (identified in Phase B) were discussed with the nurses in Phase C. Findings indicated that there were differences in the way nursing worked in the facility, relating to the environment, and a differentiation in contractual expectations of nurses compared to their allied health colleagues. Enablers and constraints to documentation practice were highlighted. It was apparent that many nurses viewed their role in rehabilitation differently. Their perceptions of their role, facility norms, and standardisation of documentation practice influenced how and what they chose to record in their daily records.

To further explore how nurses documentation was produced and shaped by underlying structures and powers, I applied Archer's (1995) morphogenetic analytical framework. This framework was adopted as it recognises that a person's context are the effects of past actions of others, meaning that they function in conditions they themselves have not chosen. However, it also recognises human agency, and the ability to change or transform. Archer's framework provided insights into structural and cultural properties that shaped nurses' documentation. It unearthed complexity in nurses' decision making regarding what they chose to document of their practice. Individual patterns of working were identified, which led to individual understandings of documentation expectations and practice. Even though nurses collectively had the potential to reflect upon and change their documentation practice, there was little evidence of them influencing the social or cultural structures within the facility.

The implications for rehabilitation are given in the form of six major recommendations. These encompass organisational level decision-making and the practice of individual nurses, and include:

1) Modifying the induction processes relating to documentation;
2) Provision of structures and forums to enhance nurses' collective voice;
3) A review of the way nurses' documentation supports communication;
4) Establishing ongoing education to the nursing team from a senior nurse knowledgeable in rehabilitation nursing documentation requirements;
5) Endorsing an integrated model of rehabilitation nursing that supports understanding of the way all nursing interventions contribute to rehabilitation; and,
6) Articulating a shared language structure to consistently describe nursing interventions.

The findings highlight the specialty practice of rehabilitation nursing and give insights into nurses' documentation of their rehabilitation contribution. By generating discussion and momentum, and providing options to advance unity and teamwork, this should ultimately benefit peoples' rehabilitation journeys.

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Attestation of Authorship

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

Signed:

Date: 10/03/2020

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Embarking on this thesis, my second daughter was starting primary school; she has now started college. I had planned to graduate at a similar time as my eldest graduated high school, and she is now in her second year at University. While this thesis has taken considerably more time than I thought possible, it has been a rewarding experience.

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Chapter 1 - Introducing the Study

> The nursing staff had limited professional language to articulate how and what they contributed to in rehabilitation. Thus, they might be reluctant to describe their own contributions. (Loft, Poulsen, et al., 2017, p. 4912)

Through my employment as a nurse in both an acute hospital ward and in a rehabilitation unit, I became aware that nurses seemed to be held in high regard in the hospital, with a value placed on their input, while rehabilitation nurses did not share as fully in decision-making processes. Furthermore, rehabilitation nurses did not seem to entirely communicate their contribution in their documentation. It may have been that rehabilitation nurses' perspectives of their role in rehabilitation was reflected in their reluctance to communicate that role. I was uncertain, however, as to how their role perception might have influenced their documentation choices, or whether other factors may have been involved.

In my rehabilitation practice setting, it was unclear if nurses a) did not recognise their unique contribution, or b) struggled to articulate it or, if c) it was a combination of these two factors. I wondered if their documentation might lead to understanding the value they saw, and conveyed, in their role. However, I also suspected from informal discussions that nurses' documentation did not fully reflect their contribution to client rehabilitation.

I had an idea that nursing documentation might lend insights into the issue, as it is in this everyday event that nurses' contribution in rehabilitation is recorded, and might be validated. Prompted by this idea, I explored the literature to find examples of best practice in rehabilitation nursing documentation. However, I found very little research in this field.[1] When discussing this subject with colleagues, I found contradictory views as to whether some parts of rehabilitation nursing were deemed 'care' while other parts were considered 'rehabilitation'. There were some who believed that nurses' documentation which revealed their 'rehabilitative' input was more highly valued than components that could be considered as 'care'. All of this drew me to question what rehabilitation nurses considered as their legitimate contribution, and what they *should,* therefore, be documenting. This professional (practice-based) doctoral thesis has allowed me to explore this issue within an Aotearoa-New Zealand context, specifically relating to rehabilitation of clients with traumatic brain injury (TBI).

In this chapter, I will initially clarify the intent of this professional doctorate. Next, I expand on my personal observations within Aotearoa-New Zealand (NZ) rehabilitation units and

[1] Examples of rehabilitation nursing documentation are reviewed in 2.4.

introduce the role of rehabilitation nurses. I will provide an introduction to what is known about the contribution of rehabilitation nursing, and briefly discuss documentation. Following this introduction, the focus will return to the NZ context for clients with TBI, detailing the incidence and describing the funding system, funding measures, and nursing workforce information. I will articulate why this topic is so important, stating my research problem, and the philosophical position that has underpinned my doctoral research. Finally, I will outline the structure of this thesis.

I would like to begin by clarifying the motivation for this professional doctorate. Engaging in a professional doctoral program enables senior clinicians to research areas in their own professional field. Bourner, Bowden, and Laing (2001) distinguished doctor of philosophy (PhD) programs, as developing “professional researchers” whereas professional doctorates foster “researching professionals” (p. 71). Having a clinical focus recognises clinically led innovation within a researcher’s practice (Walker, Campbell, Duff, & Cummings, 2016). Professional doctorates are designed for those who choose to continue their clinical work whilst advancing their research skills (Rolfe & Davies, 2009). My topic relates directly to my own practice field, hence before examining what is known about the role of rehabilitation nurses and the complexity of documentation practice, I will explain my own observations working within the sector.

1.1 Personal Observations

My own experience in both acute and rehabilitation settings involved working with clients who had sustained a TBI. Many clients with moderate to severe TBI transfer from the hospital through to rehabilitation once they are medically stable. As a nurse, I noticed a difference in working between the two settings with the same client group. On the one hand, there were many similarities between the two areas. In both settings, nurses worked shifts and, consequently, shared the care of multiple patients. On the other hand, there were variations; one difference was that meetings and client reviews in rehabilitation were initiated, and overwhelmingly attended by, allied health team members rather than nurses. It puzzled me as to what was so different about the rehabilitation unit from the hospital, and I questioned, if nurses were excluded or were they excluding themselves? I was concerned whether the lack of nurse presence might impact team knowledge about the client, communication, effectiveness, and client outcomes. Similarly, I questioned, what nurses were writing about their contribution to client rehabilitation? Were organisational expectations, potentially relating to the funder’s requirements, influencing the documentation practice of rehabilitation nurses? It occurred to me that this individual, daily documentation process used by nurses might

shed light on what they thought was important about their own role, regardless of whether they were actively sharing their opinion with their team.

I reasoned that if nurses were a recognised part of rehabilitation teams, the quality and intensity of their contribution might be reflected in client outcomes. My study was further prompted by literature about rehabilitation dosage that questioned understanding of the appropriate intensity of rehabilitation for supporting outcomes. Early research suggested that more intense therapy impacted positively upon rehabilitation outcome (Hu, Hsu, Yip, Jeng, & Wang, 2010; Spivack, Spettell, Ellis, & Ross, 1992), although there has been uncertainty regarding the ideal amount of therapy hours per day needed to produce maximal outcomes. There were many guidelines published internationally, including the New Zealand Stroke Guidelines Group (2010), which specified a minimum daily therapy requirement based on the consensus of their expert group. As well as research in the field of stroke rehabilitation, there have been investigations as to therapeutic intensity upon the rehabilitation outcomes of clients with TBI (Cifu, Kreutzer, Kolakowsky-Hayner, Marwitz, & Englander, 2003; Zhu, Poon, Chan, & Chan, 2007). My reading of these articles indicated that nurses were identified as part of the team of professionals within rehabilitation units; however, the reported analyses were based only on allied health staff involvement. The contribution of nursing was not included or examined in the analysis. This information suggests that the broader problem of nurse contribution might be difficult to quantify, and hence value. It was clear that this was not unique to Aotearoa-New Zealand.

1.2 The Rehabilitation Nurse's Contribution

Research has found that the role of the rehabilitation nurse is critical to the wellbeing and progression of the client (Aadal, Angel, Dreyer, Langhorn, & Pedersen, 2013; Booth & Waters, 1995). Despite an increasing body of literature that has attempted to clarify the role of rehabilitation nurses (M. Clark & Wall, 2003; Hayes, Bonner, & Pryor, 2010; Janzen & Mugler, 2009; Jinks & Hope, 2000; Pryor, 2010; Pryor & Smith, 2002), rehabilitation nurses themselves appear to have difficulty articulating their contribution within the team (Clarke, 2013; Hentschke, 2009).

Nurses have been working with rehabilitative principles since Florence Nightingale, encouraging patients to attempt self-care (Spasser, Greenblatt, & Weismantel, 2006). However, one of the first texts on rehabilitation nursing, written by Alice Morrissey, was not published until 1951. It then took much longer for standards specific to rehabilitation nursing to be written around the world by nursing associations. The Association of Rehabilitation Nurses (ARN) formed in 1974, produced a competencies framework published in 2014 (Association of Rehabilitation Nurses, n.d.). The Australasian

Rehabilitation Nurses' Association (ARNA) released their first standards document in 2003.

ARNA (2003) defined seven domains for rehabilitation nursing practice, revealing the breadth of the role, assisting nurses to understand their contribution in rehabilitation. These domains included embracing a rehabilitative approach and described the nature of interventions that were included in the role. This framework has been used across NZ and Australia to assist in structuring competency documents for rehabilitation nurses, and to frame an understanding of what rehabilitation nurses do. The document has been updated twice in 16 years, which demonstrates the changes or progressions in the field of nursing rehabilitation in recent years.

These shifts in thinking are also apparent in the field of rehabilitation more generally, with many revisions proposed of what is meant by the term 'rehabilitation'. The World Health Organization (2011) has defined rehabilitation as "a set of measures that assist individuals, who experience or are likely to experience disability, to achieve and maintain optimum functioning in interaction with their environments" (p. 96). Revision of the terminology, definitions, and standards has been prevalent in both the general rehabilitation and nursing literature, particularly in the last 20 years. Other definitions have emphasised team members' perspectives of rehabilitation, including those of the clients and what is valued by them. For my own study, acknowledging the centrality of client perspectives, I used Sinclair and Dickinson's (1998) definition of rehabilitation as "a process aiming to restore personal autonomy in those aspects of daily living considered most relevant by patients, service users and their family carers" (p. 1). This latter definition explicitly considered aspects closely aligned to the ARNA framework for rehabilitation nursing.

Many countries have promoted certification for their rehabilitation nurses; however, in NZ, formal post-graduate education in rehabilitation is uncommon, with most nurses learning rehabilitation principles in the workplace. In NZ, after qualification, nurses must gain certification as a Registered Nurse (RN) with the Nursing Council of New Zealand. Nurses are required to meet practice competencies annually, and a Code of Conduct directs their practice (Nursing Council of New Zealand, 2012a, 2012b). The Australasian Rehabilitation Nurses' Association (ARNA) has defined the rehabilitation nurse's specialist scope of practice. Individual workplaces may choose to adopt these practice scopes, although there is no national requirement for adherence. The language used in the NZ competency documents for an RN, is notably different to that stated in the Australasian scope of practice for a rehabilitation nurse. The NZ RN scope states: "*undertakes* [emphasis added] practice procedures" and "*administers* [emphasis added]

interventions" (Nursing Council of New Zealand, 2012b, p. 14). In contrast, the Australasian rehabilitation nurse scope document, states that they "*encourage*(s) [emphasis added] the person" (Australasian Rehabilitation Nurses Association, 2003, p. 9) and "*contribute*(s) [emphasis added] to the person's rehabilitation through a variety of independent therapeutic nursing activities" (Australasian Rehabilitation Nurses Association, 2003, p. 17). There has been agreement in the literature regarding this difference in nursing approach within rehabilitation; that is, rehabilitation nurses *enable* clients rather than *doing things for* the client (Burton, Fisher, & Green, 2009; Pryor, 2005).

1.3 Documentation of Rehabilitation Nurses

Documentation is a legal requirement for nurses (New Zealand Nurses Organisation, 2017). Documentation is evidence of a nurse's interactions and interventions with each client, as well as being a contributing factor in communication with other team members regarding progress to the client's rehabilitation plan. Within the facility in this case study, rehabilitation nurses documented by way of an electronic client records system. This comprised two primary datasets; first, the timetable, and second, the nursing notes.[2] The timetable recorded scheduled and unscheduled interventions[3] for the client with various team members, as well as timeframes and client responses. The nursing notes dataset contained free text recording the nurses' interactions with a client. The facility in my case study used the subjective, objective, assessment, plan (SOAP) framework in the free text (or nursing notes) section of the electronic record. For this reason, I have included a brief summary of this framework, to provide a context for my research.

1.3.1 SOAP Notes Framework

SOAP charting is a method for systematising documentation using the acronym as a prompt to organise information. It is described as "a problem-oriented approach" (New Zealand Nurses Organisation, 2017, p. 3), as it attends to the client's problem and steps through interventions and a plan to solve the issue (Gateley & Borcherding, 2017). Description and examples are displayed in Table 1 (p. 6).

[2] Termed 'nursing notes' dataset for the purposes of this research project, as only the nurses' records were extracted. In practice, all clinicians' notes were entered in the same electronic recording system; however, following log-in procedures, the system automatically added staff name and designation.

[3] Activities or interventions could be entered within the timetable as scheduled (that is set up in advance) or unscheduled (retrospectively added to the client's timetable). See Chapter 5.6.3 for further detail.

Table 1: SOAP documentation framework (New Zealand Nurses Organisation, 2017, p. 3).

Acronym	Heading	Example
S	Subjective data	"How does the client/patient feel?"
O	Objective data	"Results of the physical exam, relevant vital signs"
A	Assessment	"What is the client's/patient status?"
P	Plan	"Does the plan stay the same? Is a change needed?"

Although SOAP was first introduced in the 1960s by a physician, it has been used by many disciplines (Gagan, 2009; Gateley & Borcherding, 2017). However, its usability has been increasingly questioned as it centres on impairments and frames the clinician as the expert (Blijlevens & Murphy, 2003; Donnelly, 2005). With the reconfiguration of The International Classification of Functioning, Disability and Health (ICF) (World Health Organization, 2001), concentrating on activity and participation, and with the increased emphasis of the importance of client-centred care, this critique has been particularly pertinent in rehabilitation. Additionally, SOAP was developed for time-bound sessions to capture thinking and analysis of a problem. This is challenging for nurses as the nature of nursing practice incorporates multiple interactions over extended time periods.

1.4 National Context

While there are privatised options, for the most part, healthcare in NZ is publicly funded for NZ citizens and residents. Indeed, the public funding system relies on and funds private providers for much of the rehabilitation outside of the tertiary hospital system. Within that public funding model, the government has different funding entities for costs relating to accidents as opposed to those relating to illness. The Accident Compensation Corporation (ACC) funds accident related injuries whereas the Ministry of Health funds illness. As my doctoral thesis relates to traumatic brain injury rehabilitation in NZ, I will set the context relating to TBI and the ACC funding system. I will discuss the prevalence of TBI in NZ, followed by a brief explanation of the ACC as the primary funder for those with TBI.

1.4.1 Epidemiology of TBI in Aotearoa-New Zealand

TBI is a common cause of disability and poses a considerable burden for the NZ healthcare dollar (Accident Compensation Corporation, 2017), as well as posing a societal costs relating to individual and family/whānau[4] adjustment (Lavelle Wijohn, 2017). A recent NZ epidemiological study estimated that the incidence of TBI[5] was 790 cases per 100,000 (Feigin et al., 2013), compared with North American estimates of

[4] Whānau is the Māori word for family, or extended family (Moorfield, 2005).
[5] Incidence of TBI included mild, moderate and severe. The study comprised of 749 people with mild TBI and 41 people with moderate to severe TBI (Feigin et al., 2013).

1,299 per 100,000 and estimates of 1,012 in Europe (Dewan et al., 2018). The Feigin et al. (2013) study, undertaken in a region that included both rural and urban areas, analysed one-year of data from many health facilities and community health providers within the area. Five percent of the total sampled (1,369 people with newly diagnosed TBI) were deemed to have had moderate to severe injury. Transport accidents (39%) and falls (39%), were the major causes of TBI in the moderate to severe category (Feigin et al., 2013).

A 2014 NZ study calculated costs associated with a first-ever, moderate to severe TBI at just over US$36,000 (Te Ao et al., 2014). However, such statistics did not recognise the burden of ongoing rehabilitation costs over the person's lifetime, as it only included hospitalisation and direct rehabilitation costs (Te Ao et al., 2014). Over and above these costs to the system, there were indirect expenses (e.g., therapy equipment and home modifications) and, personal financial costs in terms of productivity loss. Although loss of income varies, it is generally associated with the severity of injury, with more substantial income effects that were seen in clients whose hospital stay was longer than two weeks (Dixon, 2015). The ACC (2018) reported that the cost of all TBI claims in the 2015 financial year was NZ$83.5 million. This figure has been steadily rising and reached over NZ$103.1 million in the 2017 financial year. Regardless of the data source and the variability that results, the fiscal burden is substantial, and therefore it is imperative that rehabilitation service provision is efficient and effective, and a well-functioning interprofessional team best provides such services. In NZ, rehabilitation provided by interprofessional rehabilitation teams is funded for clients with TBI by the ACC.

1.4.2 The ACC Funding System

The ACC was launched in NZ in 1974, following the Woodhouse Report. The report was ground-breaking in its comprehensive approach, calling for cover to include all personal injury within a 'no-fault' system. There were five principles proposed: "community responsibility, comprehensive entitlement, complete rehabilitation, real compensation and administrative efficiency" (Accident Compensation Corporation, 2010, p. 3).

The objectives and aims of the ACC, as the major funder, have influenced the direction and performance goals of contracted rehabilitation providers. The first of the ACC's (2012) areas of focus, in their Statement of Intent, published at the time I undertook my research, documented ACC's role as: "developing its capability to deliver the highest quality rehabilitation outcomes by ensuring 'every day counts' for the injured. This will lead to continued improvements in return-to-work rates and more effective rehabilitation of injured people" (p. 5). In line with these goals, the ACC launched a new contract in

2014, following a tender process. Three providers across the country were successful and awarded regional contracts to provide specialist services for clients with TBI.

The TBI Residential Rehabilitation (TBIRR) contract, is one of several different types of contracts that the ACC awards to community rehabilitation providers, designed to meet the post-acute needs of this specific client group. Typically, rehabilitation nurses play a key role in post-acute rehabilitation, where clients with TBI relearn a range of functional skills combined with promotion or maintenance of health and wellbeing. To meet eligibility criteria for services to be funded by the TBIRR contract, clients are first required to have an accepted ACC claim. Following a traumatic event, after medical assessment to clarify diagnosis, an ACC claim is lodged. Clients in the TBIRR contract must be over 16 years of age and have suffered a moderate to severe TBI, as defined by the 2006 Evidence Based Best Practice Guidelines (New Zealand Guidelines Group, 2006). Generally, due to the severity of injury, these clients will have been previously assessed in a hospital setting with a clinician's opinion being that they required a period of rehabilitation prior to returning home.

Introduction of a 'payment for outcomes' approach to contract funding was introduced with the establishment of the TBIRR contract rather than the previous 'activity' funding approach. In line with this change, the new contract required TBI rehabilitation providers to utilise the Rehabilitation Complexity Scale (RCS)[6] (Turner-Stokes, Tonge, Nyein, Hunter, & Nielson, 1998) to determine the rehabilitation inputs needed by each individual client; and this then established the funding level received by the service (Accident Compensation Corporation, 2005). Using the RCS, rehabilitation intensity was determined by: a) the client's care needs; b) nursing needs, established by evaluating nursing skill level and intervention complexity requirements; c) allied health intervention, ascertained by time spent with each client and number of disciplines required; and d), medical intervention. There was a significant distinction within the scale between the inputs of nursing and allied health inputs. Nursing input was measured by evaluating each intervention, whereas allied health inputs were measured by the time these practitioners spend with the client.

1.4.3 Nursing Workforce in Aotearoa-New Zealand

Nursing in NZ has evolved from hospital-based training, to its current model of university qualifications (Gage & Hornblow, 2007). There are two primary levels of nurse qualifications. A three-year bachelor's degree (level 7), enables nurses to gain qualification as a RN, while an 18-month diploma program (level 5), qualifies candidates

[6] The Rehabilitation Complexity Scale is attached in Appendix A.

as an enrolled nurse. Both roles are regulated by the Nursing Council of New Zealand, with provision for specific scope of practice for each of these roles. Enrolled nurses are required to work "under the direction or delegation of a registered nurse" (Nursing Council of New Zealand, 2018, para. 1). Additional to these two roles, economic pressures have promoted the growth of an assistant role, in both acute care and rehabilitation settings. These non-regulated workers[7] have limitations to their practice set by their employer. While many are trained within the workplace, they can gain level 4 qualifications through Careerforce; NZ's primary industry training organisation (Careerforce, 2018). Rehabilitation facilities in NZ have differing staffing models, and while some rely heavily on the assistant role, others retain registered and enrolled nurses as a majority. Although nursing numbers were not specifically mentioned in the research of McNaughton et al. (2014), they did note that stroke rehabilitation units in NZ had "less experienced staff" than comparable units in Australia (p. 16).

The Australasian Faculty of Rehabilitation Medicine (AFRM) guides rehabilitation facilities in Aotearoa-New Zealand. The AFRM standards provide benchmarks for governance, staffing levels, and equipment within rehabilitation facilities, amongst other areas. The AFRM (2011) document states: "a guide to nursing staffing levels for a rehabilitation medicine service: For each 10 inpatient beds, there should be a minimum of 11.75 FTE nursing staff" (p. 4). Staffing levels are clarified by an earlier statement that declares: "There should be a preponderance of registered nurses over enrolled nurses and assistants in nursing" (Australasian Faculty of Rehabilitation Medicine, p. 4). It is unclear how rehabilitation facilities interpret their own staffing levels. The ACC (2015) does not provide specific guidance for nursing ratios within their contract, but state: "24 hour cover [should be] provided by qualified nursing staff" (p. 11). Staffing ratios are not comparatively available, and are the responsibility of each facility; consequently, benchmarking is not established within NZ.

Health Workforce New Zealand information, showed an increase in the number of nurses working in assessment and rehabilitation from 1,447 in 2001 to 1,691 in 2016. However, when relating to the overall percentage of nurses in paid employment, this figure represents only 3.4% of the total nursing population (Ministry of Health, 2009; Nursing Council of New Zealand, 2017). This disproportionate staffing level was contrary to the goals of the Rehabilitation Service Workforce which recommended increasing funding to the sector, inclusive of workforce numbers, particularly within the area of nursing (Health Workforce New Zealand, 2011). This Health Workforce study included representatives from the ACC and Ministry of Health and thus encompassed the strategic direction from

[7] Health Workforce New Zealand refers to this group of health workers as kaiāwhina or non-regulated workers as they "are not regulated under the HPCA Act" (Ministry of Health, 2016, p. 20).

both funders. Unfortunately, in the NZ nursing workforce statistics above, rehabilitation is grouped with aged care; therefore, precise numbers relating to each sector cannot be made with any certainty. Regardless, the number of nurses working in rehabilitation remains proportionally low. It is unclear why this has arisen, though it may reflect a lack of clarity, and ultimately visibility, of the nurse's role.

1.5 Practice Issue and its Importance in the Field of Rehabilitation Nursing

The ambiguity of staffing levels in rehabilitation and challenges in utilising the SOAP framework, which was designed for time-bound sessions, may add to the uncertainty of nurses' contribution. Ultimately, this may impact upon a client's rehabilitation journey. Although standards of practice for rehabilitation nurses have been published globally, there continues to be a lack of clarity from those in the field regarding this role. The last two decades have seen a growing trend towards quantifying the ideal amount of therapy time and intensity. However, the input of rehabilitation nurses has not been closely examined. Added to this, analyses used by researchers, and assessment tools used within NZ funding systems, may contribute to an invisibility of the rehabilitation nurse's role. Funding for clients' rehabilitation after TBI is managed by the ACC and correspondingly the ACC directs organisational documentation requirements. It is unclear how these requirements influence what nurses' document of their contribution. It is possible that disparities between what nurses actually do and what is recorded in their documentation contributes to a lack of clarity in their role. This issue arises in rehabilitation, and it is not clear if it relates to other areas of nursing; however, it may relate to a lack of recognition of the nursing role within the rehabilitation field.

In view of these questions, my doctoral research undertook exploration of what is documented by nurses in a rehabilitation team, and what underlies that documentation. To deliver high-quality rehabilitation, team members need to work in a unified, cohesive fashion to achieve the goals of the client to drive everyday interventions (Pryor & O'Connell, 2009). Consistency of approach and clarity of communication across each 24 hour period is particularly important when working alongside people with brain injury (Mauk, 2012; Ylvisaker, Jacobs, & Feeney, 2003). This interprofessional delivery of health care services is seen as vital by the World Health Organization (Yan, Gilbert, & Hoffman, 2007). As a result of the World Health Organization recommendations, and a crisis that arose in the Bristol Royal Infirmary (Teasdale, 2002), NZ has set in place the Workforce Development Strategy (Dyer, 2001; Ministry of Health, 2006). Collaborative practice is now recognised as aiding job satisfaction, and a means of retaining staff within a service (Dean, Siegert, & Taylor, 2012).

A greater understanding of the contribution of rehabilitation nurses, may contribute to greater cohesion between team members, and more effective (and efficient) rehabilitation with improved outcomes. There is an apparent gap in the literature that is important to address if we are to progress our understanding of what works within this field. Importantly, given the lack of local research on this issue, it is vital to understand the contextual NZ factors, which includes a focus on rehabilitation of clients with TBI. These clients experience services in a unique funding structure with the ACC, having established a specific contract for this client group. The contract, in part, relates to clients' diverse rehabilitation needs and requirements for specialist services, and ongoing costs, often for many years post-injury. However, it is unclear whether nurses collectively understand their role in the rehabilitation of TBI clients, and how this translates into what they document about their interactions and opinions. Although there are a number of potential influences on this situation, a lack of formal research means it is difficult to know for sure what factors are at work, and how the situation might be addressed. For these reasons, I question why nurses record their contribution to rehabilitation in the way they do. My study includes several sub-questions:

1. What do nurses record about their contribution to TBI rehabilitation?
2. How do nurses perceive their contribution to TBI rehabilitation?
3. What are the influences on rehabilitation nurses' documentation of their contribution through:
    a) an analysis of their documentation and the rehabilitation/organisational context; and
    b) an investigation of rehabilitation nurse's perceptions.
4. How do these influences shape rehabilitation nurses' documentation of their contribution?

1.5.1 Theoretical Framework

Meehan (2017) reminded us that "all nursing models and frameworks have philosophical assumptions but they are usually implicit; authors imply what they are but do not actually state what they are" (para. 12). How we think about, and make sense of our practice, requires exploration of our assumptions. This requires an ontological search for reality, combined with epistemological questions about what is, or could be known, framed alongside ethical questions, regarding equitability (Bruce, Rietze, & Lim, 2014). In the early stages of my project, I wrestled with how different philosophical frameworks would shape my practice-related issue.

I was determined to position my research within a framework that would do justice to my practice issue, which likely involved multiple, complex, and possibly hidden forces.

Additionally, I wanted to ensure the approach was consistent with my own worldview. The work of Sam Porter and Sandra Ryan (1996) initially captured my interest, as they talked of the benefits of taking a critical realist approach within nursing research. They viewed a “two-way” (Porter & Ryan, p. 415) relationship between individuals and social structures. The idea of identifying patterns that were occurring and considering what was maintaining the existence of these patterns, seemed to be a positive step in then seeking ways in which individuals could transform what was occurring. Likewise, I supported the need to not generalise the voice of nurses, acknowledging contextual differences within any particular rehabilitation setting, and different perspectives of nurses themselves. It was also important to understand what it was that was underlying this issue for them. Explaining why nurses documented in the way they did, demanded a comprehensive view of possible influences on their practice within a specific context, as this would necessarily influence their practice.

Critical realism maintains an ontological realist but epistemic relativist position (Archer, Bhaskar, Collier, Lawson, & Norrie, 1998; Maxwell, 2012); meaning that we believe a reality exists independently of what we perceive, while accepting our understanding of that reality, may be incomplete. This allows researchers to examine a situation in-depth from multiple perspectives and data sources. It prompts consideration of things that lie beyond the obvious in the situation. My research decisions and design were based upon these principles, for example, choosing one facility and a multi-phase data collection process. This will be discussed next.

1.5.2 This Study

Critical realist research projects often adopt a case study methodology because of the ability to examine and explore causal mechanisms within a specific context (Ackroyd & Karlsson, 2014). My study was guided by Yin’s (2014) case study methodology. Yin, a proponent of researching from multiple sources, utilises both quantitative and qualitative data. I decided on a single case study design with embedded units of analysis. The use of a single case enabled me to complete an in-depth inquiry, recognising a lack of previous research in the rehabilitation field in NZ. The research proceeded in three phases. Phase A, consisted of an environmental description, where I reviewed contracts, policy and procedure documents from the researched facility. To obtain some of this information, questionnaires were completed by two managers. Phase B was a documentation audit, in which I analysed documented input from the nursing team in their routine records and from their input into the clients’ timetables. Data were gathered from two 3-month periods in 2014 and 2015. This information was then analysed, and initial themes were drafted. In Phase C, nurses were interviewed to seek their

perspective of their contribution and the documentation choices they made. Their perspective of the initial understandings from Phases A and B were also explored.

1.6 Structure of the Thesis

In this chapter, I have expressed my motivation for the research, including a concern for advancing the practice of rehabilitation nursing. I have outlined the rehabilitation nurses' role and the documentation frameworks used. I have provided a national context on the burden of TBI, funding systems, and nursing workforce statistics. The decisions that were made to explore this issue have been briefly discussed, along with the phases I conducted.

Chapter 2 will review the literature surrounding the topic. This research was commenced in 2012 and so new thinking was reconsidered throughout the duration of the project. It has been helpful to explore how others have moved through the issue, adding to each other's work as time has progressed.

Chapter 3 explains the core tenets of critical realism and how my project was framed by the work of Bhaskar (1978) and Archer (1995). I discuss how this theoretical position has affected my research design and how I analysed the data.

Chapter 4 describes case study methodology, providing more detail on the initial design that involved exploring my own propositions and linking these to the defined case, its boundaries, and sub-units. Consideration of ethics and confidentiality was extremely important in this research, and I explain the choices that I made to protect the participants and client information that was utilised.

To represent the chronological understanding gained after each phase of the research, data analysis is discussed in chapters 5 and 6. Initially the environmental description and managerial questionnaire (Phase A) was analysed followed by the documentation audit (Phase B). These themes are articulated in Chapter 5, which led to design of the interviews with nurses. The perspective of these nurses was considered and themes that emerged are explored in Chapter 6.

Chapter 7 is framed by Archer's (1995) morphogenetic cycle, bringing together the themes and understandings that emerged from Chapters 5 and 6. Using this cycle allowed me to reframe what had developed through the research by identifying the structural powers and how these influenced the nurses in the facility.

Chapter 8 allowed me to draw together the mechanisms identified in this project, and reconsider how they related to research within the field. In this final chapter, I articulate

the learning that I have gained, things I would consider differently, and the limitations of this study. I include ideas that should provide a way forward, arguing that a broad review of where rehabilitation nursing is positioned structurally and culturally is needed, to ensure nurses articulate the value of their role. Doing so, sets up the contextual environment for them to assert their agency in their decision-making regarding documentation choices.

1.7 Summary

Working within a rehabilitation facility, I have often wondered how the work of rehabilitation nurses was hidden when working within the team. There seemed to be something in the rehabilitation environment or the way that rehabilitation nurses worked that differed from nurses within a hospital. Additionally, prior research left uncertainty as to how nurses' documentation reflects their contribution, and the impact this has on the client. While it does not appear to be just a local issue, it is hoped that the facility, where the study is based, will benefit from uncovering these hidden mechanisms.

Chapter 2 – Rehabilitation Nurses' Documentation of their Contribution: A Review of the Literature

> Although nurses are the largest professional group working with stroke survivors, there is limited understanding of nursing practice in stroke units and very little evidence in respect of nurses' involvement in post stroke rehabilitation. There remains the tension between the traditional nursing values of caring for (or doing to) patients versus the rehabilitation approach of facilitating independent activity. Appropriate input from skilled rehabilitation nurses is at least as important as the other therapist resources. (Davis, 2014, p. 7)

This chapter begins by presenting my intent for the review of literature, and identifying the search strategy used. Additionally, I define key terms that are used throughout this thesis and then discuss the contribution of rehabilitation nurses by reviewing two competency standards. I also consider research about the evolution of non-regulated roles within nursing. This leads to an exploration of published research regarding the rehabilitation nursing role, and reviews the debate regarding rehabilitation interventions and care tasks. I briefly explore commentary regarding role visibility and the hidden nature of rehabilitation nursing. Rehabilitation dosage literature is reviewed to understand where nursing fits into this research area. One of the key factors in evaluating the role of the nurse within a client's journey is to understand the documentation practices of this group. As documentation is a prominent component of this research, I have conducted a separate scoping review of contemporary research on this. The chapter concludes with a summary of the challenges facing rehabilitation nurses and inconsistencies in the literature.

Although the quote above discusses nurses' contribution to stroke rehabilitation, Dr Davis highlights the paucity of evidence in understanding nurses' contribution to rehabilitation more generally in NZ. It is unclear if this tension is applicable to the nurses who work with TBI clients, as there is little research in this area. Accordingly, this literature review chapter has included research from the general rehabilitation literature in order to gain an understanding of nurses' documentation of their contribution.

2.1 Introduction

Through my own practice experience, I became interested in why nurses recorded their contribution in the way they did. The previous chapter described the NZ context of this study and introduced the issue of a lack of recognition and clarity in nurses' contribution to rehabilitation. I questioned how this issue influenced what nurses wrote of their contribution. I consulted the literature to gain an awareness of the topic and soon realised there was a need for further research. While international researchers were exploring

many of the issues, agreement had not been reached, and it was unclear what was occurring within a NZ context with clients experiencing TBI. This literature review was undertaken on an ongoing basis throughout my thesis timeframe. Areas evolved as different themes in my research became prominent, and as writers were advancing their understanding of the subjects. This chapter critically reviews the development of ideas described in the literature surrounding the topic of rehabilitation nurses' documentation of their contribution.

Defining what it is to be a rehabilitation nurse has been an evolving topic in the literature over many years. Alongside of the developing clarity in the rehabilitation nurse role, economic constraints have led to the extension of a non-regulated nurse assistant role. Consequently, the nurse's role has been further scrutinised and divided among these non-regulated workers. The progression in role differentiation has contributed to the already ambiguous nature of the role. Another related issue has been the differentiation between components within the role. Not all agree as to whether parts of the rehabilitation nurses' role are 'care' and should be considered separately to the rehabilitative effort (Booth & Waters, 1995; Burton, 2000; Koç, 2012; Long, Kneafsey, Ryan, & Berry, 2002). These debates may have reinforced the invisible nature and confusion of the rehabilitation nurses' role. Unfortunately, nurses' invisibility has been exacerbated in the literature, as they are frequently not included in interprofessional rehabilitation research (Foley, McClure, et al., 2012; Shiel et al., 2001; Zhu et al., 2007). The ambiguity in the nurses' role, combined with separation of aspects of their contribution, has underpinned how they are situated within the rehabilitative team. The question of how this influences their documentation and what it is that they write of their contribution underlies this research and is explored within this chapter.

2.1.1 Search Strategy

I undertook a narrative literature review concerning the contribution of rehabilitation nurses and their documentation practices. This was replicated on an ongoing basis throughout my research period. The literature review search included CINAHL complete, MEDLINE, and SPORTDiscus databases via EBSCO, of research published prior to 2019. An expert librarian was consulted before undertaking the literature search. The search terms used in various combinations were 'rehabilitation', 'nursing', 'contribution', 'dosage', 'care', 'role', 'invisible' and 'documentation'. Experts within the field were then confirmed by way of a snowballing technique from the initial reference lists. SCOPUS enabled further searching of the work of these prominent authors. Collectively, identified papers added to my understanding of others' research and opinions regarding rehabilitation nurses' documentation of their contribution.

2.1.2 Definition of Terms

Throughout this thesis, I use terms that are applicable within the rehabilitation context in Aotearoa-New Zealand. To clarify the essential language and choices for its use, I have defined the terms in the following section.

This research adopts Sinclair and Dickinson's (1998) definition of rehabilitation, because it emphasises the individual nature of rehabilitation and frames the process around the client and their family/whānau.[8] For the purposes of understanding the contribution of nurses, I have referred to members of the professional team, who are not nurses, as *allied health professionals*. The allied health term includes physiotherapists, occupational therapists, speech and language therapists, social workers, and clinical psychologists. Doctors are referred to separately, as *medical staff.* I have further used the term *interprofessional team* (IPT) when referring to the process of teamwork within the rehabilitation facility. Interprofessional teamwork "refers to the cooperation, coordination, and collaboration expected among members of different professions in delivering patient-centered care collectively" (Eggenberger, Sherman, & Keller, 2014, p. 12). The IPT members each maintain role autonomy whilst cooperating and collaborating to achieve the goals of the client and their family (Dean et al., 2012).

2.2 Contribution of Rehabilitation Nurses

Both the ARN and the ARNA have published updated competency documents, and these shed some light on what comprises rehabilitation nursing practice. Rehabilitation nursing was identified as a specialty in the United States in 1974 (Mauk, 2012). A core curriculum was first published in 1981 and served as knowledge to establish "rehabilitation nursing as a specialty" (Sayles, 1980, p. 12). A competency model was then released in 2014 by the ARN; and competency standards published in Australia in 2003 (Association of Rehabilitation Nurses, n.d.; Pryor, 2005). An overview of these two rehabilitation competency frameworks is presented in Table 2, below. As previously discussed, there is no formal requirement for nurses in NZ rehabilitation facilities to work within either model.

Table 2: ARNA Rehabilitation Competency Standards and ARN Competency Model

Australasian Rehabilitation Nurses Association (2003, p. 6)	**Association of Rehabilitation Nurses (2014, p. 4)**
1. The rehabilitative approach	1. Nurse-led evidence-based interventions to promote function and health management in persons with disability and/or chronic illness

[8] Refer to 1.4.1

Australasian Rehabilitation Nurses Association (2003, p. 6)	Association of Rehabilitation Nurses (2014, p. 4)
2. The teaching and coaching role	2. Promotion of health and successful living in persons with disability or chronic illness across life-span
3. Observation, assessment and interpretation	3. Leadership
4. Administering and monitoring therapeutic interventions	4. Interprofessional care
5. Management of rapidly changing situations	
6. Management, advocacy and coordination role	
7. Monitoring and ensuring the quality of health care practices	

The ARNA framework defines seven domains of practice with the intention that the domains are interconnected (Pryor & Smith, 2002). The principles of the rehabilitative approach are incorporated in domains 1-3 (Pryor, 2001). Domain 4 continues the rehabilitative nature of nurses' therapeutic interventions by noting, "the nursing response is directed towards promoting patients' self-determination, attaining their goals and maximizing their safety" (Pryor & Smith, 2002, p. 254). Domain 5 addresses the client's changing clinical condition, while domain 6 incorporates the nurse's 24-hour role. Quality projects and practices are included in domain 7.

The ARN model has multiple functions. It is utilised to frame practice, and guide proficiency levels (Vaughn et al., 2016). Within each domain of practice are associated competencies. Proficiency examples are given for each competency ranging from beginner, intermediate to advanced (Association of Rehabilitation Nurses, 2014).

The major difference between these frameworks is the number of domains identified. The ARNA model separates the domains up-front into assessment, and interventions. This gives guidance particularly for beginning practitioners to understand "the 'how' and the 'what' of rehabilitation nursing practice" (Pryor & Smith, 2002, p. 253). The ARN have instead incorporated these ideas within the domain content. They have chosen to detail specific components as part of the subsequent competencies section, rather than the domain itself. This may give nurses an awareness of integration of the broader aspects of the role, and allows for a progression of proficiency with more experienced rehabilitation nurses.

Both competency documents provide a framework for rehabilitation nurses to guide practice and a structure for this specialty group. Nevertheless, there are areas of debate

within each. Pryor and Smith (2002) expand on the ARNA's domain 4, stating, "nurses also contribute to the rehabilitation of their patients through active participation in allied health and medical interventions" (p. 254). This could be interpreted as a focus on discipline specific goal setting, where the interventions are that of allied health or medical; although the competency element subsequently states that this includes "collaborative assessment, planning, implementation and evaluation of interventions with the person, significant others and/or carers and the rehabilitation team" (Australasian Rehabilitation Nurses Association, 2003). Even though the subsequent text qualifies a collaborative focus, initially the intent may be a little confusing. On the same subject, the ARN (2014) indicated integration by describing the implementation of an interprofessional plan of care. Although they use the term 'inter**professional**', which may promote perception of professional involvement only, the ARN later stated this includes the client and family in that process. Differences aside, both documents give terminology and a framework to the practice of rehabilitation nursing. They provide a broad indication of nurses' contribution to rehabilitation. The ARN have also added a certification program in rehabilitation nursing (Mauk, 2012).

2.2.1 Research into the Contribution of Rehabilitation Nursing

Despite the recent emergence of published competency documents clarifying the rehabilitative nursing role, there was role uncertainty within the literature for a long time. Several earlier rehabilitation nursing researchers considered the role was ill-defined (Barreca & Wilkins, 2008), or reported rehabilitation nurses as having incomplete knowledge of their role (Burke & Doody, 2012; Long et al., 2002; Seneviratne, Mather, & Then, 2009). Although some contemporary research articles state that there continues to be ambiguity in the rehabilitation nursing role (Dreyer, Angel, Langhorn, Pedersen, & Aadal, 2016; Loft, Poulsen, et al., 2017), there is evidence that role definition has been gradually evolving. European stroke nursing researcher, Marit Kirkevold (1997), provided a framework of the nurse's role in stroke rehabilitation and this was examined during the exploration phase of the ARNA's competency standards (Pryor & Smith, 2002). Kirkevold (2010) extended her earlier theoretical understanding of the rehabilitative nurse's role in stroke by including a patient-centred focus, which acknowledged the joint role the patient has in their rehabilitation. She also refocussed understanding of the integrated nature of the role as opposed to an earlier task-orientated approach. In a 2013 literature review, a group of Danish researchers identified the increasing emphasis of nurses working within the IPT, recognising that nurses are ideally suited for a coordination role within the team (Aadal et al., 2013). Others have furthered understanding of the educative role of rehabilitation nurses (Christiansen & Feiring, 2017), and their role in client transitions (Camicia & Lutz, 2016).

While some of the uncertainty about the nursing role is from the perspective of the nurses themselves, other research highlights the perception of other team members. An overlap between the nurse's role and that of other team members may create tension between team members (Long, Kneafsey, & Ryan, 2003). While boundaries exist between allied health professional roles, nurses share many tasks in common with members of each discipline. Long et al. (2003) found nurses saw the opportunities of their role and understood that they could operationalise a rehabilitative, therapeutic approach within their daily encounters with the client.

The discourse regarding role boundaries and overlap within the rehabilitation team is a point of discussion in general literature on how interprofessional teams work within a rehabilitation environment. While there is a general acceptance that one of the elemental features within rehabilitation is a fully functioning and united team working together to achieve the goals of each client, it appears that understanding the essence of what it takes to become such a team is less easy to deduce (Chamberlain-Salaun, Mills, & Usher, 2013; Shaw, Walker, & Hogue, 2008). Some may argue that this is the more relevant factor. Given that rehabilitation by its nature inherently requires a team approach, then to continue to define the role of a single discipline and the interventions that are successful based on that single discipline approach may be unproductive (Wade, 2005b). That said, the contention remains that in order for a team to operate successfully, an understanding of the unique contribution of each requires appreciation from all (Hart, 2015).

Appreciating and valuing the nurse's role in rehabilitation has been articulated in a pioneering NZ study (Tyrrell, Levack, Ritchie, & Keeling, 2012). Tyrrell et al.'s (2012) research explored the perspective of family/whānau regarding the role of the nurse within an aged care rehabilitation ward. The researchers found that families most admired the connection that nurses had with their family member and believed that this could assist in motivating the client to achieve their rehabilitation goals. An editorial in the *New Zealand Medical Journal* further highlighted the importance of valuing individual professional roles, such as nursing; the author noting that "anecdotally, most clinicians involved in rehabilitation will realise the enormous value of skilled rehabilitation nurses and the importance they have in ensuring good patient outcomes" (Davis, 2014, p. 7). However, Davis highlighted the continued paucity of evidence as to nurses' contribution in stroke rehabilitation.

2.2.2 Evolution of a Non-regulated Rehabilitation Nurse Assistant Role

Fiscal pressures have led to the establishment of a role for non-regulated nurse assistants and a reduction in rehabilitation nurse numbers in some facilities (Fisher, 2017). This progressive organisational change has occurred alongside a body of literature, where the practice of rehabilitation nurses continues to be explored. There are economic reasons for the evolution of the nurse assistants' role in rehabilitation related to the financial pressures in operating a healthcare service. Unfortunately, the lack of clarity around the rehabilitation nurses' role is potentially further blurred by involvement of non-regulated workers who are given responsibility for carrying out tasks within the nursing role. Whilst there has been commentary about decreasing numbers of registered nurses in rehabilitation, there continues to be concern about designating parts of the nursing role to non-regulated staff (Fisher, 2017; Ostaszkiewicz, 2006). A well-known English professor of nursing implored his readers not to lose the fundamental nature of the nursing role, which incorporates spending quality time with the client, rather than assigning many of these 'tasks' to non-regulated nurse assistants (Castledine, 2002). This essence of nursing, when a nurse has made a connection with a client leading to advocacy, positive reinforcement and integrated care, can only be made if time is to taken to understand and connect with others (Bittner, 2018).

The non-regulated nurse assistant role is prevalent in rehabilitation in NZ. While the role may bring richness to the rehabilitation team in terms of people's life experience, there are challenges within an organisation to define the role for these additional team members. Perhaps it is this breakdown of the nursing role into 'tasks', in order to ensure role differentiation between nursing and the non-regulated workers, that impacts on the holistic nature and strength of the rehabilitation nurses' role. Nevertheless, there is also uncertainty whether the nurse's role is completely rehabilitative. To date, there has been little agreement regarding the classification of tasks within the role, some separating rehabilitation interventions from care tasks.

2.2.3 Care Tasks as Separate to Rehabilitation Activities

Potentially a lack of clarity in nurses' contribution may derive from some deeming that only particular aspects of the role are rehabilitation, while others aspects are deemed care tasks. Defining what is meant by care tasks is needed prior to unpacking the apparent dichotomy between care tasks and rehabilitative interventions in the literature. 'Care' is a word that is used liberally in nursing literature, but it has two distinct descriptions. There is the relational art of 'care' associated with compassion (Hines, 2017; MacLeod & McPherson, 2007), and the provision of 'care', which is linked to a task

(O'Reilly, Pryor, & George, 2015). It is provision of care that I am exploring and its relationship to rehabilitation. Wade (2005a) interchanged the terms care and support, defining them as “any intervention that is needed simply to maintain the patient's situation”; he further clarified this by stating these “act on the patient” (p. 816). Likewise, Burton (2000) described the difference when care is “done for” a client where the client is seen as a “passive recipient” as distinct to “being with” the client where nurses work together with the client to achieve a goal or task (p. 180). These interpretations of the nature of care tasks are two-fold; the purpose of the intervention is maintaining health, where the client is passive while the task is performed.

Historically, in research concerned with clarifying the nurses’ role in rehabilitation, writers separated components of the nursing role into care tasks and the rehabilitative role (Booth & Waters, 1995; Burton, 2000; Koç, 2012; Long et al., 2002). There was a view that care tasks (i.e., “basic care”) were seen as “preventative” ensuring the client’s health was maintained so that they could “fully partake in their rehabilitation programme” (O'Connor, 2000, p. 182). An English study seeking a multidisciplinary perspective of nursing in stroke units, commented that only a limited number of participants[9] referred to care tasks, such as personal hygiene “having a rehabilitative component” (Burton et al., 2009, p. 93). However, Kirkevold (2010) highlighted the rehabilitative nature of care tasks,[10] as they put “the patient in the best possible position to benefit from intense, specific rehabilitation therapies (e.g., physical and occupational therapy)” (p. E29). The focus is not on nurses being involved in that therapy; rather, preparing the client to benefit from what others were providing.

Other researchers have commented that the nurses’ role in rehabilitation was that of providing ‘therapy carry-over’, where nurses were guided by allied health in continuing therapy sessions (Aadal et al., 2013; Burton et al., 2009; Long et al., 2002; E. L. Miller et al., 2010; Pellatt, 2003). This approach suggests a view that allied health professionals hold the rehabilitation expertise and nurses do not share an equal role in planning and implementing rehabilitative interventions. Clarke (2013) questioned what rehabilitation nurses themselves regarded as “legitimate nursing activity” (p. 1202). His research found nurses would only engage *in* rehabilitation if time allowed. The priority for nurses in Clarke’s study was physical monitoring and personal care. This notion indicates a separation in thinking whereby rehabilitation was an additional something, which nurses would either set up for allied health practitioners, or which required the guidance of allied health to undertake. It is conceivable that rehabilitation nurses might feel some confusion

[9] Participants in Burton’s (2009) research included nurses, allied health and a doctor.
[10] Kirkevold (2010) termed care tasks as “conservation” (p. E28).

as to their actual contribution to rehabilitation, and may fail to document some of the tasks they complete.

The legitimate role of nurses within rehabilitation has evolved in the literature over the last 15 years (Bjartmarz, Jónsdóttir, & Hafsteinsdóttir, 2017); although the perspective of the rehabilitative nature of nurses' contribution seems to have taken time to permeate into the nursing mind-set. Pryor (2012a) commented that Wade's (2005a) model of the rehabilitation process affirmed nursing's contribution. Wade identified three rehabilitative intervention types: collection of data, providing support, and giving treatments. Pryor, therefore, asserted that tasks given to maintain a client's health rather than to improve their function, or completed by the nurse so the client can preserve energy, are rehabilitation. Pryor contended that defining rehabilitation interventions verified nursing's contribution to the overall rehabilitative effort regardless of the purpose of their intervention. Another group of researchers further argued that nurses could employ rehabilitative principles in their daily practice with any routine nursing task (Loft, Martinsen, et al., 2017).

Recent research from an Australasian cohort of 289 rehabilitation nurses[11] suggested that the majority perceived every part of their input in a holistic sense. Although they talked of 'managing' a condition or intervention, for example, giving medication, they described this as contributing to rehabilitation. Of note, however, some of these study participants did not agree; 13.5% of the cohort denied that interventions relating to the management of acute health conditions were rehabilitation and 9.7% did not answer the question (Pryor & Fisher, 2016). This study does not link nurse demographics to a particular response, so no conclusions can be made relating to experience levels or educational backgrounds. Consequently, while there are examples of nurses embracing rehabilitative principles within all aspects of their role, not all nurses think in the same way.

The focus of rehabilitation nursing is consistently unclear in the wider literature with nebulous terminology and disagreement as to the way nursing interventions are classified. It is unclear if rehabilitation nurses work with a rehabilitative approach in all that they do. Opinions are divided. As previously discussed, Pryor (2012a) drew on Wade's (2005a) rehabilitative intervention types, which delineate the different purpose in providing support or treatment. However, Pryor deemed both support and treatment as rehabilitation. Loft and colleagues (2017) considered that "it is possible to integrate rehabilitation principles into daily care" (p. 4). Although this statement appears to advocate for a rehabilitative frame by nurses regardless of the intervention being given,

[11] The study included nine nurses from Aotearoa-New Zealand (3.1%) (Pryor & Fisher, 2016).

the authors later referred to prioritising rehabilitation over a “physical care activity” (p. 9). Consequently, although this study was aiming to change nurses’ behaviour, the researchers’ underlying belief in utilising a rehabilitative approach in all nursing interventions is not clearly borne out. Similarly, a group of Canadian researchers proposed a rehabilitation model that aimed to combine the division of care and rehabilitation. They highlighted that nursing was not considered “integral” to rehabilitation believing that this was due to ‘care’ and ‘rehabilitation’ being seen as two different practice models (St-Germain, Boivin, & Fougeyrollas, 2011, p. 2106). Overall, these examples support the need to clarify whether all nursing interventions should be recognised as encompassing a rehabilitative perspective.

Currently, ambiguity remains in underlying principles, and nurses themselves are not united in the way they perceive their contribution. Given this uncertainty, it is also unclear as to how nurses’ perceptions translate to their documentation. Importantly, while there is disagreement as to the rehabilitation focus of all interventions, the question might be asked, is this associated with valuing only those interventions that are considered rehabilitative? In doing so, do we consider interventions classified as ‘care tasks’ as being less valuable? These questions are especially pertinent in NZ, where only one study to date has involved nurses from NZ rehabilitation settings. Given NZ’s unique funding structures[12], it is unclear how the aforementioned viewpoints apply. We need to understand if nurses are documenting what they see as their contribution. If nurses are documenting only those interventions considered rehabilitation, are we then keeping some interactions at the level of being undervalued or invisible? The above questions fit within a broader concern of some nursing commentators, which involves raising the visibility of the nursing role.

2.2.4 Role Visibility

How nurses choose to document their contribution may directly link to the visible and invisible nature of their work. The notion of visibility has been explored in both rehabilitation and general nursing literature (Allen, 2015; Lydahl, 2017; McWilliam & Wong, 1994; Sparrow & Draper, 2010). Lydahl (2017) believed that while nurses across specialist areas were visible, the tasks they performed may be invisible. She asserted that nursing “has a long history of being deeply embedded and invisible both in terms of work descriptions and in terms of record keeping” (Lydahl, 2017, p. 166). Researchers relate multiple factors to the invisibility of the nurses’ role, which is then amplified by nurses not documenting parts of their contribution. Lydahl commented that if a portion of the role is completed but not written, then “it has no voice” (p. 166). This paper suggests

[12] Refer to 1.4.2.

that ‘not documenting’ most often occurs with unplanned nursing interactions. In Allen’s (2015) text regarding the invisible work of nurses, she commented that “visible work tends to be equated with formal work that is authorised and documented” (p. 4) and provided examples of what she called the “behind the screens work of nurses” (p. 4).

Two Australian researchers have echoed a similar sentiment by commenting that activities of daily living and verbal interactions with clients are often not measured and seldom documented (Kearney & Lever, 2010). These authors suggest environmental factors and team bias are influencers of nurses’ documentation practice. Kearney and Lever (2010) are critical of how allied health team members view nurses’ input and suggested that because ‘therapy’ is viewed from an allied health lens, some nursing activities become invisible. The perception of allied health is that time with nurses is “inactive and encroaching on patients’ therapy time” (Kearney & Lever, 2010, p. 394). Additionally, if nurses do not document their input, they expose their interventions to being classified as non-rehabilitative.

Understanding why nurses struggle to be visible, particularly in the rehabilitative setting, has led researchers to examine the differences between environments. Some have highlighted contrasts in different practice settings and distinctions between the nurses’ role and that of other health professionals. In a hospital, nurses possess knowledge of the patient, when they often cannot speak for themselves. In rehabilitation, the client is usually medically stable and team members can go straight to the client for information (Pryor, 2001). Pryor (2001) also highlighted environmental differences in rehabilitation, where patients connect rehabilitation and therapy to the gym or a session with an allied health team member and not something that is done with a nurse. Another study revealed that patients saw nurses as “helpful”, but not having a therapeutic role (Secrest, 2002, p. 180).

More contemporary research indicates further themes that are associated with the visibility of nurses in rehabilitation. A group of Icelandic researchers, following implementation of a stroke rehabilitation nursing guideline, stated that “previous less visible aspects of nursing care have received attention and recognition among all staff” (Bjartmarz et al., 2017, p. 11). While it is not entirely clear what these aspects were, nurse participants believed there had been a change in the way others viewed their contribution throughout the guideline’s adoption.

Within a rehabilitation setting, a core principle that directs team planning is related to the client’s requirements and goals. However, two studies question nurses’ involvement in goal setting (Hartigan, 2012; Kneafsey, Clifford, & Greenfield, 2013); while another study

commented on a continued general feeling of nurses being undervalued amidst the rehabilitative team (Burke & Doody, 2012). What is apparent from the literature is that the notion of nurse invisibility persists as an underlying practice issue.

Uncertainty still exists about what components nurses choose to document and how they are influenced by environmental structures and attitudes towards their role and contribution. While the reasons for nurses' invisibility within the rehabilitation team may not be fully understood, there is an indisputable lack of inclusion of nurses' input in broader rehabilitation analysis literature. One example of this is the collection of work related to rehabilitation dosage.

2.2.5 Rehabilitation Dosage

When providing rehabilitation, it is important to have an accurate idea of the amount and type of rehabilitation, or rehabilitation dosage, necessary for optimal client outcomes (Königs, Beurskens, Snoep, Scherder, & Oosterlaan, 2018). Although a number of studies have endeavoured to calculate optimal rehabilitation dosage, typically such studies fail to include nursing interventions in their calculations (Shiel et al., 2001; Zhu et al., 2007). Such omissions potentially confound study results. An example is found in a comment from Foley et al. (2012), who stated, "the average time that each patient was seen by each *core* [emphasis added] discipline (OT, PT, SLP) [occupational therapists, physical therapists and speech-language pathologists] was calculated" (p. 2133). The factors that caused researchers to exclude nurses from this group of core disciplines, and therefore from analysis of the contribution of various disciplines to rehabilitation outcomes, is unclear.

Research has changed its focus within the last few years with some authors admitting that quantifying the dosage of rehabilitation is substantially more complex than first thought. Reasons include the variety of contact time and intensity that can occur within a session, between different sessions and across different therapy staff, and the variation in motivation and effort exerted by the clients themselves (Foley, Pereira, et al., 2012; Hammond et al., 2015; E. L. Miller et al., 2010; Seel et al., 2015). Although the challenging concept of rehabilitation dosage is evolving, the lack of knowledge of nurses' active contribution to rehabilitation outcomes remains unchanged.

How nurses document their contribution may be associated with the way others describe their involvement. A lack of recognition of nurses' contribution to rehabilitation is also reflected in terminology differences when describing the disciplines. A European multi-centre study exploring dosage, labels nurses as "offering help" while the work of allied health was referred to as those who were involved in "therapy" (De Wit et al., 2005, p.

1983). This disparate description of each team member's contribution may indicate an underlying bias; however, nurses themselves require clarity in how they describe their contribution.

While nursing is absent from dialogue on the wider, therapy component of rehabilitation dosage research, nurses themselves have begun to question what their own evidence base is in this area. Members of the Scottish Stroke Nurses Forum published its top 10 nurse-led research areas. The final research priority was, "what is the optimal amount and intensity of therapy provided by nurses for patients with stroke?" (Rowat et al., 2016, p. 2837). The authors cited three papers that concentrated on nurse led interventions (Larson et al., 2005; Middleton, Mcelduff, Ward, Grimshaw, & Group, 2011; Thomas et al., 2014) and stated "there is now increasing evidence that nurse-led intervention studies are feasible and relevant to clinical practice" (Rowat et al., 2016, p. 2838). A desire to prioritise quantification of the amounts and intensity of their input suggests that nurses are seeking further clarity about their contribution in rehabilitation and that they acknowledge the importance of evidencing that contribution.

My searches found only limited research that examined the nursing role in the NZ rehabilitation context. One example was set in an older persons rehabilitation unit (Thompson & McKinstry, 2009). In this research, the authors recorded 'therapy' as being in a gym, although note this was not the only environment where therapy could take place. They remarked that "therapy does not only occur with therapists and frequently occurs with others present, such as nursing staff and family members" (Thompson & McKinstry, 2009, p. 125). This example suggests there may be differences in rehabilitative practices within different environments. It does, however, highlight the need for further NZ research regarding documentation of practice within the area of rehabilitation.

Literature about dosage captured limited understanding of nursing inputs; therefore, it may not be an accurate reflection of total rehabilitation inputs. It highlighted the lack of clarity about the actual nursing role in rehabilitation settings and, as such, may be an influence on nurses' perceptions and documentation of their contribution. Furthermore, in order to gain a real understanding of what has happened throughout the client's journey, it is important to ensure the accuracy and completeness of documentation.

2.3 Documentation of the Nursing Contribution to Rehabilitation

Literature suggests a lack of clarity about nurses' role in rehabilitation and that nurses may not fully document their contribution. This section explores what is known of nurses'

documentation in the rehabilitation setting, and the influences on what is documented. Nursing documentation systems have evolved over the years with research into differing documentation frameworks and a progression towards electronic record systems (Burridge, Foster, Jones, Geraghty, & Atresh, 2017; Choi & Kim, 2012; Johnson et al., 2009; Lunney, McGuire, Endozo, & McIntosh-Waddy, 2010; Mueller, Boldt, Grill, Strobl, & Stucki, 2008). However, the features of quality documentation within the speciality of rehabilitation nursing is unclear. In NZ rehabilitation facilities, nurses utilise documentation frameworks from local sources and international texts. The New Zealand Nurses Organisation (NZNO)[13] produced a documentation guideline, and the ARNA refer to documentation within their competency document. The NZNO specifically referred to the legal significance of nurses' documentation, stating "it is essential for good clinical communication" (New Zealand Nurses Organisation, 2017, p. 1). Additionally, NZNO (2017) write, "if care is not recorded, then it is assumed the care was not given" (p. 2). This latter statement espouses a legal-mechanistic approach where contribution is framed as task-based requiring documented confirmation of completion. The ARNA (2003) refers to the "development of a rehabilitation plan" (p. 3), but does not specifically list documentation requirements or give documentation guidance within its domains of practice.

Rehabilitation nursing textbooks provide guidance in documentation principles for their reader that differs to that in general rehabilitation texts. The nursing process is fundamental to documentation patterns in two of the rehabilitation nursing texts (Chin, Finocchiaro, & Rosenbrough, 1998; Hoeman, 2002). Whilst these refer to numerous examples of assessment, diagnosis statements, and intervention examples, neither articulate day-to-day documentation. Another rehabilitation nursing text, discusses documentation theoretically, but also does not provide practical documentation examples (Jester, 2007). To date, this means a paucity of guidance for what represents good rehabilitation nursing documentation remains.

There is also complexity in documentation as its purpose relates to a number of different factors. It represents a legal record of what has occurred, and the client's input and partnership in what has happened. It also documents the continuity of care between nurses, as information is passed from one shift to the next. This communication translates to the wider team, who can review interactions, concerns, or recommendations in retrospect (Karkkainen, Bondas, & Eriksson, 2005; Kerkin, Lennox, & Patterson, 2018). Additionally, in practice, data may be collected from the nurses' clinical documentation for financial requirements and may additionally be used for organisational

[13] NZNO is a union based professional association that provides information regarding legal, professional and education issues affecting nurses in NZ.

research and quality improvement processes (Kerkin et al., 2018). Given the variety of needs and requirements, the process of documentation has become increasingly complex.

Some research suggests that nurses' documentation is not comprehensive (De Marinis et al., 2010; Jefferies, Johnson, & Nicholls, 2012) with nurses completing more assessments and interventions than they were documenting. Nurses in these studies were more likely to record activities relating to the physical needs of the client, such as skin assessment and bowel care, whilst interactions involving psychosocial needs or educational interventions were less likely to be recorded. Shedding some light on the reason for these anomalies, other research has suggested that nurses may withhold their communication as they do not feel empowered as a group to express their opinion (Roberts, DeMarco, & Griffin, 2009). I surmised that in line with these findings, there may be important interactions that may well enhance the experience and perhaps outcome for the client that are not documented or communicated verbally to other members of the team.

2.3.1 Scoping Review – Rehabilitation Nursing Documentation

When reviewing the rehabilitation research prior to conducting this study, I identified two reviews relating to nurses' documentation. Firstly, a 2009 systematic review (Saranto & Kinnunen) and secondly, a 2010 literature review (Jefferies, Johnson, & Griffiths). These two reviews had differing purposes, Saranto and Kinnunen aimed to "assess the research methods applied in evaluation of nursing documentation" (Saranto & Kinnunen, 2009, p. 465) and included 41 studies, published between 2000 and 2007. In contrast, Jefferies and colleagues (2010) sought to identify the "essential aspects of nursing documentation" (p. 114) and included 28 studies between 1982-2008. Seven articles were included in both reviews. Saranto and Kinnunen (2009) found that there was little standardisation of documentation audit tools and questioned the validity of some that were used. They were also critical of the protracted time to adopt computer based documentation systems, which may facilitate standardisation of nursing terminology, enabling improvements in assessment of documentation quality. In their literature review, Jefferies et al. included articles which a) clarified the purpose and timeliness of nursing documentation; b) offered differing views on whether nurses should avoid duplicating information that was documented elsewhere; c) confirmed the importance of documenting a full, objective record of all areas of nurses' contribution, including education and psychosocial support; and, d) highlighted the need for nurses to include the voice of the patient in their documentation (Jefferies et al., 2010). For my study, I aimed to build on these reviews with more recent discourses. I utilised a scoping review,

guided by Levac and colleagues' (2010) six-stage framework, and narrowed my search focus to information specific to rehabilitation nurses' documentation.

2.3.1.1 Search Strategy

A search was carried out of the CINAHL complete, MEDLINE, and SPORTDiscus databases via EBSCO. The databases were searched from 2008 to 2018 using the following search terms: "rehabilitation nurs*" and [document* or record*]. The search was limited to English language articles.

2.3.1.2 Search Results and Application of Inclusion and Exclusion criteria

Initially, 129 documents were found and screened based on their applicability to my study. Articles were only included where they focussed specifically on nursing documentation in adult rehabilitation facilities. Studies, literature reviews, and expert opinion pieces were all included to support breadth of understanding about the topic. I excluded studies that were centred on paediatrics or outpatient rehabilitation, and those that involved document reviews for audit purposes only (i.e. completion compliance). Consistent with the framework of Levac et al. (2010), articles for inclusion were confirmed with my supervision team. After screening the results of the initial search, 14 articles were selected to include in the review.

2.3.1.3 Charting the data

Table 3 (p. 31) reflects charting of the extracted data.

Table 3: Scoping review of literature relating to documentation of rehabilitation nursing

Authors (Listed alphabetically)	Title	Description	Key Points relating to Documentation
Bjartmarz, I., Jónsdóttir, H., & Hafsteinsdóttir, T.B. (2017)	Implementation and feasibility of the stroke nursing guideline in the care of patients with stroke: A mixed methods study.	Mixed methods evaluation post implementation of a stroke nursing guideline. Pre- and post-intervention focus groups with nurses and auxiliary staff and pre- and post-audit of electronic nursing records.	1. Following implementation of a stroke nursing guideline, authors note, "essential components of rehabilitation had been defined and integrated into daily nursing care. Less visible aspects of nursing now received more attention and recognition" (p. 11). 2. Improvements in documentation after implementation of the nursing guideline in 23 of 37 items.
Brous, E. (2015)	Lessons learned from litigation: Skin care and the expert witness.	Case example highlighted nurses' documentation from a court case in the United States.	1. Use of standardised skin assessment tools "to achieve consistency" (p. 66). 2. Importance of recording accurate assessment, observation and interventions of skin and wound management.
Burridge, L., Foster, M., Jones, R., Geraghty, T., & Atresh, S. (2017)	Person-centred care in a digital hospital: Observations and perspectives from a specialist rehabilitation setting.	Mixed methods research of electronic records in a spinal rehabilitation unit. Data recorded from patient observations, IDT focus groups and patient surveys.	1.Nurses indicated the electronic record was complicated to use, "time-intensive" and underrepresented their "scope, primacy and intensity of activities" (p. 552).
Cave, C.E. (2017)	Evidence-based continence care: An integrative view.	Literature review from 2005-2015 of nurse-led continence strategies. Information led to documentation of evidence-based recommendations.	1. Nurses are limited in their documentation choices if the facility documentation system is not specialised. 2. Nurses require access to validated assessment tools, and algorithms to guide intervention planning. Electronic documentation systems must support these requirements.
Choi, J., & Kim, H. (2012)	A workflow-oriented framework–driven implementation and local adaptation of clinical information systems	Case study highlighting the process of consultation, implementation and evaluation of implementing an electronic nursing documentation system.	1. Involvement of nurses in the consultation and design phase was important, as was the prompt resolution of highlighted issues.

Authors (Listed alphabetically)	Title	Description	Key Points relating to Documentation
Hentschke, P. (2009)	24-hour rehabilitation nursing: The proof is in the documentation.	Medicare funding requires documented proof of nursing. This article gives information and examples of what should be included.	1. Authors state Medicare provides limited information of what they require. 2. Assessment, interventions, education and outcomes can only be "confirmed if they are documented" (p. 129).
Johnson, K., Bailey, J., Rundquist, J., Dimond, P., McDonald, C. A., Reyes, I.A., Thomas, J., & Gassaway, J. (2009)	Classification of SCI rehabilitation treatments: SCIRehab project series: The supplemental nursing taxonomy.	Multi-centre collaboration to develop and implement a nursing taxonomy to record the intensity of specific nursing interventions in spinal rehabilitation settings.	1. Prior to this intervention patient education was generally recorded using a tick box method. Time spent, and patient participation was not recorded. 2. Authors described multi-centre agreement of terms, data required and training prior to implementation. 3. Agreement that 10-minute intervention sessions were a minimum timeframe for the dataset.
Lunney, M., McGuire, M., Endozo, N., & McIntosh-Waddy, D. (2010)	Consensus-validation study identifies relevant nursing diagnoses, nursing interventions, and health outcomes for people with traumatic brain injuries[14].	Establishing a minimum dataset based on nursing diagnoses for clients with TBI. Utilised a consensus validation approach incorporating three classification systems: Classification of Nursing Diagnoses (NANDA), the Nursing Interventions Classification (NIC), and the Nursing Outcomes Classification (NOC).	1. Once the nursing diagnosis was identified, a standardised dataset of nursing interventions and outcomes were then described. 2. Identification of standardised language in specific client groups was seen as the first step in establishing minimum standards of care in a facility.
Mueller, M., Boldt, C., Grill, E., Strobl, R., & Stucki, G. (2008)	Identification of ICF categories relevant for nursing in the situation of acute and early post-acute rehabilitation.	Two stage consensus approach to link two nursing taxonomies. Firstly, identifying interventions from the "Leistungserfassung in der Pflege" (LEP) dataset that were deemed relevant in rehabilitation. Secondly, integrating identified LEP dataset with	1. Utilisation of standardised dataset "facilitates inter-professional communication and provide "a feasible way to analyse nursing" (p. 447).

[14] The article by Lunney et al. (2010) was set in a "unit for long-term care" (Lunney et al., 2010, p. 161) of people with TBI which admitted clients whose "rehabilitation potential is 3-18 months" (p. 162). In NZ, clients with this criterion for rehabilitation would likely be admitted to an intensive rehabilitation service rather than long-term care facility. Therefore, this article was included in the scoping review.

Authors (Listed alphabetically)	Title	Description	Key Points relating to Documentation
		International Classification of Functioning, Disability and Health (ICF) categories.	
Pryor, J. (2012b)	Scope of practice: What is it, why is it important and how might it be clarified for nurses working in rehabilitation?	Peer reviewed opinion piece detailing purpose of scope of practice frameworks in rehabilitation nursing in Australia.	1. Author advocated for development of nursing guidelines which include suite of nursing interventions e.g. NIC or minimum datasets. She believes this would then fit "requirements for electronic health records" (p. 11).
Rundquist, J., Gassaway, J., Bailey, J., Lingefelt, P., Reyes, I.A., & Thomas, J. (2011)	Nursing bedside education and care management time during inpatient spinal cord injury rehabilitation.	Multi-centre collaboration in spinal rehabilitation to describe education and care given by nurses.	1. Nurses were found to provide "a significant amount of time providing education and psychosocial support" (p. 213); however, nurse leaders believed this was not reflected in paper-based documentation systems.
Thórarinsdóttir, K., Björnsdóttir, K., & Kristjánsson, K.(2017)	Development of Hermes, a new person-centered assessment tool in nursing rehabilitation, through action research.	Action-research project describing the development of a person-centred approach to client participation in assessment and care planning underpinned by phenomenological principles.	1. Author commenced this project after concerns that traditional documentation system of NANDA diagnosis and interventions (NIC) were not person-centred and in practice not discussed with clients after development. 2. Nurses found, after implementation, they could better prioritise as client had identified what was most important or concerning for them. 3. While standardisation of documentation was achieved, authors acknowledged documentation of treatment was not evidenced.
Torres, A. (2018)	Capturing Functional Independence Measure (FIM®) ratings.	Quality improvement study where nurses underwent training of the FIM, and then contributed to the design of a documentation template to capture the information needed.	1. Authors stated that, "nursing documentation increased with introduction of the FIM® template" (p. 7).
Tosin, M.H.S., Campos, D.M., Andrade, L.T., Oliveira, B.G.R.B., &	Nursing interventions for rehabilitation in Parkinson's	Cross-mapping study of electronic records with the Nursing Interventions	1. Standardising the language used in nursing documentation, through the NIC, was found to facilitate "communication between nurses and other health professionals" (p. e2727).

Authors (Listed alphabetically)	Title	Description	Key Points relating to Documentation
Santana, R.F. (2016)	disease: Cross mapping of terms.	Classification (NIC) in patients with Parkinson's disease.	

2.3.1.4 Results

The review highlighted a wide range of methodological approaches within the 14 included studies. Two were opinion pieces (Hentschke, 2009; Pryor, 2012b) and one was a literature review (Cave, 2017). Four studies involved panels of experts in the field, two of those were multi-centre collaborations (Johnson et al., 2009; Rundquist et al., 2011) and two were consensus based approaches (Lunney et al., 2010; Mueller et al., 2008). In addition, there were two case studies (Brous, 2015; Choi & Kim, 2012), a cross mapping study (Tosin et al., 2016), a quality improvement study (Torres, 2018) and an action research study (Thórarinsdóttir et al., 2017). Six studies were conducted in the United States (Brous, 2015; Choi & Kim, 2012; Hentschke, 2009; Johnson et al., 2009; Lunney et al., 2010; Rundquist et al., 2011; Torres, 2018), two each in Iceland (Bjartmarz et al., 2017; Thórarinsdóttir et al., 2017), and Australia (Burridge et al., 2017; Pryor, 2012b), with one each in Europe (Mueller et al., 2008) and Brazil (Tosin et al., 2016). The characteristics of the study populations varied with the majority relating to general rehabilitation units. Specific populations were mentioned in six studies, including TBI (Lunney et al., 2010), stroke (Bjartmarz et al., 2017), spinal cord injury (Burridge et al., 2017; Johnson et al., 2009; Rundquist et al., 2011) and Parkinson's disease (Tosin et al., 2016).

In this scoping review, research regarding rehabilitation nurses' documentation highlighted the following major themes; use of guidelines or datasets to frame documentation practice (Bjartmarz et al., 2017; Cave, 2017; Johnson et al., 2009; Lunney et al., 2010; Mueller et al., 2008; Pryor, 2012b; Thórarinsdóttir et al., 2017; Torres, 2018; Tosin et al., 2016); and, evaluating electronic records (Burridge et al., 2017; Choi & Kim, 2012; Rundquist et al., 2011). Single papers detailed legal issues (Brous, 2015); and recommendations of how rehabilitation nurses can evidence their contribution related to specific funder requirements (Hentschke, 2009).

2.3.1.4.1 Use of guidelines or datasets to frame documentation practice

The scoping review highlighted that there was no one rehabilitation nursing documentation framework. Many researchers either attempted to integrate various framework combinations or evaluated usage of a single framework. One author recommended that standardisation would enable a description of "the quality of nurses' work" (Lunney et al., 2010, p. 161) and provide a minimum standard to frame evidence of nurses' contribution. Researchers who implemented specific frameworks or guidelines reported their effect on nurses' documentation. There was variety in the frameworks used, although four of the studies utilised the Nursing Interventions Classification (NIC) (Lunney et al., 2010; Pryor, 2012b; Thórarinsdóttir et al., 2017; Tosin et al., 2016). While researchers admitted a variety of implementation issues, most concluded success in

their projects, finding that adopting a specific documentation framework added a valuable systematic approach, and added depth to nurses' documentation practice (Bjartmarz et al., 2017; Johnson et al., 2009; Lunney et al., 2010). Many of the papers in this review endorsed the necessity for standardised assessment tools (Brous, 2015; Cave, 2017; Johnson et al., 2009; Lunney et al., 2010; Thórarinsdóttir et al., 2017). Cave (2017) favoured algorithms, believing they "provide structure" (p. 303) and a consistent approach for "systematic assessment and intervention-design" (p. 303).

While selected authors advocated for consistency and structure, one paper highlighted the legal consequences of rehabilitation nurses' documentation (Brous, 2015). This case review detailed skin assessments, interventions, and management of one elderly client in a rehabilitation unit. On review of court documents, the author recommended that nurses use standardised assessment tools; and ensure documentation is completed of all assessments including referral to physicians when required. She warned that nurses must clearly document when they have concerns (Brous, 2015).

Another paper identified improvement in documentation completeness when formally adopting a stroke nursing guideline (SNG) (Bjartmarz et al., 2017). Nurses underwent comprehensive education sessions regarding the guideline, and experts were appointed to provide ongoing implementation advice. Email reminders and posters were used throughout the project intervention. Documentation improvements were recorded in 23 of the 37 SNG items. Items where documentation showed improvement related to activities of daily living, mobility, and education. Other items also showed a decrease in documentation, the most significant being that of asking patients about their pain. Authors reported this was a similar finding to other studies where 'time-consuming interventions were less often applied" (Bjartmarz et al., 2017, p. 14). Focus groups commented that implementation was found to provide an "accurate and systematic way to evaluate and communicate (about) patients' progress" (Bjartmarz et al., 2017, p. 8). Additionally, nurses reported that they perceived their rehabilitation practice was more "defined and integrated" (Bjartmarz et al., 2017, p. 8), allowing greater role visibility. In spite of this, the article was vague when explaining examples of the documented evidence of some items. For example, within the depression category, "take time to talk with family" (Bjartmarz et al., 2017, p. 7); it was not clear what this entailed in terms of content or timeframes.

Other included papers were concerned with trialling different approaches to gain completeness of documentation. American researchers were interested in classifying nursing interventions to increase understanding of the effects of dosage intensity in spinal injury rehabilitation nursing (Johnson et al., 2009). These authors noted that

traditionally nurses had a checklist of areas to evidence that nursing education had been given. However, the checklist did not generally give details of the time spent with each client or family member and what their response was to the education. They devised an alternative, systematic approach for recording timeframes and client response. To accurately capture the education given, nurses needed to change their documentation habits and record throughout their shift rather than leaving documentation to the end of a shift. Implementing the multi-centre strategy, the authors concluded: “added depth to nursing documentation” (Johnson et al., 2009, p. 335). Unfortunately, they did not provide examples of changes that occurred within the facilities so it is unclear as to whether change was in relation to documenting more occurrences of education or whether authors gained more information as to the nature of education that was provided. This paper was written as part of a more extensive series interested in developing a nursing taxonomy to be used as a documentation framework.

Two of the groups showed interest in standardisation of language within rehabilitation nursing, and actively included nurses when designing their improvement projects. Torres (2018) led a quality study endeavouring to provide accurate Functional Independence Measure[15] (FIM) assessment having recognised the organisation did not capture their assessment in a consistent, formalised way. After baseline education was given, relating to the scale, nurses contributed to designing a new documentation method. While authors stated that documentation of nurses had improved overall, details of these improvements were unclear. Data were presented together with results from IPT members so details of the specific nursing areas of improvement within different items of the scale were not apparent. The other research paper that actively involved nurses within their project were a group of Icelandic researchers. They became concerned that the perspective of the client was being lost in their quest to utilise standardised documentation datasets (Thórarinsdóttir et al., 2017). They adopted a phenomenological approach and worked with nurses to adapt nursing assessment and documentation, where clients led the goal setting and prioritisation of nursing interventions. Accordingly, documentation was written in first person language. While aspects of this research are compelling, particularly relating to the notion of person centeredness, caution is required in relation to TBI, as the clients involved all had physical rehabilitation needs exclusively.

Other studies within this review suggest that frameworks enable a standardisation in language and are platforms for data capture, furthering research of nurses’ contribution and its effects on client outcome. In the United States, three nursing classifications

[15] The Functional Independence Measure was created by the American Academy of Physical Medicine and Rehabilitation and the American Congress of Rehabilitation Medicine (Granger, Hamilton, Zielezny, & Sherwin, 1986).

systems are used, and separately categorise terminology of diagnosis (North American Nursing Diagnosis Association, branded NANDA), interventions (Nursing Interventions Classification, abbreviated to NIC), and outcomes (Nursing Outcomes Classification, abbreviated to NOC). Together the three systems incorporate 1,133 items in total. Lunney et al. (2010) asserted that this is too many to be meaningful in research, and that work needs to commence in identifying which items are most used when working with clients with specific populations. In undertaking this work in a TBI rehabilitation setting, Lunney and colleagues highlighted the need for a manageable compilation of standardised terminology for any client group, which can then be used to represent nursing inputs. A similar focus was taken by Tosin and colleagues (2016), where nursing records were compared with standardised interventions from the NIC. Authors identified 32 interventions that related to their client diagnostic group. They then offered a standardised language template of activities relating to each intervention type.

While Lunney (2010) and Tosin (2016) both advocated for specific nursing frameworks within rehabilitation, Mueller and colleagues (2008) warned of the pitfalls with this approach. They believed that frameworks need to enhance interdisciplinary communication, as rehabilitation activities, such as goal setting, are often enacted with IPT involvement. For this reason, Mueller et al. integrated a German language nursing intervention framework (Leistungserfassung in der Pflege, abbreviated to LEP) with the ICF core set. Following a consensus process, 87% of the ICF categories linked with the nursing interventions from the LEP.

While these consensus validation studies involved specific frameworks, they do indicate the direction of rehabilitation nursing researchers in establishing or reconfiguring frameworks so that they capture data to evidence the contribution of rehabilitation nurses. What is debated, is the notion of teamwork and whether this necessitates a joint framework for all disciplines rather than utilising nursing specific frameworks. Nevertheless, the aims of such work suggest that it is possible rehabilitation nurses in NZ would benefit from practice guidelines to frame documentation practice. Pryor (2012b), an Australian rehabilitation nurse researcher, also advocated for adoption of a rehabilitation nursing dataset, arguing that this may benefit consistency of terminology in electronic record systems. In NZ, rehabilitation nursing frameworks may well merit consideration. Documentation of nurses' contribution may also be influenced by the documentation systems that are provided.

2.3.1.4.2 Evaluating electronic records

Alongside the benefits of using a framework to enhance consistency and research application, there are also discourses that relate to introducing and systematising

documentation in electronic form (Burridge et al., 2017; Choi & Kim, 2012; Rundquist et al., 2011). Three studies evaluated the implementation of electronic documentation frameworks into rehabilitation settings and sought evaluation from nursing. Against this background, one article emphasised the prerequisite to involve nurses in the design and development phases of an organisation's electronic record (Choi & Kim, 2012). Following implementation of an electronic records system, positive benefits included legibility of documentation and automatic alerts being sent to medical team of condition changes that required attention (Burridge et al., 2017). Issues that were identified included nurses' perception that they lost an individualised client-centric approach as the computer intruded on their client interactions. Nurses reported that electronic handovers were used in order to "conduct safety checks, focusing on checklists rather than patients" (Burridge et al., 2017, p. 533). Additionally, decisions needed to be made regarding what information could be recorded in a structured way as opposed to a free text approach (Burridge et al., 2017). Usability and time issues were a recurrent negative theme, where nurses felt like documentation had significantly increased in moving from their paper-based records to an electronic system (Burridge et al., 2017; Choi & Kim, 2012). In one article, nurses reported that the system was time consuming to use and they resorted to duplication, where they would initially write data on paper and add to the system later in their shift (Burridge et al., 2017). In this Australian study based in a spinal injury unit, nurse participants felt the electronic system was "superficial" diminishing their "scope, primacy and intensity of activities" (p. 552).

Following her literature review regarding evidence based continence care, Cave (2017) also advocated for "rehabilitation-orientated electronic documentation systems" (p. 301); an idea extended by an American spinal cord injury rehabilitation project (Johnson et al., 2009; Rundquist et al., 2011). The spinal project reports a 5-year study, which analysed inputs of nurses within rehabilitation. Both papers commented that nurses spend significant amounts of time in coaching and educating their patients however felt this time was not being captured. These projects used bedside electronic devices to record nurses' interventions. Johnson et al. (2009) discussed the challenges in nurses adapting to new IT processes, documenting throughout their shift and defining terms that would then be consistently used by all nurses in the recording system. The researchers commented that all participating facilities considered the initiative a positive addition to their practice. Overall, these articles indicate a progression, particularly in the spinal cord injury field, in developing electronic systems to capture the nursing contribution. Unfortunately, it is not yet clear how applicable this research is to TBI rehabilitation or within a NZ context.

2.3.1.4.3 Evidencing funder requirements

Acknowledging that different rehabilitation facilities are, to some extent, beholden to different funder's requirements, they arguably should review their documentation obligations in a broader context, thereby considering how documentation allows them to report to funders, and demonstrate inputs, outputs and outcomes of rehabilitation. Hentschke (2009) encouraged organisations to provide examples of rehabilitation evidence inputs throughout a 24-hour period. In her article, she questioned whether nurses were aware of what was contractually required in their facility, commenting that "nurses typically get so busy teaching patients and families that they forget they also have to "teach" Medicare auditors about the care being provided through proof in their documentation" (Hentschke, 2009, p. 129). Alongside providing multiple narrative examples to guide documentation writing, Hentschke, reminded rehabilitation nurses that their "cues, suggestions, and education ...demonstrate the importance of 24-hour rehabilitation nursing, but these things often go unnoticed because they go undocumented" (Hentschke, p. 132). She urged nurses to "claim their worth by consistently providing appropriate documentation for all patients" (Hentschke, p. 132). Although this opinion piece is highly contextualised to the American funding system, it does provide examples rather than focus on the theoretical aspects of documentation. The provision of examples complements the research finding of Johnson et al. (2009), where they warned that staff members interpreted narrative examples in different ways. In preference, these authors promoted establishing a taxonomy, which would include consensus of the meanings of terms, followed by reinforcement of the concepts that were agreed.

Overall, research in the last decade regarding documentation of rehabilitation nurses has tended to be concerned with standardisation, frameworks, and the utilisation of electronic medical records. There are tensions, however, relating to nurses' involvement in system design, and nurses' appraisal of their usability. Rehabilitation nurses are increasingly aware of the need to evidence their contribution and relate this to outcomes for their clients. However, some articles express concern for retaining or advancing a client centric approach and ensuring documentation does not become replaced by a checklist approach. What remains unclear is whether the frameworks and/or electronic systems support nurses to accurately and efficiently document their rehabilitation contribution.

Of all articles in this scoping review, the paper by Hentschke (2009), gave clear examples of how documentation could be written to provide evidence of rehabilitation nursing input, within the context of Medicare funding in the United States. However, there were no papers retrieved in this scoping review that identified the context for NZ rehabilitation nurses. Lunney et al. (2010) declared there was an absence of research identifying

minimum standardised datasets specifically for a TBI population. While they documented their efforts with this client group, their article only provided examples for three of their 29 identified nursing diagnoses. Seemingly, there is a dearth of nursing documentation research in the area of TBI rehabilitation, especially within a NZ context. What is clear is that agreement has not been reached within the rehabilitation nursing field regarding how to efficiently and effectively gather the data needed to record nurses' contribution, promote teamwork, and support the client's rehabilitation journey.

2.4 Summary

The focus of this chapter was to establish what was known about rehabilitation nurses' documentation of their contribution. It involved critically reviewing the development of ideas in the literature and exploring the direction of scholars in the field. It became evident from this literature review that there were ambiguous, and at times diverse, positions regarding the documentation of rehabilitation nurses' contribution and the practice of treating some nursing tasks as non-rehabilitative. The review suggests that these two factors alone may be important in terms of how, why, and what rehabilitation nurses are documenting of their contribution.

Although the role of rehabilitation nursing has been increasingly defined in the literature, there remains uncertainty across the nursing profession as to their role when working in this area. Globally, there are many studies which capture the role of nursing within the rehabilitation environment; and one key study in NZ explored how families see the nurse's role in rehabilitation. Rehabilitation nursing organisations have published frameworks establishing domains of the role; however, these are not correlated to documentation standards.

Simultaneous to the clarification of rehabilitation nursing role guidelines, fiscal challenges have forced organisational change. For those rehabilitation facilities that have established non-regulated nursing positions, it is not entirely clear how these positions affect the holistic nature of the nursing role, or their impact upon nurses' documentation practices. Additionally, the difficulty is intensifying in an era of tight fiscal control where rehabilitation is being measured and associated with outcomes. There is little evidence about how the contribution of rehabilitation nurses influences client outcomes. Such evidence may be particularly relevant in NZ, where there appears to be a value distinction made between rehabilitative interventions and care tasks. Importantly, the way these contemporary issues effect or shape rehabilitation nurses' documentation is unclear.

In the rehabilitation workplace, there remains a perspective that nurses provide care that is somehow different from engaging in rehabilitation. Inconsistencies are seen in the literature with terminology separating activities that are ‘basic nursing care’, where the client is a passive recipient to those activities that are deemed ‘rehabilitation’. Other literature discusses the role of the nurse in preparing a client for rehabilitation, or their carry-over therapeutic role indicating that nurses themselves do not hold rehabilitative expertise. It is unclear in NZ how nurses view their practice in the context of these discourses, and how this translates to their documentation. What we do know, is that it is vital that rehabilitation nurses can articulate their speciality practice with evidence of their unique contribution. Only then will we have the ability to progress our understanding of best practice in relationship to positive client experience and outcomes.

To complicate the rehabilitation environment, there is ongoing rhetoric regarding what nurses choose to document; a) if some parts of their role are deemed not rehabilitative; and, b) whether parts of their role are embedded and therefore not visible. While nurses maintain an uncertainty about their role, and are not collectively consistent in how they document that role, it follows that researchers will have difficulty in including them when examining intervention dosage. These perceptions and complexities underlie the context nurses work within and may influence what they choose to document.

The era of electronic records has quickly progressed, and there is a growing body of evidence that some electronic frameworks do not interface with the way that nursing works. A number of taxonomies have been devised to assist with standardising documentation minimum standards in rehabilitation, but currently they are contextual, often within defined diagnostic groups. Furthermore, documentation frameworks vary between countries. Feedback from nurses appears guarded, with concerns regarding the systems’ efficiency and client-centric content. That said, these taxonomies may provide the link that is needed to progress understanding of a rehabilitation nurse’s contribution. If we want to enter into conversations regarding intensity and rehabilitation inputs we need to have a level of comfort that we are capturing all we are doing as rehabilitation nurses within the client’s rehabilitation journey. It is clear there are logistical issues of ensuring completeness, documenting regularly throughout an 8-hour day and indicating intervention timeframes and a client’s response to interventions. Perhaps in clarifying these issues, and uncovering other mechanisms at play, we can progress to a clearer understanding of the rehabilitation nurses’ contribution. Only then, can we maximise the value of that contribution on patient experience and outcomes, and in so doing, deliver the greatest value of the limited health dollar**.**

In terms of rehabilitation nursing, if nurses are not adequately communicating their contribution through documentation, then their input can never be truly evaluated, let alone measured within the journey of the client. Moreover, we will be unable to understand what went well with a particular client or group of clients to enable group learning and progression utilising evidence-informed practice within the team. While there is ambiguity about components of the nursing role, and paucity of documentation examples, it remains difficult to evaluate effectiveness of input. Understanding what is happening within any environment goes beyond that which is observable. It incorporates the perceptions and perspective of those who are within the environment itself, as well as the structures that make up that system.

The review has highlighted some clear gaps in what is known about the documentation practice of rehabilitation nurses generally, and specifically in NZ. In light of these gaps, I have decided to focus my study within one workplace only, to enable a deeper understanding of what is happening within this area and to inform future practice developments within that context. It appears throughout this literature review that nurses' documentation of their contribution to TBI rehabilitation is unclear and this is particularly evident in the paucity of NZ research on the topic.

Chapter 3 - Philosophical Approach: Critical Realism

> The task of the researcher, then, is to work out a better and causally accurate, correct, or reliable explanation for these patterns of events via the development of more adequate accounts of the powers, entities, and mechanisms which created them. (O'Mahoney & Vincent, 2014, p. 9)

In this chapter, I provide a synopsis of critical realism (CR) and my understanding of key ideas within this approach that are particularly pertinent to my research. As O'Mahoney and Vincent (2014) highlight in the quote above, CR is a philosophy that promotes understanding of causal relationships and explanation of what is seen. I include a brief history of CR, which provides the theoretical positioning of this practice-led doctoral thesis. It is essential for researchers to clarify their ontological assumptions, as how a researcher views the world is the foundation of any research project (Bisman, 2010; Jackson, 2013; Williams, Rycroft-Malone, & Burton, 2017). Accordingly, I then identify the ontological tenets underpinning CR. Epistemology is discussed, encompassing the development of knowledge while acknowledging the complexities of researching in an 'open system'.

I explore the underlying intention to identify mechanisms, as it is these mechanisms that create the conditions giving rise to the events that are seen. The role of mechanisms in linking structure and agency is explained and the relevance of these factors to the present study is explored. The notion of emergence is then explored, before looking at the work of Margaret Archer. I describe her position on the benefits on employing a non-conflationary approach, which acknowledges the interrelationship between structure and agency. This notion leads to understanding Archer's morphogenetic model, which allows for analytical separation of structure, culture, and agency across time periods. Archer's ideas of primary and corporate agency are followed by her notion of reflexivity. Next, I reflect on Bhaskar's awareness of absence, and giving equal consideration to things which are not present. The chapter concludes with an overview of the critical realist concept of tendential prediction, which relates to generalising research findings. Throughout the chapter these theoretical constructs are discussed and acknowledged as guiding my thinking and shaping this study.

3.1 Overview

The questions posed in this doctoral research are related to my practice concerns; that is, events which spoke to a difference in how nurses' work appeared to be valued in an acute neurosurgical ward as compared to a rehabilitation practice area. This sense of difference drove a desire to understand why things were happening as they were. To

progress research efforts, I needed to determine and acknowledge the philosophical underpinning of my research and ensure its consistency and validity. After completing the literature review, it became evident that the issue of how nurses themselves view their contribution to rehabilitation and their documentation of that contribution was complex. Complexities identified included:

- rehabilitation nurses may not be communicating their entire contribution;
- some nursing tasks may be viewed as non-rehabilitative;
- a non-standardisation of rehabilitation nurses' documentation practices;
- limited guidance or practical examples of documentation within rehabilitation nursing texts; and,
- uncertainty concerning the documentation practice of NZ rehabilitation nurses which may mean other factors also play a role in determining the way in which nurses document their practice in the rehabilitation setting.

Recognising this complexity, I became interested in the philosophical approach of CR and ways that it might inform my understanding of the research question. CR provided a coherent philosophical underpinning to reconcile these complexities within an analytical framework by understanding the strands individually and as a synthesis. Through the doctorate process, I explored different philosophical approaches and methodologies, and found that CR fitted with my question. Additionally, it enabled identification of mechanisms within the researched facility that supported or constrained the documentation choices of its nurses; aligning with the idea that each workplace might function differently depending on the structure, cultural mores, financial framework and managerial input (Edwards, O'Mahoney, & Vincent, 2014).

3.2 Historical Background of Critical Realism

CR is a meta-theory that recognises the importance of both ontology (explained in 3.3.1) and epistemology (defined in 3.3.2), situating itself as an alternative to positivism and constructivism (Fleetwood, 2017; Porter & O'Halloran, 2012). Bisman (2010) stated, "while positivism concerns a single, concrete reality, and constructivist interpretivism embraces multiple realities, critical realism concerns multiple perceptions about a single, mind-independent reality. Critical realists presume that a reality exists, but that it cannot be fully or perfectly apprehended" (p. 9). The term critical realism was coined by Roy Bhaskar (1978), who argued that the world occurs independent of our knowledge of it, consequently, our knowledge of it may be imperfect. He distinguished between 'transitive' and 'intransitive' knowledge (Archer et al., 1998; Danermark, Ekstrom, Jakobsen, & Karlsson, 2002; Maxwell, 2012). That is, Bhaskar distinguished between knowledge that is "socially defined"—knowledge which may change (transitive)—as

opposed to what critical realists would describe as “actual, existing reality” (intransitive) (Danermark et al., 2002, p. 9). As I engaged with the writings of critical realist authors, my understanding developed about the importance of going beyond what was known in this area to challenge what was underlying and influencing the nurses’ documentation choices. I also found it helpful to review the evolution of CR. Accordingly, I briefly outline how CR developed and draw attention to the components that have contributed to the framework of my research.

Bhaskar’s work developed throughout his lifetime, and is defined in three principle phases. His early work is referred to as original CR, and this provided the platform of thinking within my thesis. His second phase is widely known as his dialectic phase (Bhaskar, 1993). Amongst other concepts, dialectics argued that the concept of absence was crucial to understanding a situation, which included the theorising about what was missing. This may be something that was there and now is not, or alternately something which never existed (Norrie, 2012). Bhaskar further extended his ideas, particularly concerned with the notion of human emancipation and unity (Archer et al., 1998). This period is known as his spiritual phase and will not be utilised within the scope of my thesis.

Several other major contributions have been made in the field, notably and pertinent to this thesis, the work of Margaret Archer. Her work expands on Bhaskar’s; moreover, she was interested in the interrelationship and interdependence between structure and agency, and analytically viewed this across time periods. She called this theoretical framework, the morphogenetic model. It accounted for morphostasis (reproduction of social phenomena) or morphogenesis (transformation). I underpinned my doctoral thesis with ontological and epistemological tenets from Bhaskar’s original CR, while the analysis phase drew heavily on Archer’s morphogenetic analysis as it furthered my understanding of contextual influences. I also found Bhaskar’s concept of absence helpful during my theorising about why various mechanisms were activated in my chosen context.

3.3 Tenets of Critical Realism

3.3.1 Ontology

Essentially, critical realists endeavour to recognise both ontology and epistemology and ensure that there is an equal acknowledgement of the two in any piece of work. Reed (2009) described ontology as “a set of presuppositions that we make about the nature of the phenomena that we are studying, and what that entails for how we study them” (p. 433). Ontology has been defined by Grant and Giddings (2002) as “our most basic

beliefs" and they explain that "this is the basis for developing an epistemology which defines the nature of the relationship between enquirer and known, what counts as knowledge, and on what basis we can make knowledge claims" (p. 12).

Bhaskar (2008) considered there to be an independent reality and condemned philosophies that reduced reality to what we know about the world, dubbing this the 'epistemic fallacy'. He viewed reality as stratified and distinguished between 'empirical', 'actual', and 'real' domains, which he referred to as depth ontology (Edwards et al., 2014). These three ontological domains are distinguished as separate but act in relationship with each other. The empirical domain consists of what is experienced or observed, whereas the domain of the actual is where events occur. Critical realists highlight that events in the actual are not dependent on our experience of them because what occurs is not reducible solely to what can be observed. Incorporating both the empirical and actual domains is the real, that is "whatever exists" (Sayer, 2000, p. 11). In this "third domain of reality, the deep dimension [is] where generative mechanisms are to be found" (Danermark et al., 2002, p. 21).

This ontological stratification is characterised by the recognition of these three domains, which provides a foundation whereby a researcher seeks to explain the pattern of events that is occurring. Bhaskar (1978) acknowledged that it is unlikely a single mechanism would explain what is taking place; rather, activation of multiple mechanisms between the strata. For the researcher, this necessitates identification of the powers that exist and how and when they operate (O'Mahoney & Vincent, 2014). Additionally, where structures, powers and mechanisms enhance or inhibit events; these may be actual or potential, regardless of whether we are aware of them (Sayer, 2000).

In relation to the situation under focus for my study, I established my thinking taking account of the three ontological domains. The *empirical* incorporated the nurses' own perspectives of their experiences as well as my observations of what was occurring. The *actual* encompassed phenomena or events that took place in the rehabilitation setting; these might not always be seen but could be inferred, for example, what happens if or when a power or mechanism (within the *real* domain) is enabled. The *real* incorporated underlying mechanisms, causative powers, and agential, social and environmental structures within the facility itself and wider NZ health context (Sayer, 2000; Walsh & Evans, 2014). Importantly, events in the actual may not be seen in the empirical and this is where I sought to discover the real. Therefore, from an ontological perspective, the focus for this thesis is not solely the documentation or indeed the contribution of nurses; rather, why nurses record their contribution to rehabilitation in the way they do, and the influences within the chosen environment.

3.3.2 Epistemology

Epistemologically, critical realists refer to the existence of an objective truth but maintain that we may not have a full understanding of it (Harwood & Clark, 2012). Thus, epistemology is addressed by considering that we can learn about a world that is apart from us whilst acknowledging that scientific knowledge is an outcome of the context where it operates. Accordingly, our knowledge of these things is reliant on social and historical constructions (Collier, 1994).

If we accept that some events or phenomena exist independently of our knowledge of them, this leads us to accept, necessarily, that our knowledge of a situation may be imperfect. Such a position compels us to critique and reanalyse our understanding (Danermark et al., 2002). My research, therefore, was grounded within a critical realist approach that acknowledged the complexity involved in rehabilitation nurses' documentation of their role. In developing and carrying out this doctoral research, I understood that whilst some factors associated with the documentation of the rehabilitation nurses existed, my knowledge of those factors, and indeed the nurses' knowledge of those factors, might be partial but imperfect. The project aimed to understand factors that were invisible and hidden from my knowledge, such as the value nurses placed on their contribution within the team and what environmental and legislative conditions impacted upon their documented involvement. The critical realist perspective also provoked me to question the interplay between the nurses and the structures in which they worked. This was one of the benefits in underpinning this research with critical realist principles.

3.3.2 Mechanisms

A search for causal mechanisms is the means by which critical realists explore possible underlying causes and seek to explain what is occurring. The fundamental understanding within CR is that empirical evidence alone, that which is experienced or can be observed, does not establish regularities and therefore cannot be deemed universally applicable. There is a need to explain why an event or phenomena happened a certain way, and what relationships and structures enabled the system within that specific context (Dalkin, Greenhalgh, Jones, Cunningham, & Lhussier, 2015; O'Mahoney & Vincent, 2014). Bhaskar (2008) defined a mechanism as "the ways of acting of things" (p. 14), expressly their tendency to activate and interact. The term 'generative mechanism' is used interchangeably in this thesis with 'mechanism'. Elder-Vass (2010) explained that Bhaskar coined the term generative mechanism while many other critical realists utilise Mario Bunge's term mechanism.

As stated, these mechanisms may activate events in the ‘actual’ domain, or they may not. Additionally, even if the mechanism is activated it may be unseen; also, the outcome of a mechanism is subject to other mechanisms. Accordingly, a mechanism may produce a specific outcome in one environment, and another in a different environment. Explanation of these hidden influences may help to explain differences amongst interactions or social structures (Danermark et al., 2002). However, as Vincent and Wapshott (2014) warned, “these mechanisms may not be obvious ...the theory and data must be ‘fitted together’ as an explanation of what is observed” (p. 150). Sayer (2000) agreed that explaining what is happening requires understanding of how the identified mechanisms work and under what conditions they are seen. Within an organisation, generative mechanisms can be associated with the structure of the organisation, staff activities, attitudes or beliefs (Edwards et al., 2014). Such mechanisms can maintain the status quo or drive change.

Due to this critical realist underpinning, I strove to explore what it was about the structure that underlay what was seen to occur. This incorporated a potential disparity between what the nurses understood and what was occurring, in conjunction with identifying the mechanisms that influenced how they documented their contribution. Critical realists recognise that the work of these mechanisms is contextually dependent. For this reason, one facility was reviewed in my case study with emphasis on the ‘why’ question; that is, to explore why nurses record their contribution to rehabilitation in the way they do. The theoretical work in this doctoral thesis was to try to explain what the mechanisms were that were causing things to happen as they did. The analysis used retroduction (explored further in 3.6), which included viewing existing theory to understand or theorise as to what might be happening, at the level of the actual. This led to making a theoretical argument about how the things that were seen at the empirical level came about. In keeping with Bhaskar’s notion of domains of reality, conclusions involved the development of explanations rather than generalisations (O'Mahoney & Vincent, 2014).

3.3.4 Emergence

To further understand the interaction and activation of mechanisms, critical realists employ the concept of emergence. Sayer (2000) described emergence as: “situations in which the conjunction of two or more features or aspects gives rise to new phenomena, which have properties which are irreducible to those of their constituents, even though the latter are necessary for their existence” (p. 12). In the social world, an example is that of teams, which are made up of individuals. While a team obviously needs more than one individual to make it so, collectively they can achieve at a different level than

what one individual is able to. Consequently, the team has ‘emergent properties’ (Elder-Vass, 2010).

A team works within an organisation, and while organisations have powers, so do teams and the individual. Critical realists recognise the existence of power, whether or not it is used. Porpora (2015) described power as a “capacity to exert certain effects” (p. 34). He used the example of a school principal who has the power to expel any student, whether or not (s)he chooses to use this action, does not disregard the fact that this power exists and “shapes the entire interaction between students and principal” (Porpora, p. 34).

It is not the possession of these powers which are under study in critical realist research, rather, when, how and if, a power is exercised. For that power to be exercised, however, relies upon the existence of mechanisms. O’Mahoney and Vincent (2014) gave an example of an organisation where employers have the ability or power to dismiss an employee. The mechanisms in existence are employment law, relevant legislation, and facility policy. Although these mechanisms are present, they are seldom used due to a number of mitigating factors; for example, unions, geopolitical climate, and a dearth of employees whose actions warrant dismissal. In both these examples from O’Mahoney and Vincent, and Porpora (2015) we can see existence of mechanisms and power underlying the events that are observed or experienced.

It was, therefore, ambitious to try to identify the emergent properties within an organisation and required exploration of structural and cultural powers and their impact on those involved, such as the nurses in a rehabilitation setting. Furthermore, a means was needed to analyse the way groups, such as the rehabilitation nurses, might use their personal powers to reproduce or challenge the pre-existing structures. Obtaining a framework that would assist in understanding the complexities within the research facility led me to the work of Margaret Archer.

3.4 Margaret Archer

Margaret Archer is credited with advancing critical realist understandings of the important interactions between an individual and their environment. Archer acknowledged her work was based on Bhaskar’s (1979/1989) Transformational Model of Social Action, and she considered her work had similar objectives. Neither Archer (1995), nor Bhaskar (1978) regarded the environment as a pre-determinant of the action or choices an individual might make, but proposed that it can encourage or inhibit certain behaviours or decision-making. Archer theorised a model concerning social change. She was particularly interested in how and why changes occurred in some social situations, while other situations remained static. In 1995, she developed what she called, the morphogenetic

model. This approach supports examination of the interaction between structure, culture, and agency as each have their own powers and emergent properties. Archer recommended independent analysis of each, and termed this ‘analytical dualism’. Before discussing this notion in more detail, we must first examine her rejection of what she termed *conflationary theories*.

3.4.1 Non-conflationary Approach

Critical realists consider reality may exist outside of what is known or can be observed. Previous discussion (in 3.3.1) described Bhaskar’s (1978) criticisms, urging researchers to consider questions of a stratified ontology and not be misguided by, what he termed, the epistemic fallacy. Archer (1995) elaborated on this notion, being critical of *conflationary* approaches. Conflation is the merging of two or more sets of information, ideas, or opinions, into one. For Archer, criticism of conflation specifically focussed on a failure to acknowledge the interdependence of structure and agency, society and individuals and instead conflating that interrelationship and therefore weakening the depth of investigation, analyses, and understanding. She advocated for a non-conflationary approach whereby recognition is given to the emergent powers of both structures and individuals. Table 4 summarises Archer’s critique of research that emphasises either structure or agency,[16] or collapses one into the other.

Table 4: Summary of Archer's (1995) critique of conflationary approaches

Downwards conflation	**Upwards conflation**	**Central conflation**
Emphasis of structure over agency	Emphasis of agency over structure	Collapse of agency into structure
Individuals are shaped by structures and only develop as the structure allows Agency and autonomy are ignored	People are able to shape structures Structures only emerge as a result of the actions of groups or individuals	Structure and agency given equal weight, and are not treated independently of each other
Predominant focus of research is structures	Research avoids identifying inequality or power relationships	Research does not consider causal influences, emergent properties or pre-existing culture or structures

Archer (1995) explained, “I believe we should never be satisfied with these forms of conflationary theorizing, which either deny people all freedom because of their involvement in society or leave their freedom completely untrammelled by their social involvements” (p. 4). From a critical realist perspective, “structures both precede human activities and are the emergent outcome of activity” (Thursfield & Hanmblett, 2004, p.

[16] Discussion of structure and agency is found in 3.4.2

118). For this reason, the above approaches are all considered ontologically incomplete. In contrast, Archer's non-conflationary approach acknowledges the interaction between structures and individual agency across time dimensions.

3.4.2 Morphogenetic Model

Archer's (1995) morphogenetic model has been described as a "meta-theoretical basis for understanding and explaining social change" (Porpora, 2013, p. 26) and was based upon the premise of analytical dualism, whereby differentiation is made between structure (inclusive of culture) and agency. Porpora (2013) described Archer's view of structure as "relations among social positions" (p. 27); whereas, he saw that "culture is what we collectively produce and agency what we individually do with it" (Porpora, p. 27). While structure and agency are viewed as "ontologically and analytically distinct" (Porpora, p. 28), there is still an acknowledged relationship between the two. By separating at an analytical level, conflation is avoided. I drew on these theoretical understandings by acknowledging the relationship between structure and agency throughout this doctoral thesis, by not focussing solely on the documented output of the rehabilitation nurses, but acknowledging their ideas and beliefs, and the influences within the environment. This engenders a further benefit of analytical separation, which is to understand the actions of people. Archer (1998) advocated that this begins with understanding the context and conditions people inhabit.

Archer (1995) defined the person as an individual, whereas an agent refers to "groups or collectivities in the same position or situations" (p. 257). A person is identified as an agent if they are members of a group (or collectivity). Archer explained the cycles present in her model as having:

> three broad analytical phases consisting of (a) a given structure (a complex set of relations between parts), which conditions but does *not* determine (b) social interaction. Here, (b) also arises in part from action orientations unconditioned by social organisation but emanating from current agents, and in turn leads to (c), structural elaboration or modification – that is, to a change in the relations between parts where morphogenesis rather than morphostasis ensued. (p. 91)

A pictorial representation of this cycle follows (Figure 1, p. 53), which analytically distinguishes the interplay between structure and agency across time periods. T1–T4 represents these time periods.

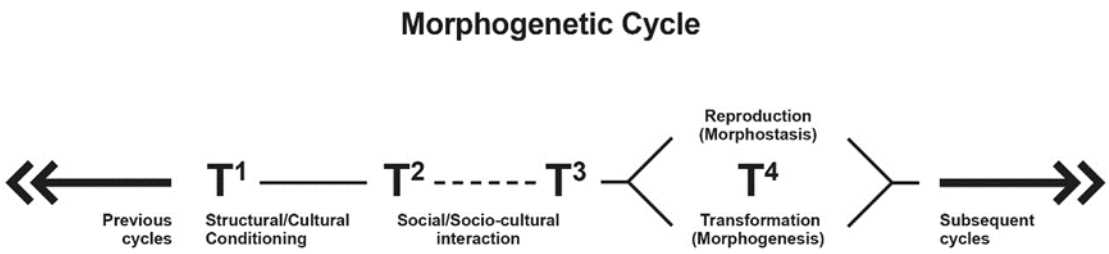

Figure 1: Morphogenetic cycle (Archer, 1995, p. 158).[17]

Archer's (1995) original graphic included vertical representation between the time periods, I have adapted in the above figure, to illustrate more simply the ongoing cyclic nature of the model. T1 is the first analytic period in the 3-stage morphogenetic cycle and represents structural conditioning, inclusive of pre-existing structural and cultural conditions that constrain or enable agents at T2. Social interaction is seen as the next analytic phase, T2-T3, where "actions and social interaction of agents takes place" (Danermark et al., 2002, p. 181). Archer maintained that structures and cultures have the potential to influence or condition people. However, someone's response or actions are not pre-determined. Structural elaboration is regarded in T4 in the form of analysis of either reproduction (morphostasis) or transformation (morphogenesis). Archer (1995) defined morphostasis as, "those processes in a complex system that tend to preserve (that system's structure)" (p. 75). Conversely, morphogenesis "refers to change (-genesis) in the shape of things (morpho-), a change in agency, or culture or structure" (Case, 2015, p. 843).

The resulting structure at T4 becomes the condition for the next cycle at T1. Of note, is that while agency appears to be most prominent in the T2-T3 phase, in fact human agency is present in all phases of the cycle. Because agents act within the structures they find themselves, these consequently represent the pre-defined context as a result of the reproduction of others in the previous cycle (Archer, 1995). Accordingly, the documentation practice of rehabilitation nurses, considered through a morphogenetic lens, is shaped by structure, culture and agency. The structures and culture that the nurses are working within are a result of agency produced by nurses prior to the time when the research took place. Similarly, what occurs at T4, whether that is morphogenesis or morphostasis, becomes the context for the next time period.

Luckett (2012) observed that "structures are relatively enduring, anterior, social objects that are not observable and not reducible to social interaction; they are autonomous and generate causal powers; they have emergent properties that are necessary, activity-

[17] From *Realist social theory: The morphogenetic approach* (p. 158) by M.A. Archer, 1995, Cambridge, UK: Cambridge University Press. Copyright 2019 by Cambridge University Press. Adapted with permission.

dependent and operate in open social systems" (p. 2). Luckett utilised the term 'anterior' to describe structures, indicating their prior existence, which then shapes the context for a group of people. Archer recognised three distinct emergent properties: structural, cultural, and personal. These each possess distinct features and have the potential to generate causal powers. She emphasised the difference between structural and cultural, clarifying that a "*structural* emergent property is its *primary dependence upon material resources*, both physical and human" (Archer, 1995, p. 175). Accordingly, structural emergent properties (SEPs) "include systems, institutions and roles" (Luckett, p. 2) while cultural emergent properties (CEPs) "include the ...stock of existing ideas, beliefs and ideologies (contained in particular discourses)" (Luckett, p. 2). Central to her theory is the role of agency, which is where she explains the role of people's emergent properties (PEPs). Archer (1995) stated that PEPs,

> modify the capacities of component members (affecting their consciousness and commitments, affinities and animosities) and exert causal powers proper to their relations themselves vis-a-vis other agents or their groupings (such as association, organization, opposition and articulation of interests). At any given T1, these agential features (PEPs) are the outcome of prior interaction in anterior socio-cultural contexts during previous morphogenetic cycles. (p. 184)

PEPs enable people to reconcile the influences of the structural and cultural emergent properties within an environment. That said, the kinds of relationships or bargaining powers that each person has are contextual, depending upon their role and position within that environment. Reproduction (morphostasis) or transformation (morphogenesis) is produced via the interaction of SEPs, CEPs and PEPs (Thursfield & Hanmblett, 2004). Within my case study, guided by Archer (1995), I analytically separate the emergent properties in Chapter 7 to attempt to gain an awareness of individual and shared understanding of the nurses and discern their collective response. Archer also differentiated between power relationships of the collective as opposed to that of the individual, and this is discussed next.

3.4.3 Primary and Corporate Agency

The concept of agency is complex, and Archer (1995) attested it is best understood by way of applying a realist stratified approach. As previously discussed, many factors will enhance or constrain the power of an individual in different scenarios. The following definitions and discussion relate to people within a rehabilitation facility, as that is what interests me in this doctoral thesis. Archer distinguished between an individual or an agent within a collective (group). As an example, an individual is a person, who has a role, which in my research relates to a person who has a role as a nurse. That nurse, by working within a rehabilitation facility, is a member of the nursing collective, simply by

sharing the same role as other nurses in the facility. As such, that nurse may act as an *agent*. An agent is part of a collective, potentially having power to make decisions or ability to affect change. Archer further characterised this difference in agentic positioning as either primary or corporate. Primary agents do not activate their power, and their needs often remain unarticulated, "lacking a say in structural or cultural modelling" (Archer, p. 259) within a facility. Conversely, corporate agents are organised and strategically interact with others to share a common goal. Archer described them as "'active' ...that is they are social subjects with reasons for attempting to bring about certain outcomes, rather than objects to whom things happen" (p. 260).

Archer (1995) explained the potential for primary agents to transform to corporate agents. Once they have identified a collective vision and a desire for change, by utilising their PEPs, they may initiate collective action. The action would then be emergent as they work within the constraints and opportunities of the structural and cultural context. Nonetheless, the environment is only one factor influencing primary agents. Archer (2003) also identified an agent's reflexivity in influencing how they act or whether they will engage in collective action.

3.4.4 Reflexivity

To understand the influence that SEPs and CEPs have on agents, Archer (2003) considered the potential limits to agency. Again, this concept is stratified, involving the context (e.g., structures and culture within a facility, an individual's values, and their internal conversations). Archer described the inner conversation as the dialogue that happens within our minds. She believed that how we think about what we are thinking was important and used the term 'modes of reflexivity'. She characterised four modes of reflexivity, depicted in Table 5 below.

Goodman (2016) situated these reflexive modes within a clinical context giving examples of how nurses tend to act and respond.

Table 5: Modes of reflexivity (Archer, 2003; Goodman, 2016)

Mode	Description
Communicative	Requires confirmation by others before they can act
Autonomous	Requires no confirmation from others, they have a "lone inner dialogue' (Goodman, 2016, p. 120) which leads directly to action
Meta-reflexivity	Frequently questioning self, critiques oneself prior to action, often intensifying personal stress
Fractured	"Thinking is so disoriented and unclear that thought and action are difficult" (Goodman, 2016, p. 121)

This clinical-based example led me to consider how the nurses in my research reflected upon their documentation choices, including whether they actively modified or evaded structural and cultural constraints in the facility.

3.5 Dialectics

The second turn in the work of Roy Bhaskar was to elaborate on dialectical critical realism (DCR). Bhaskar referred to DCR as a clarification of his thinking however it also was in response to critics of some concepts within his earlier work (Edwards et al., 2014). Porpora (2015) explained dialectics as “a dialogue between the transitive and intransitive dimensions of knowledge” (p. 75). There are many examples in medicine of the development of knowledge, where our transitive understanding of what we observe of intransitive knowledge, has changed over time. The development in our knowledge of a particular impairment, for example, has not changed that impairment, but rather revised our incomplete understanding of it. Bhaskar reminds us that our initial perspectives are not fixed as we revise and modify our thinking, confirming or rejecting our theories about a phenomenon (Porpora, 2015). Within his DCR phase, Bhaskar was interested in the notion of ‘alethic truth’. He described this as the “real reason for …things” namely “the underlying processes that both natural and social scientists seek to identify” (Groff, 2000, p. 411).

3.5.1 Absenting

Bhaskar (1993) became concerned with what is not there or not yet there; he was attentive to those things that should exist. He related knowledge about absent factors to the possibility of bringing about future change. Considering the absence of things in a situation includes acknowledging ontologic depth and Bhaskar maintained that which is present is often dominated by that which is not here, and which should be given comparable importance. As Norrie (2012) wrote, “how can change occur if history is unrepresentable, if we do not see what is wrong ethically with the present” (p. 103). The activity of considering what it would be like to gain the things needed in a situation (that which is absent), is valuable in considering what may be needed to create transformative change. Alternatively, we may decide to reflect on those things that we might absent from a situation. Priscilla Alderson (2013) has written extensively on children’s rights, and notes various examples of absence of children within many governmental reports. She highlights that maternal deaths are often documented rather than the death of babies within the perinatal period. Alderson states that, “even today, well over one-third of births in the world still go unrecorded and unregistered, which means that states do not formally acknowledge these children, or their rights” (p. 4).

Norrie (2010) explained that people's attention is often drawn to "negation, contradiction" (p. 14) and omissions. This may be in viewing something that was never there or, indeed, something that is no longer there because it is now negated as things have changed. He termed this contradictory view of the process of change as "a 'begoing', an absenting of what was there" (Norrie, p. 15). Notably, even in absence, the entity can still have causal effects, as in the example of rain that did not arrive having a negative effect on crop production (Norrie).

This notion of absence is considered in the analysis phase of my doctoral thesis. I reflected on what was absent or infrequent in the nurses' documentation. Furthermore, I found it valuable to consider themes or ideas from literature that the nurses did not identify.

3.6 Retroduction and Tendential Prediction

Throughout the data analysis phase, it was worthwhile to acknowledge the degree of 'generalisation' and 'transferability' that could be made, acknowledging the critical realist underpinnings of this thesis. The focus was to provide explanations as to why nurses in a particular context recorded their contribution to rehabilitation in the way they did. Explanations were discovered by unearthing the causal mechanisms within the context of this specific case study. To do this, a distinct method of reasoning needed to be implemented. Retroduction is described as a "mode of inference in which events are explained by postulating (and identifying) mechanisms which are capable of producing them" (Sayer, 1992, p. 107). By moving between the empirical and possible explanations, retroduction allows understanding of the interaction of mechanisms and how these tend to operate, within a CR view of stratification and ontological depth (Kessler & Bach, 2014).

An understanding of proposed explanations, albeit with acknowledgement of their fallibility, leads to the ability to make "tendential prediction[s]" (Fleetwood & Hesketh, 2006, p. 249). "Critical realists permit conclusions to be drawn because they best explain available evidence" (Lipscomb, 2012, p. 253). Lipscomb (2012) commented further that, "no research or evidence, no truth directive claim, is ever infallible or immune to refutation/revision. However, surmising that something 'may be so' is not the same as demonstrating that it is so (or is likely to be so)" (p. 254). Archer (1995) also reflected a similar tendential prediction premise in her view of how morphogenetic research should conclude.

> Turning to the final phase of the morphogenetic cycle, the objective is to set out as clearly as possible the conditions under which morphogenesis versus morphostasis ensues from particular chains of

> socio-cultural interaction, as conditioned in a prior social context …Since what eventually transpires at the level of events is a combination of the tendential and contingent, the aim cannot be to furnish predictive formulae but rather an explanatory methodology for the researcher to employ, namely the analytical history of emergence. (p. 294)

Within my research project, I remained cognisant of the specific context of my study. Implications for practice were made, however, transferability to other contexts should be considered by readers in relation to their own context.

3.7 Summary

This chapter has outlined the historical background of CR by summarising Bhaskar's three phases, with a focus on original and dialectical CR. I have described the basic tenets of CR, viewing the differences between ontology and epistemology, while recognising the importance of both. A realist view of mechanisms and emergence was also considered. Archer's analytical work represented in her morphogenetic cycle and attention to Bhaskar's concept of absence was discussed. Explaining these tenets and applying them throughout this research has allowed me to understand the complexities surrounding the nurses' documentation of their contribution within a brain injury rehabilitation unit. The benefits of the critical realist philosophical approach were the ability to comprehensively explore the phenomena and re-explore assumptions and conditions within the environment that enhanced or constrained this group of nurses and how the nurses reinforced or challenged the norms of practice. In the next chapter, I present the development of my research design, study aims, and phases of data collection using a critical realist approach. The establishment of a critical realist inspired design precedes principles of retroduction and data analysis using Archer's morphogenetic model.

Chapter 4 – Research Methodology and Methods

> You would want to do case study research because you want to understand a real world case and assume that such an understanding is likely to involve important contextual conditions pertinent to your case. (Yin, 2014, p. 16)

My thesis aimed to understand nurses' documentation of their contribution within TBI rehabilitation and employed case study methodology. The preceding chapter explored how using a critical realist perspective brought attention to the interrelationship between the nurses and the structures they worked within. The critical realist perspective facilitated an understanding of the ways the nurses and the structures were intertwined and prompted ways to discover why the relationship is the way it is. As a consequence, it shed light on the factors and processes that affected what nurses documented about their contribution.

This chapter examines the utilisation of case study methodology and considers the methodological decisions and methods used in my doctoral research. Alignment and tensions with a critical realist approach are discussed throughout.

4.1 Sequence of this Chapter

The structure of this chapter highlights the many decisions made when designing this research. First, I explore the development of my research question, which responded to my practice concerns and the gap I saw in the literature. Next, following on from the previous chapter, I explain my decision to choose case study methodology. Following Yin's case study approach, I explain the theoretical framework of the study, which included refining my question, articulating my propositions, identifying the units of analysis, and discussing the logic linking the data types and sources to the identified propositions. Following, is an explanation of the data collection phases. Confirmation of decisions made regarding data selection and ethical considerations is presented conjointly within each research phase. Attention is given to critical realist interview design and implementation. The chapter concludes with an explanation of data analysis as implemented for each phase, and the ways rigour and validity were addressed.

4.2 Developing the Question

I was initially interested in the contribution of nurses to rehabilitation. I questioned what nurses understood of their contribution and why they documented that contribution in the way they did. According to critical realist theorists, this would involve consideration of the events, mechanisms, and structures that might be enabling or disabling to nurses'

documentation in the rehabilitation environment. The research questions that were formulated responded to my practice concerns, and the literature surrounding the issue.

4.2.1 Research Aim

The research aim was to understand nurses' documentation of their contribution to TBI rehabilitation and the influences that shaped documentation of their contribution.

4.2.2 Research Questions

Why do nurses record their contribution to rehabilitation in the way they do?

In order to answer this question several sub-questions were generated, that were answered through the research process. These were:

1. What do nurses record about their contribution to TBI rehabilitation?
2. How do nurses perceive their contribution to TBI rehabilitation?
3. What are the influences on rehabilitation nurses' documentation of their contribution through:
    a) an analysis of their documentation and the rehabilitation/organisational context; and
    b) an investigation of rehabilitation nurse's perceptions.
4. How do these influences shape rehabilitation nurses' documentation of their contribution?

4.3 Case Study Methodology

I chose to use case study as a methodology to answer the above research questions guided by critical realist assumptions. Those assumptions are about ontology, that there are underlying reasons, procedures and structures that inform our perception of the world (Little, 2014). Case study was adopted as it aligned with these assumptions, which indicated that contextual understandings were important to explore and ultimately explain the issue. Case study also contributed a framework to explore the situation within an elected context (Wynn & Williams, 2012).

It was essential to recognise the diversity in case study methodology. There are several case study methodologists, each having differing epistemological commitments and therefore, distinct design structure and analysis procedures (Harrison, Birks, Franklin, & Mills, 2017). Most well-known are the writings of Yin, Merriam, and Stake (Johansson, 2003). After reviewing these approaches, I found I positioned myself most closely with Yin, due to what I saw as his affinity with a realist perspective. He defined case study as investigating, "a contemporary phenomenon (the "case") in its real-world context,

especially when the boundaries between phenomenon and context may not be clearly evident" (Yin, 2014, p. 2). This definition is consistent with a critical realist perspective, as it recognises the opportunity to gain new understanding of an issue by intensively examining a specific context (Vincent & Wapshott, 2014). Yin (2014) promoted the benefits of using mixed methods within a case study advising that data from multiple sources increase the quality of the case study due to the convergence of findings. Here too, Yin aligned with a critical realist perspective, as a multi-data approach contributes to triangulate data (Kessler & Bach, 2014). Additionally, as a novice researcher, I thought my research would benefit from his guided approach, particularly in establishing the general design, context, and specific methods used.

Yin's methodology has been widely used by critical realist researchers (Easton, 2010; Marchal, Dedzo, & Kegels, 2010; O'Brien & Ackroyd, 2012; Rycroft-Malone, Fontenla, Bick, & Seers, 2010; Williams, Burton, & Rycroft-Malone, 2013). Ackroyd and Karlsson (2014) asserted that Yin "makes no claim to holism" (p. 29), but focuses on understanding the mechanisms or "causal processes" (p. 29) involved. This drive to understand what it is within the situation that enables or hinders the phenomenon is consistent with a critical realist approach. To identify these mechanisms, a critical realist analysis includes the behaviours, perceptions, and understandings of those involved, and the processes within the institution and the effect that has (Vincent & Wapshott, 2014). A critical realist perspective and Yin's approach to case study are consistent ontologically because they both desire to "access this underlying reality" (Moriceau, 2010, p. 419). Although Yin's case study methodology aligns with a critical realist approach, there is a divergence at the data analysis phase, as Yin concludes the analytical process once data has confirmed or rejected the theoretical hypothesis. In contrast, CR seeks further explanation using retroduction (Vincent & Wapshott, 2014). Retroductive analysis is a key component of a critical realist study and involves analysis of data from multiple viewpoints to reach an understanding of what produces the patterns that are seen in the data (Buchanan & Bryman, 2009). Retroduction is further detailed in the data analysis section (4.7).

Having decided Yin's approach to case study methodology would be beneficial and consistent with critical realist underpinnings, the following sections are guided by Yin's initial framework for case study design. Prior to outlining the research design components, I would make note that I utilised case study as a methodology, rather than a method. This was in adherence to Yin's principles and methodological path. Harding (1987) defined methodology as "a theory and analysis of how research should proceed" (p. 2). In line with this definition, I saw that Yin's theoretical understandings and logic formed the basis of the research strategies and processes he proposed. The choice of

methods was subsequently guided by both the utilisation of a critical realist perspective and Yin's case study methodology.

Yin (2014) outlined five components that are essential within research design:

1. "a case study's questions;
2. its propositions, if any;
3. its unit(s) of analysis;
4. the logic linking the data to the propositions; and,
5. the criteria for interpreting the findings" (p. 29).

As the research questions have been defined previously in this chapter, the remaining four components are considered and elaborated on in the following sections.

4.3.1 Propositions

Propositions assist in refining the research question and understanding the theory associated with the topic, as well as guiding where to find the information needed with the case (Yin, 2014). Yin (2014) drew on research by Sutton and Shaw, who defined a proposition as "a (hypothetical) story about why acts, events, structure, and thoughts occur" (p. 38). Examination of assertions and assumptions also aligns with a realist perspective, which endorses approaching a study with initial understandings and rejects the idea of 'bracketing' these while doing the project. That said, these initial understandings whilst providing a framework, are always open to change. Throughout the research project, the ideas are tested while potential mechanisms are clarified (O'Mahoney & Vincent, 2014).

After reviewing the literature, and examining my own experiences working in this area, I identified the following propositions in relation to the research question:

1. Documentation of rehabilitation nurses' practice is an important influence on how that practice is presented to other team members and funders.
2. What is being documented by rehabilitation nurses does not fully encompass their perceptions of their contribution to rehabilitation.
3. There is information about rehabilitation nurses' daily work with clients that is withheld by them from others' knowledge (Jefferies et al., 2012; Wang, Hailey, & Yu, 2011; Wolf, 1999).
4. Rehabilitation nurses' choices about what they document are influenced by their perception of the ACC requirements and organisational structures, requirements, and documentation systems.

5. Rehabilitation nurses' choices about what they document are influenced by actual ACC requirements, and organisational structures, requirements, and documentation systems (Cain & Haque, 2008; Cheevakasemsook, Chapman, Francis, & Davies, 2006; Clarke, 2013).
6. The daily work of rehabilitation nurses (perceived and documented) will vary according to rehabilitation nurses' experience and the level of client dependency (Booth, Davidson, Winstanley, & Waters, 2001).
7. While rehabilitation nurses may believe that care makes a difference to a client, they are more likely to believe that those tasks that are seen to be rehabilitative are more valuable and will document those tasks (Long et al., 2003; Long et al., 2002).

4.3.2 Identifying the Unit of Analysis

The third component to identify in case study methodology is the 'unit of analysis' or case (Bryman, 2012; Yin, 2014). Yin (2014) advised researchers to ensure the case is defined at the outset of the research so that there are boundaries around what will be studied. These case boundaries should correlate with the research question and the propositions identified. Yin advocated re-examination of these boundaries throughout the research process. However initially, time needs to be taken to ensure the breadth of data is sufficient and, conversely, manageable, to gain understanding of what is occurring within the case chosen (Yin, 2014). The case in my research is nurses' documentation as used in an NZ adult TBI inpatient rehabilitation facility.

The focus of this research was on a single rehabilitation facility. Within NZ, there are three providers of TBI rehabilitation with four centres where inpatient rehabilitation takes place. The centres are located in Auckland, Christchurch, Dunedin, and Wellington. The research restriction of data sources to one of these rehabilitation facilities was an intentional decision to contain the project so a more in-depth understanding could be made in keeping with objectives of critical realist case study. This view is supported by Easton (2000) who stated "if one accepts a realist view, one case is enough to generalise: not generalising to any population but to a real world that has been uncovered" (p. 214).

4.3.3 Logic Linking Data to Propositions

To ensure the case selected is appropriate to the research question, Yin (2014) recommended articulating the "sub-units" (p. 54) to be examined. The benefit of this initial thinking is to ensure that the case has been defined and that boundaries are placed on information that is being looked at. This logic also corroborates that adequate data are

gathered around the propositions that were initially revealed. Table 6 (below) links subunits with the propositions and proposed data sources, as suggested by Yin (2014).

Table 6: Logic linking data to propositions

	Data Sources				
Sub-units being examined (Proposition number[18])	**Electronic client records**	**Managerial questionnaire**	**Interviews with nurses**	**ACC legislation & contract**	**Facility policies**
Documentation of rehabilitation nurses' practice (P1, 2)	✓				
Description of facilities physical environment, team structure and funding system (P1, 5)		✓		✓	✓
Rehabilitation nurses' perception of their contribution to rehabilitation (P2, 6)			✓		
Rehabilitation nurses' perception of what information about daily work is withheld from others (P3)			✓		
Rehabilitation nurses' perception of the ACC requirements, organisational structures, requirements and documentation systems (P4)			✓		
Actual ACC requirements, organisational structures, requirements and documentation systems (P5)				✓	✓
Rehabilitation nurses' level of experience (P6)		✓	✓		
Level of dependency of client (P6)	✓				
Rehabilitation nurses' perception of rehabilitative nature of tasks (P7)	✓		✓		
Rehabilitation nurses' perception of value of tasks (P7)			✓		

4.4 Utilising Critical Realism to Inform the Case Study Design

In CR, the ability to understand requires first, a description of what is happening and second, an understanding of the structures and mechanisms that enable it to occur (Danermark et al., 2002). The process of understanding includes learning where, when,

[18] P refers to the Proposition number (see 4.3.1).

and how these structures and mechanisms are revealed, which promotes a critique of the situation. In attempting to resolve the research question, a journey is embarked upon, as Porter and Ryan (1996) explained:

> The work of the researcher, according to critical realism, is to identify patterns of social behaviour and ask what social structures must be in existence in order for those patterns to occur. The next stage of investigation involves the process of empirically questioning whether the hypotheses formulated can indeed adequately explain the patterned activities observed. (p. 415)

As stated previously, there is no one approved critical realist method. Rather, importance is placed upon “the ontological-methodological link” (Danermark et al., 2002, p. 152). These authors criticised the dichotomy of quantitative or qualitative methods and instead emphasised the need to make the ontological foundation of the research clear. For example, they explained that if a quantitative study finds an “empirical regularity” (Danermark et al., 2002, p. 154), this does not explain what is occurring. Furthermore, if an ontological premise of open systems is upheld, then it would be fruitless to rely solely on quantitative methods, which compels researchers to isolate variables in order to generalise results (Danermark et al., 2002; Fleetwood, 2017; O'Mahoney & Vincent, 2014). Alternately, in response to qualitative methods, realists are mindful that mechanisms may underlie what someone experiences. Therefore, data collected solely based on what a group understands of the phenomenon, or their experiences of it, cannot be the only point of data collection. Instead, data should be gathered from a variety of domains (Danermark et al., 2002).

In response to rejecting the quantitative/qualitative dichotomy, realists instead utilise the terms ‘intensive’ and ‘extensive’ research design. Danermark et al. (2002) asserted “the decisive question is how different methodologies can convey knowledge about generative mechanisms” (p. 163). The use of intensive procedures includes qualitative-like components of data collection, where individuals are studied in relationship with their environment. Whereas, utilising an extensive frame involves analysis of quantitative types of data, identifying patterns that are taken from a larger scale (Danermark et al., 2002). Sayer (2000) believed these processes can be complementary as it is the existence of mechanisms that are essential to understanding.

Yin (2014) specified four types of case study designs, ranging from single to multiple case study with holistic or embedded units of analysis. I chose a single case embedded design for my research project. One renowned critical realist researcher has advocated for a single case design explaining that doing a multiple case design may provide results that are shallow and avoids the depth needed to “discover what the causal powers and

mechanisms might be" and "how these operate 'in reality'" (Easton, 2000, p. 214). This is consistent with Ackroyd and Karlsson (2014) who also advocated for an intensive approach when the focus is on understanding the mechanisms within a context. Accordingly, the decision was made to utilise a single case with embedded units of analysis.

4.4.1 Data Collection Phases

My research included embedded units of analysis within the case, and these units (environmental description; electronic client records; and interviews) were incorporated in a multi-phase approach to data collection. This design decision considered the different case study designs described by Yin (2014) and was informed by critical realist principles, where different sources are utilised to aid the pursuit of understanding (Vincent & Wapshott, 2014; Williams et al., 2017). The utilisation of multiple data sources allowed for appreciation from multiple levels, aligning with critical realist principles of a stratified reality.

To aid reader comprehension, the data collection phases will be explained first, followed by data selection decisions and ethical considerations. Table 7, below, depicts the sources of data within each data collection phase.

Table 7: Sources of data

Phase A:			
Environmental description	Contractual documents	Facility policies	Managerial questionnaire
Phase B:			
Electronic client records	Nursing notes (NN)	Timetable (TT)	
Phase C:			
Interviews	Interviews with nursing staff		

Phase A, the environmental description, encompassed contextual information. The intent was to gain a comprehensive range of data to describe the conditions of the facility and commence a theoretical understanding of what was expected of the nurses and how the facility worked. For this purpose, facility contracts and policies related to the nurses' documentation practice were obtained and analysed. In addition, a managerial questionnaire was devised, implemented, and analysed (Appendix B). Together, these data sources gave information relating to the structures and culture of the facility, incorporating the management, employees, systems, policies, and contracts. Vincent and Wapshott (2014) concurred with the usefulness of initially exploring the setting to "abduct a basic outline" of "how the organisation is supposed to work" (p. 160).

Data from the electronic client records system were collected in Phase B. These were extracted from two datasets, the nursing notes and the timetable.[19] Ackroyd (2004) asserted that the research intention should be to seek "the patterns of relationships which constitute the building blocks of structure (and lend themselves to objective assessment)" (p. 154). When seeking to understand the nurses' documentation of their contribution, that clarity would encompass what the documentation itself consisted of. Therefore, Phase B required analysis of the electronic client records system to uncover the documented input from the nursing team in their nursing notes and from the timetable.

Finally, Phase C incorporated interviews with the nurses in an attempt to understand their perceptions, decision-making considerations, and beliefs about influences on their documentation. Ackroyd (2004) also emphasised the perspective of participants in their environment, as it is the connecting of the "patterns of relationships" (p. 155) and structural components that allow uncovering of causal influences in operation. For this reason, in the third phase, nurses within the facility were invited to participate in the study to give their impression of what was occurring and to review initial themes that had been gained from the previous two phases.

4.5 Ethical Considerations within each Research Phase and Data Selection

Ethical approval was obtained from the Auckland University of Technology Ethics Committee (AUTEC) prior to the research commencing (Application Number: 16/298) (Appendix C). Permission to proceed was gained from the facility involved and included multiple discussions with personnel within the facility. Meetings were held with members of the management team including the Māori Advisory Committee and research personnel. These discussions were critical within the design phase and assisted with the direction of the research.

Throughout the multiple research phases, I carefully considered the confidentiality of clients, nurse participants, and managers. For each phase; the data, transcripts, and consent forms were stored and protected as per standard procedure. Initially, during data analysis, data were stored on my personal drive, which required an individual confidential log-on and password. On completion, data will be kept for six years on an external hard drive in my supervisor's office; subsequently, it will be destroyed by computer deletion.

[19] The nursing notes (NN) and timetable (TT) were extracted as two separate datasets from the facility's electronic client record system (refer to 1.3).

Every attempt was made to keep details about the facility confidential within the thesis. Explanations of these considerations and data selection processes are given with respect to each research phase.

4.5.1 Phase A

Table 8, identifies the components of data utilised in Phase A.

Table 8: Components of Phase A: Environmental description

Contractual documents	Facility policies	Managerial questionnaire

Decisions regarding data selection in Phase A were discussed with the facility involved, prior and post-ethical approval. Selection of contractual documents, facility policies, and which managers to approach, was purposive. This decision was made in response to the research question, centred on the information that needed to be answered (Maxwell, 2012) and drew from the data collection sources identified in Table 6 (p. 64). Documents assisted in understanding the propositions; namely, describing the rehabilitation nursing team and organisational structure, in addition to understanding the ACC obligations and documentation requirements. Contractual documents were found on the ACC website (available between 2014 and 2018), including the *Service schedule* (Accident Compensation Corporation, 2015), *Operational guidelines* (Accident Compensation Corporation, 2014) and the *TBI strategy and action plan* (Accident Compensation Corporation, 2017). Facility policies included the *Service delivery policy*, *Report writing procedure*, *Orientation procedure*, *Induction programs*, S*taff training and development procedure*, and the *Training calendar*.[20]

To manage ethical considerations, the facility, clients', and staff names were de-identified in any documents. Facility documents are also not appended with this thesis to maintain the confidentiality of the facility. However, some of the contractual documents were already in the public domain and so are referred to more openly. From a data collection perspective, once these boundaries were put in place, gathering policy and contractual documents proved to be straightforward. The facility had printed material readily accessible and was forthcoming with providing the information required. Documents were supplied in a de-identified form, with the removal of signatures, names, and financial details. However, some documents gave details of the facility such as location, statistics relating to client representation, and how clients were organised in the facility.

[20] Policy and procedure document names are generalised to support facility confidentiality.

Due to the confidentiality decided on prior to ethics approval, these details were considered during analysis with some details omitted or altered in the writing phase.

Questionnaires were developed and sent to two managers in the facility. These managers were chosen for their oversight of nurses and nursing processes in the facility. Manager 1 held responsibility for nursing staff and, therefore, received a longer questionnaire to account for questions relating to the nursing environment and workforce demographics. Manager 2 led the adaptation of the electronic client record within the facility. Information regarding the project and invitation to participate was attached to the questionnaire document. Consent for the questionnaire was implied by the managers completing the form.

4.5.2 Phase B

There were two sources of data taken from the Electronic client records system, one was from the nursing notes and the other was from the client timetable (refer to Figure 2).

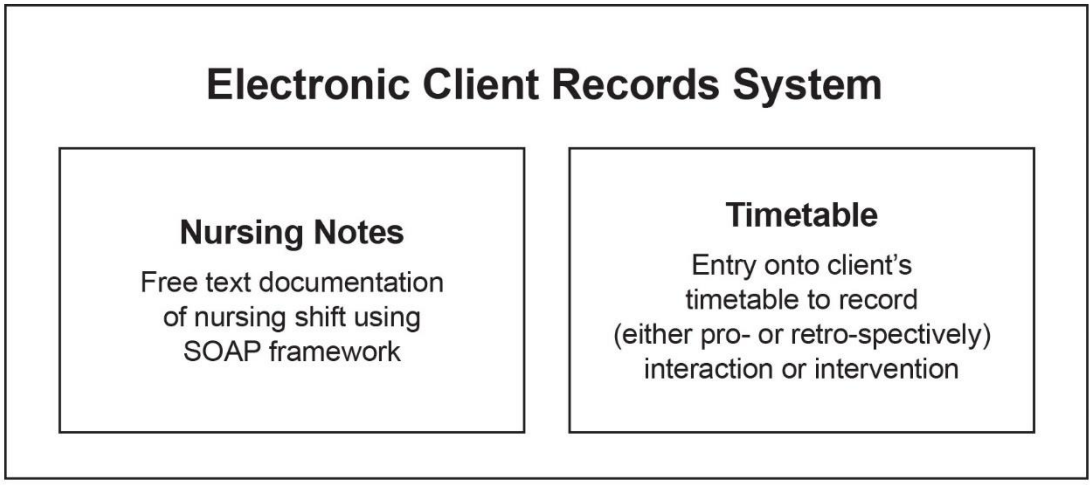

Figure 2: Data components of Phase B

Analysis of the nurses' documentation for the clients was crucial to understanding what was occurring within the facility being studied. Data were selected from two consecutive years, over a 3-month timeframe for each year. I engaged a data manager to select a 3-month period in 2014, and a corresponding 3-month period in 2015. The calendar dates were omitted from data sheets before I received them. (Further information regarding timeframe and data saturation decisions is given in 4.7.2). Only records from nurses that were employed by the facility were included. Documentation from bureau nurses[21] and from clients that were not part of the ACC TBIRR contract was excluded. The process of de-identification and consent of the client records is discussed in more detail next.

[21] Bureau nurses are temporary staff assigned through a nursing agency. These nurses are employed when the facility requires nursing staff above their permanent staffing roster.

To enhance the validity of the research, effort was invested in ensuring records were de-identified to preserve confidentiality of both clients and the nurses. I sought organisational approval to obtain the de-identified client records for those who engaged in rehabilitation during the timeframes of the study. The use of organisational consent was deemed necessary for two reasons; first, the data gathered was retrospectively obtained from records completed 1 and 2 years prior to analysis, in order to support confidentiality. It was thought that obtaining individual informed consent from clients and nurses retrospectively was not viable due to the historical time periods and was not necessary as the data provided would be de-identified (this approach being approved the Ethics Committee, see Appendix C). Second, using historical data offered the opportunity to understand what was occurring without the potential bias of the nursing team changing their usual daily patterns because research was being conducted.

Although informed consent was not obtained, I was mindful that these records belonged to the client and also reflected the observations, thoughts, and actions of the nurses. The intent was not to audit the quality of the nurses' documentation or actions, or to gather specific information about the clients; rather, to gain themes about the types of work the nurses were documenting.

The data manager de-identified the client records prior to sending the data to me. De-identification included electronic removal of all client and background details such as names (including those of family/whānau members), addresses, identifying numbers (insurance and national health numbers), dates, and diagnostic details. It also included the removal of names and qualifications of any nursing staff and, where mentioned, any other staff. The identifying details were not shared with me and data, therefore, were not able to be linked back to a particular client or staff member. As an additional precaution, the data manager signed a confidentiality agreement explicitly related to client and nurse confidentiality in this research (attached in Appendix D).

Prior to data collection, I had considered assigning a number to each client's report so it could be linked to the FIM®-range[22] information that indicated the level of dependency of the client. Ethical approval was obtained to do so. However, prior to obtaining the data sets, I decided not to obtain and include FIM® data due to the limitations of this data. Although FIM® scores were routinely calculated on admission of a client, and prior to their discharge, clients have differing lengths of stay. Moreover, many clients make significant functional gains over the course of their rehabilitation. Consequently, in the 3-

[22] FIM® is the abbreviation for Functional Independence Measure. In Aotearoa-New Zealand, FIM® range is defined by the Australasian Rehabilitation Outcomes Centre by categorising levels of functioning in clients with TBI, by analysing motor and cognitive scores (Australasian Rehabilitation Outcomes Centre, 2016).

month datasets, it was reasoned that there would be admission FIM® scores that bore little relationship to the current, functional presentation. Clients who initially obtained low FIM scores, indicating high levels of dependence may well have greatly improved function during the “snapshot” of function obtained within a particular dataset. Following discussion with my supervision team, it was, therefore, decided not to obtain FIM data. Instead, information about clients’ levels of dependency was obtained during interviews.

The data manager sent the electronic client records data within Excel worksheets. I imported both worksheets into NVivo. This software analysis system was used to support a structured and methodical approach to data management. One contained data from the nursing notes and the other was from the timetable. Before the data import, I removed duplicate information, as timetable activities are also electronically imported to the client records within the system. Additionally, non-essential assessment scales for purposes of this research were removed (e.g., Braden Pressure Area Assessment® and Infection Control data).

4.5.3 Phase C

Aggregated themes about what was occurring within the rehabilitation facility, were identified from Phases A and B. In Phase C, I sought to discuss these themes with the nurses alongside their perceptions and experiences of their role and documentation of that role. Consideration was given to the nurse participants’ confidentiality, while aiming to ensure their voice was heard within the research. A convenience selection process was used, where all nurses employed at the rehabilitation facility were invited to participate in the research (Maxwell, 2012). As with Phase B, temporary bureau nursing staff were excluded, as they would not be as familiar with the norms, rituals, and mores of the facility.

Nurses were initially provided with information regarding the research on their work email (refer to Appendix E). They were then given an opportunity to discuss and ask me questions directly within one of their nursing-specific training days. Provision of information was given at an identified time, which was separate to the actual training content. This point of separation was explained to the nurses to avoid any possible perceptions that the training was contingent on participation in the study. Nurses were given consent forms during the training day to indicate their willingness to participate in the study (refer to Appendix F). They were invited to drop completed consent forms into a box, which I cleared. The box was located in an area that was often empty for significant periods of the day, thus affording participants privacy when posting completed consent forms.

Two weeks following the training day, all nurses were contacted by email by an independent (and non-nursing) member of the team to confirm their willingness to participate or their decision to decline the invitation. Additionally, the nurse participants were advised of their right to withdraw from the study at any time before the commencement of data analysis.

Individual interviews were arranged with each nurse who provided a consent form, at a time convenient to them. While they were given work time to participate in the interviews, the interviews were held in a separate office space to support them to express their views freely. Recruitment was steady, and interviews were completed within two weeks. Although a convenience selection process was used, there was a range of experience levels within the group. Initially, interviews were proposed with 4-8 nurses, with 6 nurses consenting to take part in an interview. Reflections on the research process are documented in section 4.5.3.1.

Although written consent was gained prior to each interview, before commencing the interview, I reconfirmed that permission (refer to Appendix G). The interviews were recorded and transcribed verbatim by a transcriptionist who had signed a confidentiality form (refer to Appendix H). Once I had checked transcription with interview recording, correcting as necessary, I then imported the interview transcripts into NVivo11.[23] Names of nurse participants were not identified within the thesis; instead, each participant was assigned an identifying number when quotes were made within the text. Where there was a risk of identifying a nurse by use of quotation in the thesis, that data was not used.

4.5.3.1 Undertaking Interviews

The process of designing and undertaking the interviews encompassed a critical realist framework, whereby the layered ontology was seen as integral. Discussing, understanding, and gaining information from participants via an interview allowed me to appreciate the interviewee's interpretation of the research topic and the initial findings. These understandings could then be considered with additional data, to add to the multi-layered nature of the inquiry. Bhaskar (1998) explained that, "actors' accounts are both corrigible and limited by the existence of unacknowledged conditions, unintended consequences, tacit skills and unconscious motivations but in opposition to the positivist view, actors' accounts form the indispensable starting point of social enquiry" (Bhaskar, p. xvi). Critical realists undertake an interweaving of all data sources; in this case, I considered existing knowledge, organisational data, environmental structures, and perspectives of key personnel. The interview component afforded an opportunity to hear

[23] NVivo is a computer software package that is used to manage data analysis.

the nurses' perspectives of what was occurring and their insights were a unique source of reality (Manzano, 2016; J. Miller & Glassner, 1997).

I used an interview guide as suggested by both Manzano (2016), and Smith and Elger (2014). The interview guide (Appendix G) set a framework for the interview, allowing for exploration of themes from Phases A and B. Initial questions were exploratory, to develop rapport and progress the conversation towards more focussed content. Probing questions that sought to understand the perspective of the interviewee integrated with the agenda. Critically, Smith and Elger (2014) emphasised initially encouraging the participant to give details of their interactions and experiences to support their perspectives. The interviewer is then able to question any disparities in what they have said and question their view of data received from additional sources. Additionally, the interview is an opportunity to explore the initial research theories and potential mechanisms with an interviewee. The interviewee is then able to provide context and their perspectives of what is happening with adequate opportunity to reveal and be questioned around their decision-making (Smith & Elger, 2014). Whilst providing an overarching framework, the guide was also flexible, with ongoing ability to add, delete, or emphasise different questions, allowing for evolving ideas as the interviews progressed (Manzano, 2016).

I completed all interviews myself which ensured consistency and allowed interview themes to develop and be questioned across the participants. Within their research, Smith and Elger (2014) commented they "treated our interviews as cumulative and iterative rather than simply discrete indicators of attitudes or sources of narratives" (p. 127). I incorporated this cumulative approach by reflecting upon each interview. Immediately following each interview, I made notes of initial impressions, novel themes, and potential amendments to the future interview schedule. I then listened to interview recordings and made more detailed notes, thus identifying potential themes. I also conferred with my supervision team between interviews. These reflective processes informed questioning for future interviews and allowed a flexible approach to the interview agenda.

4.7 Data Analysis

Yin (2014) considered that "analysis of case study evidence is one of the least developed aspects of doing case studies" (p. 133). Taking this advice, I outlined an analytic approach in advance, which incorporated principles from Yin's case study methodology while drawing upon a critical realist framework.

Throughout this case study, the propositions guided data collection; hence, questions within the interviews were designed so information relating to these propositions could be unearthed. This was based on Yin's (2014) general analytic strategy described as "relying on theoretical propositions" (p. 136). This strategy is complementary to critical realism's "ontological assumption of a stratified ontology and the epistemological assumption of mediated knowledge" (Wynn & Williams, 2012, p. 797). This critical realist assumption openly endorses "empirically observed experiences" (Wynn & Williams, 2012, p. 797) as a basis to develop explanations about what is occurring. Yin (2014) developed his analytic strategies by identifying five analytical techniques. Within these five, he identified a specific "pattern matching" technique, termed "explanation building", which describes the data and explores "how or why something happened" (Yin, 2014, p. 147). This technique aligns with a critical realist ontology, where the overarching idea when coding the data is to look for tendencies (Edwards et al., 2014).

I found there to be alignment in the intent of the data analysis phase, between Yin's methodology and an underlying CR perspective. Both attributed clear intentions of theory generation and explanation in "context-sensitive" ways (Edwards et al., 2014, p. 320). However, there were components of Yin's approach that have been questioned by critical realist proponents, as they limit data analysis to abduction neglecting the use of retroductive analytical techniques (described previously in 4.3) (Vincent & Wapshott, 2014). For this reason, while remaining cognisant of Yin's analytic approach and strategies, I framed my analysis upon Vincent and Wapshott's (2014) three staged approach. In Table 9, I have outlined these three analytical phases with an explanation of why and how this approach is used in my research. The analytical logic of abduction and retroduction will be explained after the table.

Table 9: Forms of data analysis used in critical realist research (Vincent & Wapshott, 2014).

Analytical stages using a critical realist approach	**Objective in using this approach**	**Relating this approach to research proposed**	**Study phase**	**Logic employed**
1) Configurational analysis	What the institutional mechanisms are	Description of facility	A	Abduction
		Identifying general patterns within the facility	B	
2) Normative analysis	How these mechanisms are reproduced	How nurses tend to respond	C	Abduction & Retroduction

3) Field analysis	Why these mechanisms reveal themselves as they do	Why nurses record their contribution in way they do Linked with generative mechanisms identified	A, B, C	Retroduction

Critical realists recognise the importance of abduction and retroduction in developing valid explanations of what is occurring. Abduction re-describes what has been observed from different sources, combining those observations and relating them to the identified research (O'Mahoney & Vincent, 2014). I utilised abduction in Phases A and B (Chapter 5), in describing and identifying the general pattern of what was occurring. In contrast, retroduction strives to discover the generative mechanisms which underlie those events, seeking to explain what is causing the events to occur (Danermark et al., 2002; Edwards et al., 2014). Abduction and retroduction were used in Chapter 6, where I explored how nurses tended to respond; using the interviews to discuss which patterns they followed consistently and their rationale for their documentation practices. Chapter 7, used retroduction, as mechanisms were identified, I considered why nurses were choosing to document in the way they were.

Following the analytical approach of Vincent and Wapshott (2014), my thesis chapters are organised to reflect this framework. Before moving to the understandings of each phase, I will first describe the decision-making process relating to data analysis of each research phase separately.

4.7.1 Phase A

As previously discussed, Phase A included analysis of contractual documents, facility policies, and the managerial questionnaires. Drawing on critical realist terminology from Vincent and Wapshott (2014), this analytical phase is called configurational analysis, because it sought to understand the facility's composition. The documents and policies included facility contracts and documents that revealed relationships and internal processes relating to the research questions. Data in this phase were explored individually and compared. Analysis of this data assisted with describing "normative expectations" (Vincent & Wapshott, 2014, p. 160) and described how the facility was supposed to function. I generated themes by analysing expectations, mores, and contradictions within the facility. For example, the responses of both Managers 1 and 2 were comparatively analysed and related to documentation policy guidance from the facility. These comparisons involved the logic of abduction and revealed what might have

been occurring within the context (Wuisman, 2005). From this point “general pattern[s] of activities” can be “explored and refined” (Vincent & Wapshott, 2014, p. 160).

4.7.2 Phase B

Phase B included data analysis from the electronic client management system. Like Phase A, this involved configurational analysis, which is why Phases A and B data are presented together in Chapter 5. However, the focus was adjusted in Phase B, where description gave way to identification of the general patterns within the facility, which were regarded as a “road map of the institutional mechanisms” (Vincent & Wapshott, 2014, p. 160). Accordingly, I used descriptive analysis to analyse Phase B data, in order to describe the pattern of what was happening as opposed to the statistical significance of each finding.

Initially, I reviewed nursing and rehabilitation data classification systems, as a way of classifying the data collected. While there is no accepted nursing language system adopted in rehabilitation facilities in NZ, international research suggests there are a number of different classifications to describe nursing interventions. These include: NANDA (North American Nursing Diagnosis Association), Nursing Interventions Classification (NIC), and International Classification of Nursing Practice (ICNP); while many German-speaking countries utilise the LEP (Mueller, Boldt, Grill, Strobl, & Stucki, 2008). However, as has been previously discussed, literature shows that discipline-specific classification systems work less well in rehabilitation where teamwork compels its IPT members to be speaking the same language.

Boldt et al. (2005) proposed that rehabilitation nurses consider utilising the ICF framework, as it is utilised internationally by other disciplines. I considered utilising the ICF as a framework for data coding, in particular the ICF extension work where the core sets are included that relate to specific client groups based on diagnosis or environment. The core sets of interest were neurological conditions in post-acute care and TBI. Several researchers have concluded positive benefit in using ICF when considering rehabilitation nursing interventions (Boldt et al., 2005; Kearney & Pryor, 2004; Mueller et al., 2008). I had wondered if utilising this common language system might also provide rehabilitative nurses with much-needed role visibility and understanding. While there were many benefits in utilising the ICF framework in the coding phase of analysis, the risk was that the framework would then guide the coding. I considered it more important that the data speak for itself, and that I would uncover more understanding if data were coded as the nurses themselves framed their interventions and activities. For this reason, the frameworks were put aside during initial coding phases, but will be referred to in the discussion.

The first dataset was from the timetable. Coding was initially based on the nurses' own description of the activities within that timetable; for example, behaviour management, bowel management, continence assessment, or communication encouragement. Before coding the nursing notes dataset, I reconsidered work of Derek Wade (2005a, 2016) and Julie Pryor (2005), who have sought to understand the work of rehabilitation and rehabilitation nurses respectively. Wade (2005a) described classification of interventions into three types:

1. Data collecting;
2. Providing support; and,
3. Giving treatment.

Pryor (2005) also looked at the purpose of the intervention when she described the nurse 'doing for' or 'doing with' a client. I gave consideration to both these views and made the decision to alter coding from directly what the nurses were calling the intervention, to focus on the type of activity or intervention that was being described. I followed NVivo's terminology; coding *parent nodes* and then refining those into *child nodes*. Examples of amended parent nodes (written in bold) with explanation of the code are given here:

> **Task**: Documentation of the intervention as a task completed by the nurse where no interaction with the client (beyond that necessary for the task) was documented, giving the appearance of 'doing for' the client (e.g., enteral feeding and stoma care).
>
> **Coaching**: Working with, encouraging, or prompting the client (e.g., activities of daily living).

The coding from the timetable dataset was then revised to acknowledge the amended categories, and this same coding system was then utilised for the nursing notes dataset.

Coding of the nursing notes required additional decision making. Data were organised chronologically and could have been arranged and viewed relating to the nurse who wrote the entry or the client that the entry was written about. I decided that viewing data with a client focus (rather than on the specific nurse involved) allowed a sense of what was happening for that client within their journey, additionally providing clarification of what was being documented by one nurse and perhaps not others.

In total, the two three-month periods yielded 8084 entries for coding. Once I reached 1000 entries, I conferred with my supervision team and together we reviewed coding

nodes. It was decided to check for saturation[24] within the first time period, so I coded the last section of the first three-month dataset from 3450 (day 86) to entry 3652 (day 92) (see Table 10).

Table 10: Coding of the 2014 dataset

Dataset One, 2014				
Entry start (section of text)	**Day**	**Entry end (section of text)**	**Day**	**Number of days in total**
0	1	1000	22	22
3450	86	3652	92	6

The proportion of text coded to a node within each category produced similar themes between the first 1000 entries and the last 200 entries within the same timeframe. Yeung (1997) defined saturation in critical realist study "when further abstraction brings no significant additional theoretical rigour to the generative mechanism" (p. 59). Vincent and Wapshott (2014) described saturation similarly—when "no new data about agents' various locations and activities will be discovered" (p. 160). In line with these saturation definitions, the decision was made to code similar numbers of entries in the second timeframe within dataset two (see Table 11).

Table 11: Coding of the 2015 dataset

Dataset Two, 2015				
Entry start (section of text)	**Day**	**Entry end (section of text)**	**Day**	**Number of days in total**
2653	274	4653	291	17
7884	363	8084	365	3

Coding was then completed in a similar fashion for the 2015 dataset (i.e., the first 1000 entries, and the last 200 entries).

4.7.3 Phase C

A central tenet of interview data analysis from a critical realist perspective is to be attentive to your own bias as the interviewer, while ensuring the data reliably reflects the interviewee's perspective (Kempster & Parry, 2014). I commenced interview analysis by familiarising myself with the interview transcripts. Initially, accuracy of transcription was reviewed by listening to each recording and comparing with the transcript document. Small changes were made, which were most likely a result of a misunderstanding of

[24] Saturation is defined following Table 10

terms used by the nurses that were transcribed by a non-nurse. This process proved beneficial, as it was another method of increasing my familiarity with the transcripts.

I acknowledged that events in an open system such as the rehabilitation facility in this study interconnect, and the people involved brought their own meaning and beliefs to these situations. For this reason I commenced the first coding cycle with an 'in-vivo' technique, which utilised each participants' words as the initial code (Saldaña, 2016). Once codes were identified from the interviews, I viewed all the interviews together. Primarily, I viewed participants' answers to similar interview questions, which related to the research propositions identified. The idea was to understand the meanings each participant associated with the general interview topics. As in Phase B, I used NVivo11. I imported data using the process stated previously but, as coding progressed, I found that using a visual cognitive mapping process more beneficial (See Appendix I). Cognitive mapping is a practical approach, whereby themes or individual quotes from each participant can be colour coded and organised graphically (Northcott, 1996). Rather than utilising audio data, as per Northcott, I used both audio and the written transcripts, before graphically generating the cognitive maps for different sub-sections of similar interview questions.

Drafts of all codes throughout the phases were then considered together. The logic of retroductive analysis, described next, was directed to identifying the organisational mechanisms. This occurred alongside of consideration of the environmental context and structures that existed, all the while constantly questioning the existence of what kept the events recurring. These themes are reported in Chapter 6, which relates to the principle of 'normative analysis'[25] (Vincent & Wapshott, 2014).

4.7.4 Retroduction of Data

At this stage of the data analysis, I questioned what existing theory would explain the emerging mechanisms and patterns. I decided to use Archer's (1995) morphogenetic/morphostatic (MM) analytical cycle to provide a robust analytical framework. I felt this would be beneficial in aiding retroduction of the structural and cultural influences that appeared to be impacting upon the nurses' documentation choices. MM theory has been discussed in the previous chapter and will be reviewed in Chapter 7. The application of Archer's framework highlighted ideas that became visible during assimilation of all data phases. Using retroduction, within Archer's framework, revealed possible mechanisms. This led to explanations of why the nurses recorded their contribution in the way that they did. Further, it allowed unearthing of conditions, which

[25] Refer to Table 9.

may promote change in the facility, or constraints, which led to morphostasis – a lack of change to the status quo.

4.8 Rigour and Validity

The philosophical underpinnings of any research will impact how the research is viewed in terms of rigour and validity. CR considers the concept of a stratified ontology to be imperative when considering issues of validity in any research. “Because the focus of the research becomes the generative mechanism underlying events (rather than the observations of the events), to some extent at least, concepts of validity in research are turned on their head compared with the empiricist’s view” (Johnston & Smith, 2010, p. 33). This statement is related to a critical realist acceptance that while there is an objective truth, we may not have full understanding of it. Therefore, there remains the possibility of alternative explanations that are equally valid (Archer et al., 1998; Harwood & Clark, 2012; Porter, 2007). As “all knowledge is socially produced” (Porter, 2007, p. 85), consequently it is “influenced by the power relations obtaining in the social matrices in which it is produced” (Porter, 2007, p. 85). That said, realists do not accept that all theories are of equal validity. Indeed, it is “not in the procedures used to produce and validate it, but in its relationship to those things that it is intended to be an account of” (Maxwell, 2017, p. 119). Maxwell (2017) further explained:

> Rather than relying only on the designs or procedures used in a study to assess its quality, a realist perspective focuses attention on the credibility of the *interpretations* and *conclusions* drawn from the study, and the ways in which the researcher used the study’s design, methods, and data to generate and test these interpretations and conclusions, and to address plausible alternatives to these. While the methods and approaches used are obviously an important issue in this assessment, they must themselves be assessed in terms of the actual context and purposes of their use. Rather than being employed as context-independent criteria for quality, their real value is as means of obtaining evidence that can deal with plausible threats to the validity of the study’s interpretations and conclusions. (p. 134)

To further support validity, both Yin (2014) and proponents of critical realism utilise triangulation as a key strategy. For critical realists, triangulation acknowledges the ontological view of a stratified reality as there are many types of structures with “different emergent properties, powers, and tendencies” (Wynn & Williams, 2012, p. 803). These demand “different means of developing knowledge about them and their properties which requires the use of different methods and perspectives” (Wynn & Williams, 2012, p. 803). Accordingly, data and methodological triangulation are most often employed. Data triangulation “involves gathering data at different times and situations, from different subjects” (Downward & Mearman, 2007, p. 81). This is not to confirm the phenomena

repeatedly; rather, “to abstract to a clearer understanding of the causal factors and relationships” (Wynn & Williams, 2012, p. 803). Whereas “methodological triangulation involves the combination of different research methods” (Downward & Mearman, 2007, p. 81). Both data and methodological triangulation were utilised in this research.

Taking these critical realist constructs through to practical strategies to guide a researcher in ensuring their work is of high quality and is in agreement with philosophical underpinnings and methodological considerations, I explored the work of Maxwell (2009) and Porter (2007). Additionally, from a case study methodological perspective, I examined Yin’s perspective of research validity. There were many constructs which aligned and, therefore, may be seen to support the validity of my findings (Maxwell, 2009, p. 243).

Maxwell (2009) discussed utilising “rich data”, by ensuring information is “detailed and varied” (p. 244). He also advised transcribing interviews verbatim. Another strategy is “respondent validation” (Maxwell, p. 244), and he noted this is “the single most important way” (Maxwell, p. 244) of not misinterpreting the meaning from participants and gaining their perspective of what is happening. Comparatively, Porter (2007) was practical in his approach to validity, promoting two factors. First, he affirmed the responsibility that researchers have to be accurate; second, he identified the need for the research to “provide useful guidance either to researchers or practitioners” (Porter, p. 86). These constructs aligned with Yin’s approach to validity, which stressed the importance of ensuring data analysis is of the highest quality. Yin has established four principles to assist with this focus, I explored these in Table 12 (p. 82), viewing their similarities to Maxwell and Porter.

Table 12: Review of three theorist's constructs of validity

Maxwell (2009)	**Porter (2007)**	**Yin (2014)**	**Examples from my research**
Respondent validation	Accuracy	Attend to all evidence	Each data source was included within analysis Chapters 5-7. At the end of each interview (Phase C), I shared data from Phase B, and asked nurse participants' opinion of the information and initial themes I had hypothesised.
	Providing guidance	Focus on the important issues	Chapter 8 includes discussion of what I deemed the important issues that arose during this research, and practice considerations were posed.
Rich data		Consider alternative explanations	My research employed differing data sources, namely facility contracts and documents, data from the electronic client record, and deeper information about nurses' perspectives during the interview phase. Interviews were transcribed verbatim and included within this document where appropriate. Alternative explanations and interpretations were considered in supervision sessions in all three phases.
Searching for conflicting evidence		Utilise your own knowledge	Initial propositions clarified my understanding entering this research project. These understandings, in line with critical realist ontology, were open to critique and subject to change throughout the project.

Ensuring rigour was an active process throughout this doctoral thesis. As well as above processes, support and advice was gained from active doctoral supervision throughout the study.

4.9 Summary

This chapter detailed decision-making options and responses to various methodological decisions that arose throughout the thesis. I have stated the rationale for these decisions as the thesis progressed. The next three chapters discuss the findings within the various phases, commencing with Phases A and B in Chapter 5, and progressing to Phase C in Chapter 6. I then apply these understandings to Archer's morphogenetic analysis framework in Chapter 7.

Chapter 5 – Describing the Environment and Nurses' Documentation

5.1 Overview

Chapters 5 and 6 present the findings from the research following Vincent and Wapshot (2014) and as outlined in Table 9 (p. 74), a 'configurational analysis', which describes organisational structure. The intention is to identify what exists and "how people tend to behave" (Vincent & Wapshott, 2014, p. 160) through analysing data from Phases A and B. The overarching premise of configurational analysis is to identify the "general pattern of activities associated with a particular institutional mechanism", that are then "explored and refined" (Vincent & Wapshott, 2014, p. 160). Consequently, at the end of this chapter, I explore initial themes that have arisen through the analysis.

The methodology and methods as explained in Chapters 3 and 4, present Phase A as an environmental description, that included a review of contractual and policy documents, and the managerial questionnaires. Phase B comprised documented input from the nursing team in their routine records (refer to Table 13, p. 83). In combination, these two data sets, A and B, sought to shed light on two sub-questions asked within the research:

- What influences rehabilitation nurses' documentation of their contribution?
- What do nurses record about their contribution to TBI rehabilitation?

The policy documents and managerial questionnaires described what existed in terms of the facility, providing foundational knowledge to answer the first question regarding influences. Subsequently, an analysis of what existed in terms of the types of activities or interventions the nurses documented, sought to answer the second question. Throughout this chapter, the data are discussed and, in some instances, followed by interpretation of the data at the end of each section to offer clarity for the reader, as themes are identified.

Table 13: Data sources from Phases A and B

Phase A:			
Environmental description	Contractual documents	Facility policies	Managerial questionnaire
Phase B:			
Electronic client records	Nursing notes (NN)	Timetable (TT)	

Phases A and B are discussed consecutively and will be sequenced in two sections as follows. First, I present information from Phase A, which incorporates a description of the

environment and nursing structure. This is followed by information from facility documents, which assists in understanding the contract and the electronic client records system. In addition, the content of documents pertaining to local organisational policy will be examined. Finally, this first section concludes with an analysis of the data from the questionnaires sent to two managers at the facility.

The next section relates to data from Phase B, which includes the analytic coding relating to the type of activity or intervention that the nurses documented. Using NVivo, these codes were organised into primary categories and analysed further into detailed sub-categories to explain the content of the code. Information about the timetable task types follows, which relates to specific facility codes used for financial data, namely, Direct Rehabilitation Focus, Direct Non-rehabilitation Focus, and Indirect. I then describe a comparison of coding between nursing staff. A summary of the major themes of the Phase A and B datasets concludes this chapter.

5.2 Environmental Description

Phase A involved analysis of the environment inclusive of contractual documents, facility policy, and questionnaires sent to two key facility managers. Only the themes deemed important and useful in answering both research sub-questions are presented. With these three data sources, I was interested in uncovering the influences on nurses' documentation of their contribution.

The contractual documents were found on the ACC website, include the *Service schedule* (Accident Compensation Corporation, 2015), *Operational guidelines* (Accident Compensation Corporation, 2014) and the *TBI strategy and action plan* (Accident Compensation Corporation, 2017). Facility policies include the *Service delivery policy*, *Report writing procedure*, *Orientation procedure*, *Induction programs*, *Staff training and development procedure, Electronic records orientation* and the *Training calendar*. Five areas are presented, beginning with a broad overview of the facility gained from the facility's website followed by an outline of the nursing structure. I then discuss the ACC contract relating specifically to those clients with TBI and highlight the funder's key performance indicators. Documentation policy, procedures, and training processes are discussed. Next, information from the questionnaires to two facility managers are presented. The questionnaire section commences with information related to nursing team composition and experience levels. Perspectives of both managers are then reported regarding terminology used in the facility, and their opinion of documentation requirements.

5.2.1 Environment

The facility catered for adults with TBI or medical conditions requiring rehabilitation. While there were clients with many medical conditions rehabilitating in this facility, research was directed specifically on those with TBI. All clients were accommodated within a multi-level building so that those with certain types of needs were able to be co-located on specific floors. This model allowed a client to move to a different floor as their needs changed, and they progressed in their rehabilitation journey. One floor catered to the more physically impaired, for example, those with disorders of consciousness, another floor specialised in clients with behavioural impairments, while another concentrated on community re-integration. There were 6-8 rooms on each floor with a joint lounge and dining room. Nursing staff were allocated to each floor on a shift-by-shift basis, whereas the allied health team were allocated specific clients, requiring them to work between floors. On each floor, there was a shared office space that the nurses used during their shift. It was located near client bedrooms so that the nurses were readily available to clients and could hear if help was needed. Allied health practitioners presented on a specific floor when they were scheduled to see a client. Their documentation was completed in a separate shared office space on the designated administration floor in the building. There was a rigorous implementation of timetabling with all clients, with rehabilitation sessions most intense during a traditional working day (working hours deemed between 0830 and 1530).

5.2.2 Nursing Team Structure

A manager who also had leadership responsibility for other staff teams within the facility led the nursing team. In addition, a nurse coordinator took shift responsibility on a morning weekday shift. The rest of the nursing team worked rostered shifts, morning, afternoon, and night duties, across a 7-day week. The facility additionally employed non-regulated workers who worked under the direction of the registered and enrolled nursing team. There were two levels of workers within the non-regulated workforce, with a small number having a co-ordinator position, who had a different job description.

5.2.3 TBIRR Contract and Key Performance Indicators

The ACC funded clients were with moderate to severe TBI within the TBIRR contract. Funding was provided to those clients with an accepted ACC claim if they met TBIRR contract criteria. The contract was an all-inclusive funding model where the price was paid per bed-day based on RCS[26] scores.

[26] Rehabilitation Complexity Scale (Turner-Stokes et al., 1998) – described previously in 1.4.2.

There were five funding streams ranging from ‘very high needs’ to ‘very low needs’. The contract also detailed service provision, stating that the supplier agreed to provide various rehabilitation inputs as part of their service delivery. The contract also specified different types of input. It referred to active therapy, which included “psychological, behavioural, physical, occupational and speech therapies as required” (clause 8.6.1.3). It differentiated this active therapy from “personal care services” (clause 8.6.1.6) and “nursing services as required” (clause 8.6.1.7). To ensure the facility could gather the information required within the framework of the ACC contract, the facility managers modified their electronic client records system so that it could capture the different types of input (explained in further detail in 6.3).

The ACC became increasingly focussed on rehabilitation for the TBI population over the period of this research. Workshops were coordinated for multi-providers and intra-organisational collaboration was encouraged, so that shared quality initiatives and joint analysis of data outcomes were discussed. Goals specifically aimed at improving pathways for the TBI client group were set within the ACC’s first TBI Strategy in 2012. Following collaborative conversations and initiatives, an update was published in 2017. In the revised document, Priority 4 listed as “Workforce capability in TBI” (Accident Compensation Corporation, 2017), was developed with an action statement of supporting the development of specific competencies in TBI rehabilitation. Limited information was provided regarding the detail of these competencies, although an indicative completion date was set for 2021. There were no references to discipline-specific advancement as part of such competencies.

5.2.4 Electronic Client Records System

The design of the electronic client record system included documentation requirements associated with the TBIRR contract. The electronic system had three distinct purposes; a) it was intended to capture information that could be used as a daily recording and communication system; b) it supported audit and gathering of research data; and c), the daily information gathered from the timetable, allowed the facility to streamline the billing process, by electronically utilising the ‘rehabilitative’ coding system.

Two datasets from the electronic records system were used within my research project; the nursing notes and the timetable. The nursing notes contained the nurses’ free text documentation of their interaction with a client.[27] In contrast, the facility used the timetable component to assist in gathering the needed data for the RCS. Staff could enter interventions on the timetable retrospectively, or schedule time with a client

[27] The nursing notes were purposely extracted from the clinical notes, where all staff members entered their free text documentation.

prospectively. Both scheduled and unscheduled data could be entered into the timetable component, and both forms of data were available for RCS justification and billing purposes. It was observed that the nurses had an extra step in the entry process to that required of allied health. In addition to entering interventions, the nurses were required to code their inputs by way of three distinct terms; a) direct rehabilitation focus, b) direct non-rehabilitation focus, and c) indirect. As will be discussed in Section 5.3, the definitions and operationalisation of these terms was unclear.

Within the timetable functionality there was also an 'alert and concern' function. All team members were able to access this functionality to report an adverse event or concern for a client. It enabled events to be logged so that other team members were aware, in real time, of staff concern for a client or of the occurrence of a specific event.

5.2.5 Documentation Policy, Procedures and Training

The rehabilitation facility had no specific documentation policy for note writing on the electronic record, suggesting a lack of guidance for nursing notes and timetable functionality. However, there was a *Report writing procedure* and a *Service delivery policy* that included documentation more generally. The *Report writing procedure* concerned summary documents that were sent to funders and given to clients and their family/whānau. This procedure outlined reports that were due and their specific timeframes. Guidance as to report content was not described. Documentation was also discussed within the *Service delivery policy*, which contained broad statements about the need to evidence interprofessional planning communication and implementation of the rehabilitation program. For example: "All clinical care /treatment /support /intervention provided is documented in integrated progress notes" (Service Delivery Policy, 2017, p. 2).

The facility did have orientation procedures, and processes for initial and ongoing staff training and development.[28] Each new staff member received an induction package that contained information about the facility and key policy documents. Induction programs were designed specifically for each staff role, with skills, information and competencies for a 3-month induction period. Newly recruited nurses attended a generic 3-day corporate training session offered to all staff. Alongside this formal induction, each professional group was responsible for setting an induction program for their own staff. The nursing team used an orientation buddy system for new employees, who worked alongside another, more experienced nurse. This unstructured 'buddy' coaching did not include guidance specifically about documentation. However, each new nurse also

[28] Identified in the *Orientation procedure* and the *Training calendar*.

attended an individual teaching session, of approximately 60 minutes, with an assigned manager, where they were introduced to the electronic client record. The content provided during this individual teaching session included functionalities of the electronic client record; for example, searching for clients, entering nursing notes, setting up activities on the timetable, and risks, alerts, and concerns (Electronic records orientation, 2016).

The facility had a regular training calendar, which applied to all clinical staff. Clinicians attended refresher-training sessions in management of actual and potential aggression, moving and handling, and TBI training. These sessions were interprofessional and staff were rostered to attend throughout the year. In addition, nurses attended three nurse-specific training days each year, which were the only opportunity for the entire nursing team to meet together.

In many countries, supervision is regarded as an essential component in a clinician's ongoing professional development (Colthart, Duffy, Blair, & Whyte, 2018). There are many definitions of clinical supervision; that is, supervision involving the clinician's personal reflection on their practice with their supervisor who offers their opinion and provides support (Colthart et al., 2018). In the researched facility, supervision was an active component for the allied health team but not for nursing staff. The supervision was defined as: "All professional *therapy* [emphasis added] staff are offered clinical and/or professional supervision from internal and external senior health professionals" (Staff Training and Development Procedure, 2018, p. 1). Similar supervision was not specified, or enacted, relating to the nursing team.

5.3 Managerial Perspective and Expectations

A questionnaire was given separately to two managers,[29] who remained employed in their roles throughout each phase of data collection (Questionnaire attached in Appendix B). From manager one's responses, I first present information about nursing staff demographics and working conditions, I then present my analysis of the information coming from questions asked of both managers about the classifications used within timetable coding and their expectations of nurses' documentation inclusive of contractually required data. Both managers were also asked about specific facility standards for nursing documentation and SOAP term definitions. Throughout this section I relate the data to my propositions (refer to 4.3.1), as the information presents.

[29] Manager 1 was responsible for nurses, and manager 2, led the design of the electronic client record within the facility.

The budget within this facility was designed upon a 1:3 staff to client ratio. This was inclusive of significant non-regulated staff involvement. When isolating registered nursing staffing levels, the nurse to client ratios were significantly lower than advised by the AFRM.[30]

Proposition 6, as discussed in Chapter 4, considered general trends in nursing demographics as a potential influence as to why nurses recorded their contribution in the way that they did. General demographic questions as to nursing staff composition, were consequently included in the management questionnaire as a way of gaining the aggregated information. The nursing staff within the research timeframe were ethnically diverse, with three of the 11 staff obtaining their initial nursing qualification in NZ and only one having prior rehabilitation experience.[31]

Thesis proposition 3 emphasised information about rehabilitation nurses' daily work with clients was withheld by nurses from others. Understanding this involved asking the nurses themselves, although I also included a question regarding nurses' attendance at team meetings. I wondered if this mechanism may have had an influence on what the nurses chose to document. Although at least seven IPT meetings were held in the 2-week timeframe, only a single nurse attended one of these meetings. This thread will be discussed in Chapter 7.

While nursing team demographic information was asked of manager 1 only, due to their role relating to the management of the nursing staff, both managers were asked about their expectations of nursing documentation. There was some variance between the managers' interpretation of documentation framework requirements, particularly in relation to the timetabling of intervention types.[32] Manager 1 related the 'timetabling category of Direct Rehabilitation Focus' to interventions which "can be with client/or family" (QM1, p. 5). This manager noted that the statement: "can also translate to 'conversations' that the nurse is 'actively' looking and measuring cognition, responses, understanding (and) social interaction" (QM1, p. 5) as a vindication for this interpretation. In contrast, manager 2 described Direct Rehabilitation Focus as being "with the client and working on a goal directed rehabilitation task" (QM2, p. 3).

The Direct Non-rehabilitation Focus, was described by manager 1 as being an instance where: "no encouragement [was given by the nurse to the client] to participate", and where, the nurse was "doing things for the client e.g. vital signs, wound care, fluid

[30] See 1.4.3 for previous information regarding AFRM standards 2011.
[31] The timeframe of giving the managers' questionnaire and conducting the nurses' interviews were different. During the timeframe of the manager questionnaire, only one nurse had previous rehabilitation experience. In contrast, two nurses who participated in the nursing interviews had previous rehabilitation experience.
[32] Refer to 5.2.4 which describes the three terms used in the facility to code timetable interventions.

balances, giving medication, PEG [Percutaneous Endoscopic Gastrostomy] feeds" (QM1, p. 5). Manager 2 once again differed in their interpretation of Direct Non-rehabilitation Focus, which was seen as the task being carried out by the nurse and where it was "not related to the rehabilitation goals of a client" (QM2, p. 3). Contrasts were additionally seen in the interpretations of the requirements of the Indirect category within the timetable. Indirect was described as: "no active consideration from [a] rehabilitation perspective" (QM1, p. 5) by manager 1, and as "tasks where the client is not present e.g. attending a meeting about them, writing a report or taking a phone call" (QM2, p. 3) by manager 2.

Table 14 (p. 91) highlights excerpts from the managerial response to one question in the questionnaire. The answers in this questionnaire section specifically relate to the managers' examples of the terms used in the timetable, and where nurses characterise each intervention they enter.

Table 14: Managerial perspectives of terms utilised in the timetable (QM1, p. 5; QM2, p. 2).

Manager	Direct Rehabilitation Focus	Direct Non- Rehabilitation Focus	Indirect
1	Can be with client/or family. Education: self-medication programmes, wound care, diabetes management, review of goals/steps/strategies, sleep hygiene – management, continence management/toileting programmes. Requires some participation from client/ family i.e., teaching client's brother trache [tracheostomy] management. Can be teaching BP [blood pressure] – Vital signs if this needs to continue for a period of time. Can teach how to provide care. Can also translate to 'conversations' that the nurse is 'actively' looking and measuring cognition/responses/understanding/social interaction.	When clients/family not involved – i.e., provision of cares – no encouragement to participate, the nurse is 'doing' things e.g. vital signs, wound care, fluid balances, giving medication, PEG feeds – however if you teach client or family – then this translates to direct rehab focus.	No active consideration from rehabilitation perspective i.e., "slept well", "out for the day", "medications given", "stable". "Talked about going home today" – No analysis by nurse
2	With the client and working on a goal directed rehabilitation rehab task e.g. discussing the importance seizure management, actively working on self-medication, providing education on diabetes etc.	Completing a task not related to the rehab goals of the client – care based tasks e.g. PEG/Trachy [tracheostomy] cares (unless this relates to a rehab goal e.g. weaning etc.)	Tasks where the client is not present e.g. attending a meeting about them, writing a report or taking a phone call.

The response to the questionnaires suggest that the managers had different perspectives of what was and was not rehabilitation. The two managers had different health discipline backgrounds. Manager 1 had a nursing background, while manager 2 came from an allied health background. The variance in definitions given may have been influenced by their differing perceptions of a requirement to incorporate the client goals. Manager 2 speculated as to whether or not something was deemed 'rehabilitation' depended on whether or not the intervention related to the goals of the client. Manager 1, held a different perspective and saw rehabilitation as involving participation by the client, or their family/whānau. Manager 1's perspective also encompassed the intent of the nurse, whereby active assessment and measurement was seen as having a rehabilitation focus. These discordant interpretations created an inconsistency within the application of the framework, which the nurses were then required to navigate. Additionally, given that manager 2 led the design of the electronic client record within the facility, this perspective likely influenced the documentation framework within the electronic system.

Although there was no formal documentation policy within the facility managerial responses were similar in relation to documentation expectations. Manager 1 expected documentation for every client on every shift, while manager 2 likewise expected "all client contacts and relevant interactions are [were] documented" (QM2, p. 2). These analogous expectations aligned with the information needed to complete the RCS. As part of their role, managers were required to ensure there was evidence of input, which supported the specific level at which the ACC was then billed for each client.

The managers aligned in their expectations and perspectives of the nurses' use of the SOAP note framework. Manager 1 commented: "the subjective component provides nurses with a place to start their conversation" (p. 6), however added this section is "rarely used" (p. 6). This was a point where both managers agreed, stating nurses appeared to be "more comfortable" (QM1, p. 6) and "strong in the objective" and "underuse the P (planning)" (QM2, p. 3).

5.4 Primary Description of Nurse Interventions

This next section reports findings from Phase B, which comprised of data from the electronic client records system. It included information from both the nursing notes and the timetable. Data were extracted and de-identified from two time periods, the first from 2014 and the second from 2015.

Data recorded by the nurses from the nursing notes and timetable were coded into 10 categories (termed in NVivo as parent nodes). The categories are presented in Table 15

(p. 93). The first column is the primary category describing the interventions. A definition of each intervention category is then provided, along with an example. A full list of coding descriptors is documented in Appendix J.

Table 15. Primary descriptions of nurses' interventions

Primary Intervention Category	**Description**
Task – Doing for	Documentation of the intervention as a task completed by the nurse where no interaction with the client (beyond that necessary for the task) was documented, giving the appearance of 'doing for' the client e.g., Enteral feeding and stoma care: *Tasks involving enteral feeding and care of stoma.*
Assessment	Assessment of client e.g., Bowel assessment: *Documented assessment of bowel function*
Coaching – Doing with	Working with, encouraging or prompting the client e.g., Activities of daily living: *Encouraging or prompting WITH activities of daily living includes toileting, showering, dressing, grooming*
Education	Provision of education to the client or their support persons e.g., Behaviour management: *Discussion of behaviour or education of appropriate behaviour*
Clinical rationale	Nurse documenting their opinion or clinical rationale
Making recommendations	Nurse making recommendations to team members includes rehabilitation planning and goal setting with steps and strategies e.g., Discharge planning: *Planning client's leave or discharge, with or without the client*
Documentation	Task of documenting e.g., Information sharing: *Documentation with the purpose of sharing information to any team member, with no evidence of active assessment or involvement*
Support	Giving emotional/social support to others e.g., Social interaction: *Nurse documenting social interaction with the client*
Interprofessional team (IPT) review or discussion	Documentation of interaction with team members internal or external e.g., Medical team: *Interaction with medical team includes documentation of discussion, relaying medical instructions or new orders*
Miscellaneous	Interventions that were unable to be coded into other detailed categories

As noted in section 4.7.2, data were viewed in the two time periods and separated into modes of entry, that is, nursing notes and timetable entry. When analysing the data, trends were seen relating to the frequency with which the categories were entered. Subsequently, the primary description of nurses' interventions were analysed, in terms of their frequency with which they occurred in each dataset. Ultimately, to generate

information about research propositions 1 and 2, I needed to identify the nurses' documentation patterns.

Table 16 demonstrates patterns in the interventions documented, where three primary categories were dominant. Across both nursing notes, timetable modes and time periods, nurses frequently documented: (1) their assessment of the client (32.4%); (2) tasks, or what they were 'doing for' the client (27%); and (3) their time spent completing documentation (23.1%). Least frequently recorded were clinical rationale (0.5%); IPT review or discussion (2.1%); making recommendations (3.5%); coaching (4.6%), and, education (4.9%).[33]

[33] Combined percentage across both nursing notes and timetable modes and time periods.

Table 16. Number of occurrences of interventions entered within each time period and electronic modality, expressed as numbers and percentage of total

Primary category	**Time Period 1 – NN**		**Time Period 2 - NN**		**Combined Totals - NN**		**Time Period 1 - TT**		**Time Period 2 - TT**		**Combined Totals - TT**	
Task – Doing for	626	26.2%	591	28.4%	1217	27.3%	564	36.6%	642	21.5%	1206	26.7%
Assessment	708	29.7%	595	28.6%	1303	29.2%	564	36.6%	1045	35.1%	1609	35.6%
Coaching – Doing with	88	3.7%	141	6.8%	229	5.1%	108	7.0%	78	2.6%	186	4.1%
Education	93	3.9%	60	2.9%	153	3.4%	148	9.6%	137	4.6%	285	6.3%
Clinical rationale	38	1.6%	9	0.4%	47	1.1%	0	0.0%	0	0.0%	0	0.0%
Making recommendations	147	6.2%	113	5.4%	260	5.8%	9	0.6%	44	1.5%	53	1.2%
Documentation	559	23.4%	449	21.6%	1008	22.6%	93	6.0%	972	32.6%	1065	23.5%
Support	47	2.0%	51	2.5%	98	2.2%	41	2.7%	29	1.0%	70	1.5%
IPT review or discussion	80	3.4%	70	3.4%	150	3.4%	11	0.7%	30	1.0%	41	0.9%
Miscellaneous	0	0.0%	0	0.0%	0	0.0%	4	0.3%	4	0.1%	8	0.2%
Totals	2386	100%	1542	100%	4465	100%	2079	100%	2981	100%	4523	100%

Note. NN = nursing notes; TT = timetable.

There were differences in the interventions most frequently documented between the two time frames where some categories were reported with different frequency in 2014 compared to 2015 (Refer to Appendix L for related graphs). Overall, the frequency of entries in all categories decreased within the nursing notes over the two time periods, with nurses' entries coded into 2,386 categories in 2014 and only 1,542 in 2015. However, in 2015, timetable entries increased from 2,079 to 2,981, with some categories increasing more than others. In the timetable dataset, the category of Documentation increased from 6% of timetable entries in 2014 to 32.6% in 2015. In total, 564 assessments were documented in the timetable in time period 1 (2014 dataset), compared with 1,045 assessments recorded in time period 2 (2015 dataset). Overall, these datasets indicate that nurses wrote with a different focus at different time periods. There was a clear increase in 2015 to document within the timetable mode, while nursing notes became less frequent across the time periods.

Figure 3 (p. 97) provides a graph of the most frequent categories that nurses documented. Their documentation of coaching, education, and support was negligible compared to documenting the tasks that they completed for a client, and their assessment of those clients. To gain further understanding of what nurses were documenting, the next section reviews detailed sub-categories within each primary category.

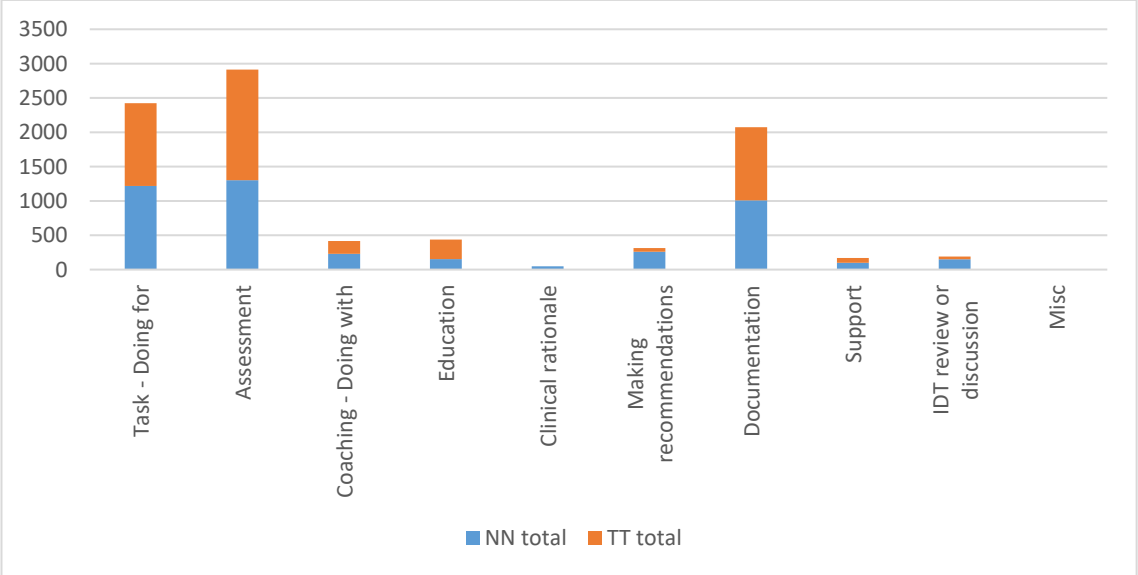

Figure 3: Nursing notes (NN) and timetable (TT) data across the primary categories combined for both periods

5.5 Detailed Description of Nurses' Interventions

Data were obtained from further analysis of each primary descriptor (NVivo terms these "child nodes"). All descriptors can be found in Appendix J. Key findings are discussed in order of the primary categories (listed in 5.4). An outline of specific interventions included in the primary categories is provided first. Variations in frequency of documentation are highlighted and relevant changes across the time periods are discussed.

5.5.1 Tasks – 'Doing For'

The primary category of Tasks was additionally coded into 13 detailed sub-categories. These interventions related to nurses 'doing for' the client. I used Pryor's (2005)[34] term 'doing for' with this category, to capture when nurses documented the intervention as a task where no interaction with the client was recorded. It is acknowledged that interaction was most likely present, as some tasks would be unlikely to be completed without some engagement with the client, however, the input of the client was not, in itself, documented. An example is seen within sub-section 13: Tracheostomy management. The descriptor is 'Tasks relating to care of tracheostomy and stoma'. An example within nursing notes dataset was: "she has had 2 hourly trache [tracheostomy] cares, no suctioning required" (Ref 2, Tasks, NN). This example gives no indication of client interaction

[34] Refer to 4.7.2 for discussion of Pryor's work.

and references in timetable dataset were similarly worded, for example, ‘trachy [tracheostomy] management’ (Ref 1, TT).

The sub-categories within the Task – ‘doing for’ category included:

- 1:1[35]
- Bowel and bladder management
- Dialysis management
- Enteral feeding and stoma care
- Eyecare
- Fluid management and meals
- Medication
- Oral hygiene
- Pain management
- Personal care
- Positioning and splinting
- Sensory stimulation
- Tracheostomy management

There was variability between the frequencies of different sub-categories (see Appendix K for a detailed breakdown of sub-categories). In addition, changes were notable in some sub-categories across the two time periods. Caution must be exercised given statistical analyses were not used, and it was difficult to determine if these differences were due to different documentation practices of specific nurses or to the pattern of clients, as their impairments and nursing requirements were unknown. However, the variations were seen within common intervention sub-categories. For example, medication was documented 268 times on the timetable in 2014, however, only 25 times in 2015. Enteral feeding and stoma care were recorded on the timetable 108 times in 2014, and yet 417 times in 2015. Because the variations across these generic categories are so apparent, it may also point to a non-standardised or inconsistent pattern of documentation practice in the rehabilitation facility.

Overall, nurses in this cohort were more likely to document medication, enteral feeding and stoma care, bowel and bladder management in the Task category.

[35] 1:1 refers to specifically allocating one staff member to be with a client at all times

5.5.2 Assessment

There were 14 detailed sub-categories coded within the assessment intervention:

- Alert, concern or fall investigation
- Bowel assessment
- Cognitive assessment
- Communication and social interaction
- Diabetes
- Diet, nutrition and fluid assessment
    - Eating and drinking well *(subset)*
- Observations
- Pain assessment
- Personal care
- Physical assessment and falls assessment
- Self-medication assessment
- Skin assessment and pressure area care
- Wound assessment and management

An example is 'Diet, Nutrition and Fluid Assessment', the descriptor is: 'Assessment of diet, nutrition, weight or fluid including client initiation and dependence levels of eating or drinking. This excludes the nurse coaching a client with meals'. An example taken from the nursing notes was:

> *Client had weetbix for breakfast and managed to lift the spoon to his mouth independently for most of the food. He was quite fatigued at lunch and only managed a couple of spoonfuls. He did not manage to chew the chicken.* (Ref 53, Assessment: NN)

An example from the timetable dataset was "diet/fluids assessment" (Ref 1, TT).

I extracted an associated sub-category in the Diet, Nutrition and Fluid Assessment sub-category, when the nurses stated "eating and drinking well", in their nursing notes. I kept this statement under the primary category of 'assessment', as the nurse documented their assessment by giving a measure of how the client was eating and drinking (i.e., utilising the term 'well'). However, 'well' was acknowledged as a colloquial nursing term, as nurses did not specifically evidence a rehabilitative assessment focus. 'Eating and drinking well' was documented 269 of the 355 total codes in Diet, Nutrition and Fluid Assessment.

The most frequently recorded intervention in both nursing notes and timetable documentation was Self-medication assessment, followed by Nursing assessment, which included assessments that were identified within the speciality of nursing practice, and were not allocated within other categories. For example:

> *Client was awake for majority of the night. Eyes were wide open and she communicated well with us, said she just can't drift off to sleep. At around 0400 we heard her talking loudly and found her awake and slightly confused. She has the sensation of something stuck in her mouth, like a thread which is running through her whole body. She said she kept pulling it and pulled it out down below??? Also described a tingling feeling. Reassurance given but remains convinced of this sensation. Foot splints taken off and repositioned in an attempt to make her more comfortable. All other orientation question answered appropriately. Client also said that her "shocks" keep her awake or wake her up frequently. No twitching observed whilst in room, legs are very restless though.*
>
> *Email sent to doctors.*
>
> *Client finally asleep by 0530. SPC drained freely overnight. Dipstix show moderate haemolysed urine, trace of protein, Leukos ++.* (Ref 2, Assessment: NN)

As with the Task sub-categories, there were notable differences between the two time periods. For example, continence assessment was documented 68 times in the nursing notes in 2014 and 5 times in 2015; and on the timetable 45 times in 2014 and only 11 times in 2015. Physical assessment and falls prevention, was documented 92 times (NN, 2014), compared with 65 times (NN, 2015), and on the timetable twice (TT, 2014) compared with 137 times (TT, 2015).

5.5.3 Coaching

In general, Coaching was recorded with low frequency. The definition of Coaching was seen as, 'working with, encouraging or prompting the client'. This term was distinct from the 'provision of education', which was coded as Education (reported next). When coaching was documented, there were 9 detailed sub-categories recorded:

- Activities of daily living (ADLs)
    - Food and fluids *(subset)*
- Behaviour management
- Breathing exercises

- Coaching family/whānau
- Communication encouragement diabetes coaching
- Diversional activities
- Mobility
- Swallowing exercises

The most frequently recorded by nurses within both input modalities was behaviour management; followed by food and fluids. An example of behaviour management within the nursing notes was: “client was quite unsettled this shift, he has packed his bags twice and is adamant to go home, needed lots of redirection and orientation to encourage him to sleep. He was awake all night and just slept after 6am” (Ref 12, Coaching: NN).

5.5.4 Education

Education, as a primary category, was recorded with similar paucity as Coaching. I extracted 18 detailed sub-categories, with enteral feeding associated with food and fluids:

- Behaviour management
- Brain injury
- Continence education
- Diabetes education
- Family/whānau education
- Food and fluids
    - Enteral feeding *(subset)*
- Medication
- Orientation
- Physical and mobility
- Procedure preparation
- Rehabilitation process
- Rehabilitation progress
- Safety
- Symptom management: Fatigue, pain, sleep and relaxation
- Tracheostomy
- Wellness and smoking cessation
- Wound

Most frequently recorded was medication, followed by orientation. An example of medication education being: “client took his medications. He was aware that his warfarin had increased and asked about this and I explained how the dose was worked out” (Ref 25, Education: NN).

Least frequently recorded were tracheostomy education and wound education. Overall, very few education sessions were documented in either the nursing notes or the timetable. It was interesting to view the areas where nursing is associated with having a lead responsibility like medication (92), wounds (4) and continence (12); while medication was the most frequently discussed it was striking that education on wounds and continence were amongst the least documented. In areas where allied health colleagues played joint roles, nurses documented most frequently in orientation (75), family/whānau education (61), and symptom management (60). However, education in the areas of tracheostomy (3), brain injury (14), and rehabilitation progress (13) were seldom documented. Aside from their documentation of medication education, nurses tended not to write in areas where it might be expected they would play a lead role within the team. This sample highlighted how they documented with more frequency in other joint interprofessional role areas.

5.5.5 Clinical Rationale

It was even more uncommon for nurses in this sample to document their opinion or clinical rationale. The reasoning behind their actions was recorded just 38 times (out of a possible 2,386) in 2014, and just 9 times (of a possible 2,079) in 2015 in the nursing notes samples. While clinical rationale was recorded at least once by 14 of the 22 nurses, a rationale was written 19 times by Nurse 4, and 7 times by Nurse 14, reflecting variation in individual documentation patterns. Here is an example of clinical rationale:

> *Client has been having Normacol 1tsp at 1700hrs for the past 5 days, (administered by mother) so will need more fluid to cope with this extra bulk forming aperient. 2000mls of water in total, oral deficit made up with fluid by PEG.* (Ref 6, Clinical rationale: NN)

5.5.6 Making Recommendations and Planning

This category was split in two sub-categories:

- Making recommendations and planning

- Discharge planning

The majority of nurses' recommendations were comments to their nursing colleagues; these tended not to make recommendations to the team. For example: "Continue to check BSL [blood sugar levels] pre-meal and keep him educated about diabetic diet" (Ref 57, Making recommendations: NN). Rare exceptions were found where comments were likely to be helpful to the IPT, as they explained the nurse's focus or plan:

> *Consider changing rooms to one nearer the office when a room is available next week if [client name] is not ringing her bell. At present client feels she needs to be close to the toilet as she has problems with her bladder.* (Ref 57, Making recommendations: NN)

The second sub-category was discharge planning. All documentation related to discharge planning was recorded in the timetable, and 88.5% of these were unscheduled interventions; that is, recorded after the event. Nurses seldom booked themselves to attend a discharge-planning meeting or scheduled this intervention with clients. In this sample of 26 episodes, just 9 of the 22 nurses recorded this intervention, with Nurse 4 documenting discharge planning 9 times, and Nurse 6 recording 6 episodes, again suggesting a level of individual variation.

5.5.7 Documentation

There were seven detailed sub-categories within the Documentation category:

- Documentation
- Highlighting an issue
- Information sharing
- No concern
- Staff support
- Risk assessment or management
- Social support

The most frequently recorded item was in the timetable, where nurses recorded the intervention of 'documentation'. As this intervention was not clarified by nurses, within the timetable, I entered this separately as a sub-category. The other six detailed sub-categories were coded from the nursing notes (with the exception of one code of social support from the timetable). I coded the NN categories after deciding what the purpose of the notation was. For example, if

the nurse appeared to be documenting that they had ‘no concerns’ regarding the client, this was recorded as such. Conversely, if the nurse appeared to be documenting for the purpose of ‘highlighting an issue’ or ‘sharing information’ with others, these were coded within those categories. The important thing to note within this category, was that the nurse articulated no evidence of active assessment, or involvement from themselves. Here is one example:

> *Client was settled this shift. He had a shower this morning and had good breakfast. He stayed in the lounge until 1000H. He was visited by his wife, daughter and son in law. He got up on the wheelchair and stayed in the lounge till 1400H.* (Ref 89, Information sharing: NN)

While this documentation example shares information about the client’s routine, it does not give details of assessment, for example, independence levels, or the nurse’s interaction with client.

One of the other codes included in this category was ‘social support’; it was coded within this category if the nurse wrote as an observation. If the documentation was written describing support they had given, it was included in the ‘support’ primary category (see 6.3.8). An example of ‘social support’ in the Documentation category being: “His family was seen taking him for an assisted walk” (Ref 11, Social support: NN), or: “Her mum stayed with her overnight. Heard mum and client talking and laughing inside the room before they went to sleep” (Ref 13, Social support: NN). Again, no interaction was noted; instead, the nurse wrote purely as an observer.

In summary, Documentation was the third largest category of the primary categories. The most frequently recorded was the self-described category of ‘documentation’ by nurses on the timetable. However, within the Documentation category there were still a large percentage of documentation codes recorded with the nursing notes, which did not articulate the nurse’s own input (i.e., assessment or intervention, particularly when compared to other categories such as support, coaching or education) (refer to Table 17).

Table 17: Comparing the Documentation category (combined time periods) within the nursing notes to Support, Coaching and Education categories.

Primary category	Documentation (NN)	Support (NN)	Coaching (NN)	Education (NN)
Number of codes	1011	98	309	181

Note. NN = nursing notes.

Table 17 suggests that the nurses believed that apportioning the time they took to complete their documentation was important in this facility. They tended to be less attentive to documenting their input relating to support, coaching, or education. There was an impersonal nature to their writing, which tended to suggest they were concerned with articulating event occurrence only.

5.5.8 Support

Support was another rarely documented category across both the NN and the TT. It involved documentation of active emotional or social support with another person and was split into five more detailed sub-categories depicting the type of support and who was included:

- Discussion
- Family/whānau
- Reassurance and emotional support
- Social interaction
- Staff support

The most frequently documented node within this category was ‘reassurance and emotional support’, for example:

> *Wife visited over lunch time. She reported that he appeared very upset as he thought he was going home. He also said, "Everything changed here". Apparently, he meant his fellow clients moving onto other floors. He showed good insight but it also made him sad. Lots of reassurance given.* (Ref 7, Reassurance and emotional support: NN)

5.5.9 Interprofessional Team Review or Discussion

As with documentation of clinical rationale and making recommendations, the nurses in this sample tended not to document their interaction with other team members. The sub-categories incorporated who nurses were reviewing or discussing the client with, including:

- Dietician

- External
- Handover
- Medical team
- Allied health

This category was curious as it revealed a clear pattern with whom nurses recorded their discussions and reviews. This cohort recorded interaction with medical staff 118 times, versus their allied health colleagues whom they noted 10 times, the same number as the dietician who visited the facility every 1-2 weeks. Five nurses had no documentation within this category, while Nurse 10, alone, documented 42 of the 145 episodes recorded. The other striking statistic is that they did not document their handover to each other, with a combined total of just 7 instances. While handover occurs three times each day, at shift completion, it was nearly invisible within both recording systems.

5.5.10 Discussion of Primary Categories

The audit demonstrated what activities nurses were most likely to record. The most frequently documented were in categories of Tasks, Assessments, and Documentation time. Within the Task category, documentation of giving medication and enteral feeds as well as bowel and bladder management, were most commonly recorded. In the Assessment category, the self-medication program was most frequently documented as well as a generic nursing assessment, particularly within the timetable dataset.

Additionally the audit demonstrated the style of documentation that nurses used within their nursing notes. Nurses considered what the client was doing, but included little or no record of their input, such as observations, checking medical status or ADL setup. Some information about nurse interactions that might have also occurred such as provision of physical or verbal cues, providing choice, and supporting decision making are absent from the entry. Nurses tended to write in a formalised or *impersonal style,* where interventions were merely articulated as completed. While this documentation style evidenced task completion, it did little to show the contribution of the nurse during that shift for a specific client. An example is this entry from Nurse 6:

> *Client had an independent shower this morning with set up. He has attended all his therapies. Refused breakfast as is his custom, he had a Fortisip, and coffee. Eating and drinking well.*

> *Walking with his crutches. His observations are unremarkable, he is afebrile.* (Nurse 6, line 6240, raw dataset)

The same impersonal style of writing was seen when nurses wrote their discussions with team members. Nurses were far more likely to record their discussion with medical staff than with allied health. This disparity in recording interactions with different team members, may be due to the nursing custom of ensuring they have medico-legal coverage in reporting concerns rather than signifying the nature of teamwork within the facility. To include this observation, I decided to describe the nurses' documentation style as *impersonal-regulatory.* This will be explored further in Phase C (nurse interviews). A further unanticipated finding was that nurses did not appear to document interventions that could be traditionally thought of as 'nurse-led'. Their documentation of wounds or continence education was particularly sparse as was written evidence of coaching activities. It should be acknowledged at this point that nurses may simply not have been doing these interventions, and therefore, were not documenting them. Hence, this line of questioning became important during the interviews to gain the nurse's perspectives. The contradiction in recording Education interventions was self-medication, which was well documented both in terms of assessment and progress. Additionally, within the primary categories, nurses were reluctant to give recommendations or provide a clinical rationale for their actions, so reading each other's documentation would not provide guidance to newer staff about decision-making. The next section looks at how nurses designated their interventions using the inbuilt system designed to assist with the facility's billing processes.

5.6 Nurses Designation of Interventions According to Rehabilitation Focus and Client Contact

Within the timetable, nurses were required to designate if their intervention was Direct non-rehabilitation focus, Direct rehabilitation focussed, or Indirect. This was a requirement shaped by the contract and integrated within the funding structure.[36] There were no guiding documents to assist nurses in this choice. Consequently, they independently defined each activity or intervention that they entered into the timetable. Figure 4 (p. 108) presents the primary description of interventions that nurses documented and how they designated these

[36] Refer to 5.2.4

interventions. Clinical rationale is not included as there were no episodes documented within the timetable of this category.

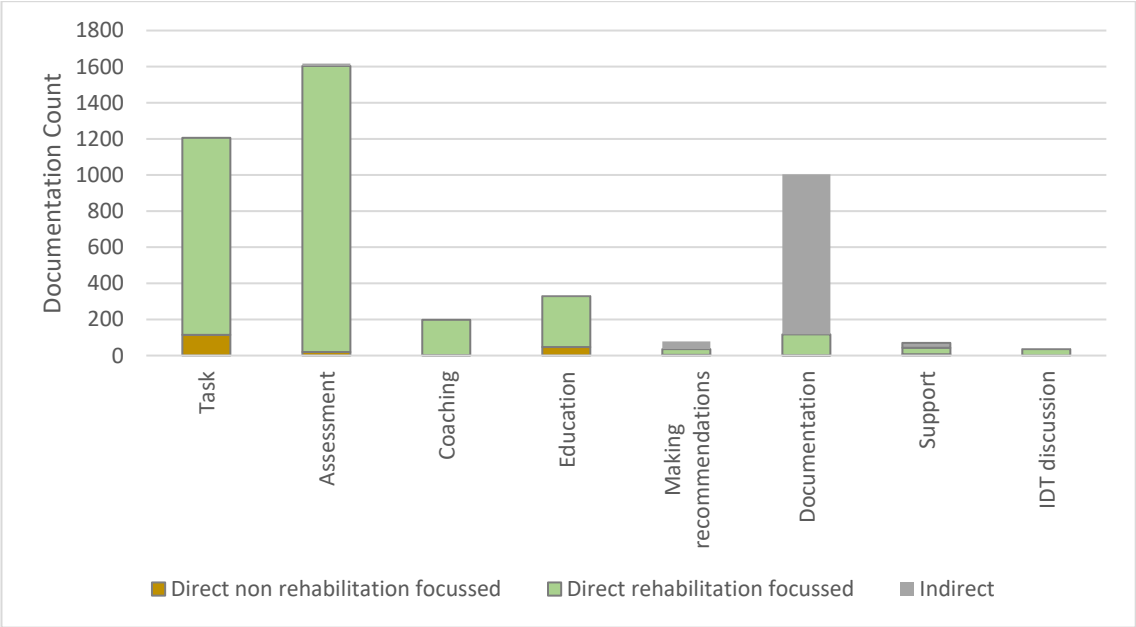

Figure 4: Intervention (primary category) and intervention type

Overwhelmingly, nurses tended to code their interventions as having a rehabilitation focus. Whereas the highest total of Indirect was in the area of documentation, there were still 177 episodes that nurses recorded their documentation as having a Direct rehabilitation focus. This equated to 16.6% of the total in this category. There were many other points of interest within this area of analysis with 14% of interventions within 'education' coded Direct non-rehabilitation. Similarly, within the area of support, all family/whānau support was coded as either Indirect (24 episodes) or Direct non-rehabilitation (3 episodes). While 25 of the 26 episodes relating to the medical team discussions were coded as Direct rehabilitation focus, all 3 episodes of handover (to other nursing staff) were coded as Indirect.

5.7 Comparison of Individual Staff Documentation Patterns

Proposition 6 was that the daily work of rehabilitation nurses (perceived and documented) would vary according to experience. Many of the primary intervention categories within the analysis indicated differences in documentation patterns when viewed at the individual nurse level. Although, in this analysis, a correlation was not able to be made about the nurses' experience levels, as the nurses were de-identified, it was possible to isolate different nurses'

documentation across the time periods. Table 18 (p. 109) presents the nurses who worked across both time periods, and their documentation patterns in the primary intervention categories which showed the most variance. They were in the Task, Assessment, Coaching, Education and IPT review categories.

Table 18: Selected staff entry patterns

Staff ID	Total days entry into NN	Entry count in NN	Entry count in TT	Task NN/TT	Assessment NN/TT	Coaching NN/TT	Education NN/TT	IPT review NN/TT
1	17	296	618	16/16	108/249	13/3	7/4	14/1
2	12	29	220	42/1	85/27	19/0	1/0	6/0
4	29	927	613	93/14	244/7	26/26	14/70	18/3
6	24	324	789	142/ 143	175/88	36/66	27/68	4/3
10	34	791	687	194/0	317/1	36/69	27/57	42/31
13	31	125	629	137/6	85/7	17/1	3/16	1/0
14	21	433	930	67/41	153/47	10/12	7/16	20/0
21	23	202	804	143/13	152/184	32/3	41/0	12/0

Note. Staff ID = staff identification; NN = nursing notes; TT = timetable; IPT review = interprofessional team review.

Table 18 illustrates variance in documentation patterns, highlighting that each nurse had unique patterns in where and what they documented. The staff comparison dataset was split into a selection of nurses who had worked across both time periods so that there was consistency in collation. Some nurses were much more likely to use colloquial phrases within their documentation; for example, nurse 4, who entered 1540 interventions (the highest of any nurse), never used the phrase “eating and drinking well”. Nurses 6 and 10 (total interventions 1,113 & 1,478 respectively) used this colloquial phrase the most, totalling 49 and 48 times respectively.

Most nurses showed a preference for where they documented, whether that be nursing notes or timetable, although two nurses documented in large amounts across both modalities. Nurses 4, 6, and 10 were most prolific in documenting coaching and education sessions, while Nurse 10 was the main documenter of

discussions with the IPT. In keeping with the earlier IPT analysis (refer to 5.5.9), documentation with their allied health colleagues was minimal compared with nurses' documentation of their interaction with other staff/colleagues. Figure 5, below, presents the documentation pattern of Nurse 10 in relation to the IPT review/discussion category.

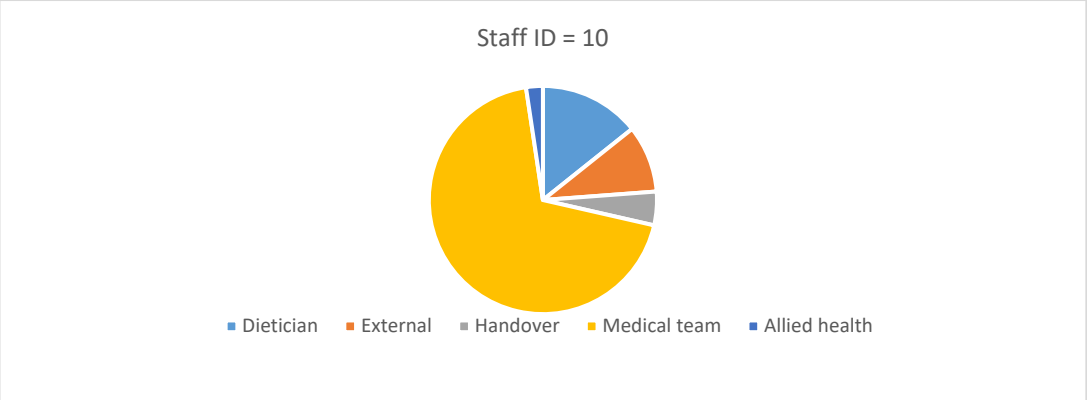

Figure 5: Pattern of Nurse 10's documentation of interprofessional team review or discussion

All nurses wrote with more frequency about tasks and their assessment of clients. However, they were less likely to write of their analysis, education, or interactions with other team members. What stood out was the individual variation of nurses' documentation patterns. It could not be determined from this data whether this arose from their preferences in terms of communication interactions or if this reflected a documentation pattern.

5.8 Summary

This chapter has presented data from Phases A and B. I included initial considerations of what might be occurring in the facility and how nurses tended to document, noting questions to ask the nurse participants in Phase C. In trying to understand what the influences were on nurses' documentation of their contribution, I gained contextual understanding about the nurses' environment from facility policy and procedures, and the managers' perspectives. The rehabilitation facility itself separated nurses environmentally from their allied health colleagues, where the nurses' office area was within the client space, and they were on-hand to clients at any time throughout their shift. Nurses had disproportionate staffing ratios when correlating to AFRM standards, and the staffing care relied heavily on non-regulated workers. The contract for services also differentiated the input of nursing from allied health, describing nursing "services" as opposed to "active therapy". This differentiation was reiterated in

the funding measure, the RCS, where nursing input was also distinguished from that of allied health. The other potential influence on the nurses' documentation was that there was no formal guidance of what content was expected within the electronic client record; rather, there was an assumption that the nurses would professionally be aware of the content required.

Prior to the research, I proposed that nurses may have withheld communicating their contribution to others. To identify if this was occurring, I enquired into nurses' attendance at team meetings. In the two weeks of the managerial questionnaire, despite multiple meeting opportunities, only one nurse attended a single IPT meeting. This will be explored further in the next chapter. There was also a distinction found between the managers, in interpreting key definitions used for funding invoicing. This is important as it highlighted an inconsistency in interpretation of key terms, particularly when nurses were expected to input their contribution into a framework that had been designed for time-bound interactions.

Nurses in this cohort wrote mainly of their assessments and tasks they performed for (doing for) their clients. They also accounted for the time their documentation took, noting this predominantly on the timetable. Nurses tended to document with an impersonal-regulatory manner, where they recorded interventions as completed, without noting their own interactions or discussions with clients. In reading their notes, it seemed as if nurses viewed a situation, and yet, as I read, I was not sure if they were there and took part in the event, or just heard about it from other staff. This documentation technique did not reflect the unique and very important role that nurses had within the rehabilitation team. It was also inconsistent with their own designation of timetable interventions, which they most commonly coded as having a direct rehabilitation focus.

There was also variation in how, what, and where information was recorded across the two modalities and between the time periods. While some variation could be accounted for through a changing client population, the discrepancies were often within generic categories, which were likely to be constant to most clients at any given time. It is unclear whether there were certain organisational campaigns at these times, or whether this was a result of individualised and changing nursing choices.

In this analysis section, I had considered that I would gain an understanding of how nurses framed the rehabilitation work that they did, and whether there were trends in the documentation of some interventions as non-rehabilitation. The

results of the nurses' classification were encouragingly surprising to me, as the overwhelming trend was that the majority of the interventions that they added to the timetable, were coded by the nurses as rehabilitative. There were exceptions within the data, particularly in the education subset, where it was difficult to recognise what content would be regarded as non-rehabilitative. That said, while the nurses' documentation in primary categories and detailed sub-categories were written overwhelmingly as a Task, describing their input to the client, they recognised and legitimised that their contribution was framed in a rehabilitative model. Therefore, even though they appeared to need to write their nursing notes in an impersonal-regulatory manner, this did not embody their perception of their contribution to rehabilitation.

I also questioned, at this stage, whether the timetable was used as a 'to do' list, or if it was a method of communication between staff, and this was one of the questions which was taken through to Phase C. The next chapter will analyse data from Phase C of this research. Importantly the next phase seeks the nurses' opinion about their documentation and the choices that they made.

Chapter 6 – Nurses' Perspectives

> *I just find that I'm a real nurse, nurse as in action nurse. I don't do paperwork very well! And I don't like that it disrupts or takes away anything that I'm doing with my clients.* (N2, p. 3)

6.1 Overview

Chapter 5 presented findings from Phases A and B. Findings from Phase A described the environmental context that the nurses worked within, and findings from Phase B reported the trends in the nurses' documentation. Several important tendencies and potential causal mechanisms were uncovered. These included the environmental working conditions that limited nurse interactions with each other and the wider rehabilitation team; the contractual pressures associated with establishing the rehabilitative nature of each nursing intervention and which segregated nursing and allied health inputs; and ambiguity of key terms in coding interventions. Data from the electronic record revealed nurses documented assessment and tasks with greater frequency than interventions of support, coaching, or education. They seldom wrote of their participation in an event, but wrote of the task being completed in an impersonal-regulatory manner. There was great variation in documentation recorded between time periods and between nurses, which I theorised may reflect unclear expectations of what was needed.

To gain further understanding of trends discovered in the previous chapter, it was considered valuable to gain the nurses' perspectives of the data gathered and initial mechanisms. The themes are considered against the earlier data about context and documentation. The interview with nurse participants provided a richer understanding relating to several of the research sub-questions, in particular, identifying the influences of their documentation and how these influences shaped documentation of their contribution. My analysis of the interview data aligned with the strategy of 'normative analysis' explained by Vincent and Wapshott (2014), which attempts to understand how and why participants do what they do.

This chapter describes the key findings of the six interviews with participating nurses. I start by giving an overview of the sample size, employment and demographic data from the nurses who were interviewed, followed by an explanation of the key themes that emerged from the analysis.

Six registered nurses (of a possible 10) agreed to take part. Table 19, below, indicates the demographic characteristics of the nurses. Only general details are provided to protect confidentiality of those involved. Numbers were assigned to nurses within the analysis (N1–6); however, the numbers, which are included in the excerpts from the data presented later, do not correspond to the table below to further support participant confidentiality.

Table 19. Nurse demographic characteristics

Country of Nursing Education	Total Years of Nursing Experience	Rehabilitation Experience in Current Facility	External Rehabilitation Experience
Asia	15+	< 6 months	No
Europe	5	< 6 months	Yes
Europe	10+	1 - 2 years	Yes
NZ	10+	1 - 2 years	No
NZ	10+	1 - 2 years	No
Pacific	15+	>2 years	No

Previous rehabilitation experience and length of time spent within the facility varied within this group. Only two nurses were trained in NZ. Another notable feature is that only two nurses had previous rehabilitation experience before joining this facility.

The six themes that emerged from analysis of the interview data were:

- Generic induction processes;
- Compartmentalised versus integrated views of nursing and rehabilitation;
- Documentation in the context of a divisive funding system;
- Wider environmental constraints on documentation;
- Feeling of an undervalued contribution; and,
- Perception of a reduced nursing role with independent clients.

The next section explores these themes and illustrates them with excerpts from the data. Quotations from interview transcripts were edited by omitting repeated

and filler words (e.g., um) for readability, and correcting grammar to support confidentiality of the nurses involved.

6.2 Generic Induction Processes

A key discovery revealed in the interviews was the impact of the induction process used for new nursing staff. As previously noted in 5.2.5, during the induction period all new staff individually met with an assigned manager to orientate to the electronic client record system. Nurses described this education session as teaching the structure, navigation, and components of the system but not giving an understanding of appropriate content or, how to document from a nursing perspective.

Some nurses reported that they were initially confused about their role in entering activities on the timetable. Nurse 1 stated she thought entry was only "added by the coordinator or the therapist" (N1, p. 2) adding, "when I first started here no one told me the [timetable] function for a start" (N1, p. 2). Another nurse had observed the non-regulated staff signing off activities completed on the timetable, so had assumed it was not a nursing responsibility, "the timetable was more used for the non-regulated staff, you know where they sign off for things" (N3, p. 4). Although the nurses had each attended a 1:1 teaching session with an assigned manager for orientation to the electronic client record and timetable system, they reported little input in constructing each client's timetable on a daily basis and generally saw this as something allied health or the rehabilitation coordinator (non-regulated role) would do.

Nurse 2 explained that she had been through the teaching session yet was still confused. She commented that it was not until she met with the senior nurse that she understood the system better and what data needed to be extracted,

> *I really struggled with that. I found it very overwhelming. I found it very… disjointed, the whole thing… I didn't understand how one fitted with the other… what was really expected of me in terms of what I should and shouldn't be documenting. And why, what the rationale, why, why as a nurse is that important. It wasn't really, until recently when [nurse manager] started to speak about RCS scoring which I sort of, the penny dropped and went okay so this is why it's not getting reflected.* (N2, p. 7)

The need to learn the appropriate content to enter into the electronic client record and the rationale for that content, from someone who brought a nursing perspective, appeared to be just as important as learning the structure. Some

nurses articulated the need for the provision of examples and practical sessions when they were learning to use the system to aid their skills. Nurse 4 talked of how she “read what other people have written” (N4, p. 6). This form of learning reinforced the cultural norms of the facility whereby they tended to learn documentation (rightly or wrongly) from colleagues.

The clinical notes used the SOAP framework, but the nurses were inconsistent in their approach to this framework. During the orientation period, similar to the way they learned about data entry into the timetable, nurses learnt the system for clinical notes in two ways: through discussion with their nominated buddy support and, by meeting with an assigned manager for individual tuition. The individual nature of the buddy orientation process meant that whether, how, and what information was discussed was not recorded in a policy document. Additionally, as previously mentioned, nurses reported that the individual session related to orientation to the system rather than content requirements or suggestions (Refer to 5.2.5).

Data from Phase B demonstrated there were differences amongst nurses as to the information they entered in the specific SOAP sections. This content variation was particularly evident in the Subjective section. Some nurses described this section as where they wrote comments that the client had said, while others said this was where they put their own thoughts. Nurse 5 stated, “I use subjective when a client says things, they make statements” (p. 18), while Nurse 6 specified she would write, “the conditional status of the clients during the assessment and how they feel or the level of sort of engagement and conversation” (p. 19). Regarding documentation of their analysis (A) within the SOAP framework, Nurse 1 revealed that she seldom filled in this field,

> *Most of the time we don’t really analyse the issues. Because for the normal shift, unless you’re doing some assessment, where you can write analysis, but for the normal shift you don’t really analyse the client. If they had attended all their therapy sessions and they comply, you know with their medication whenever it’s due and do all the administration and if they’re eating, drinking well. What do you require for the Analysis?* (N1, p. 15)

In contrast, Nurse 4 stated, “my analysis could be something like possible UTI or infected wound or just anything that I think that may be the cause of the issues that we’re having” (p. 21). This inconsistency was problematic considering their

earlier comments of being guided in their documentation practice by nursing colleagues as they entered the facility.

Nurses' discussion suggested difficulty after induction to fully grasp and communicate the nursing role within rehabilitation and, consequently, how to document within a rehabilitation-nursing framework. Nurse 2 talked of her drive, when documenting, to try and illuminate the full range of activities[37] she was carrying out:

> *I have been recently making a point of doing* [documenting] *the unscheduled activities because I don't feel that what I'm doing on the floor is reflecting in the electronic client record. And why I'm not doing that is because I just find that I'm a real nurse, nurse as in action nurse. I don't do paperwork very well! And I don't like that it disrupts or takes away anything that I'm doing with my clients.* (p. 3)

Later she admitted, "I guess for me I don't have the rehab language yet. Even a year down the road if I'm to be utterly honest I still don't understand what a rehab nurse's role is at [facility name]" (N2, p. 5). These two comments suggest it took considerable time to feel confident in her overall role clarity and subsequently in her documentation content. Another nurse who had previous rehabilitation experience echoed these thoughts, stating

> *That's something I struggle with is with the ways certain people define their nursing or what their understanding of nursing is and that's I guess due to different cultural backgrounds and training backgrounds and whatever …I've got my standards and I've got my understanding of what care is all about and they are completely different to what other people have.* (N3, p. 28)

Nurses struggled to understand and work within the documentation system. The struggle was amplified by the limited provision of structured, practical nursing mentorship during induction to the facility's documentation systems. The generic approach used to induct nurses did not appear to fulfil their need for specific guidance. The lack of specific guidance was a concern when considering the demographics, which showed that few nurses were employed with previous rehabilitation knowledge on which to base their documentation practice. In addition, nurses were initially confused about their role in timetable entry; however, they believed their understanding was enhanced by a) gaining nursing

[37] Activities or interventions could be entered within the timetable as scheduled (that is set up in advance) or unscheduled (retrospectively added to the client's timetable). See Chapter 5.6.3 for further detail.

perspective of content required and b) learning why the information was needed. Within the SOAP format of the nursing notes, there was also inconsistent interpretation of terms and again, learning was from each other.

Questions about induction were not included in the original interview schedule. The theme of induction became visible early in the process of interviewing, and was explored further in subsequent interviews. Another theme that emerged from the interviews was the different ways nurses described their perception of nursing and rehabilitation.

6.3 Compartmentalised versus Integrated Views of Nursing and Rehabilitation

Some nurses saw their role as a nurse as separate from their rehabilitative service provision, while others viewed rehabilitation as integrated in everything they did. This clear distinction emerged throughout the interviews and was unexpected. When nurses talked about their practice, they viewed what they were doing in fundamentally different ways. These different perceptions of rehabilitation were not apparent during Phase B, not even in the timetable data, which required nurses to characterise their intervention as either rehabilitative or non-rehabilitative. Throughout the interviews, I asked questions about the nurses' perception of how they wrote about their practice. When describing the interventions that they implemented and where and when these were documented, some of the nurses compartmentalised rehabilitation and their nursing practice, seeing them as separate. Others, however, described everything they did as having a rehabilitative focus. This variance in underlying viewpoint was further evidenced when nurses talked about specific interventions and how they coded these within the electronic client record.

Time constraints limited nurses' documentation of their input and, therefore, had a role in shaping nurses' perception that rehabilitation was separate from and not an essential component of their role. The institutional influence of time will further be discussed within section 6.5; however, when one nurse was asked what she thought ACC required in her documentation, she stated, "I think like more rehab notes, more rehab input in our notes" (N5, p. 16). When asked if she thought about that when she is writing she responded, "I do think about that, it's just time and distractions yeah. Those things sometimes just go and then we are pressured for time and it's missed out" (N5, p. 16). This nurse viewed rehabilitation as an extra, which she knew was wanted but which she left out if there were time

pressures. Rehabilitation was something that she considered could be left out, something that was separate from the other things that she did. Throughout the interview, she often referred to her documentation in a systematic fashion. She was asked what was most important to document. She talked through different areas, for example, “I start off with a date and then weight . . . And then I do skin and pain, continence, yeah just like that and then family concerns” (N5, p. 5). This checklist-style method of documentation was a common feature in other nurses who compartmentalised their rehabilitative input as an extra, non-essential component of their work.

Nurse 1 revealed she did not understand writing in SOAP format when she first joined the rehabilitation facility and, like Nurse 5, utilised a checklist acute hospital-style format to her note writing whereby body systems were used as headings to provide prompts about what to write. She termed this “comprehensive nursing like head to toe, like vital signs and GI [gastro-intestinal], GU [gastro-urinary], pain, mobility, you know, step by step” (N1, p. 3). Both nurses 1 and 5, thought of their documentation in a medicalised body system type approach. What was interesting is that they also talked of rehabilitation activities as being extra, an additional entity that they engaged in and then chose to document, if there was time.

A client’s medical status also influenced whether the nurses’ documentation reflected rehabilitation as something separate from their role. Nurse 1 discussed how she viewed her documentation stating, “most of it is standard you know, like on days, because here, the clients are mostly medically stable and they just follow their timetable and are doing blah, blah, blah” (N1, p. 5). Her comment implied that the nurses’ role was prominent when the clients were not medically stable, and if a client was following a rehabilitation plan and timetable the nurses’ contribution was ‘standard’; therefore, documentation reduced. When this nurse was asked what she perceived to be most important for nurses to document she replied in a similar checklist approach to Nurse 5 stating she considered a client’s medical condition changes, behaviour, nutrition, wound management, and medication. Nurse 5 expressed the difficulty in adopting a checklist approach within rehabilitation when she worked with clients that were generally medically stable, because it left the nurses without perceived content, both in terms of their role and, consequently, their documentation. Therefore, a client’s level of function and stability was another key influence on whether the nurses compartmentalised their nursing from their rehabilitative role in their documentation.

There did seem to be degrees of compartmentalised thinking, where, for some nurses, the experience of working in the facility prompted a shift towards integrating rehabilitation in their practice and thinking. A newly recruited nurse, who had many years working in hospitals, highlighted this more integrated view of rehabilitation. She was aware that there was a difference in her practice between her previous hospital nursing role and her new, rehabilitation role, and that this rehabilitation role should be expressed in the documentation. She explained, “As time goes so my documenting is slightly modified as well” (N6, p. 7). She described the format of hospital documentation focussed on an accurate assessment of body functioning (e.g., limb power) whereas in rehabilitation her assessment of mobility involved the “capability of individuals” (N6, p. 7). When relating this to a specific client, she stated, “So how they perform, and I try to put that in. For some clients I missed them, yeah still slowly building up!” (N6, p. 7). While aware of a difference in nursing in a hospital compared to a rehabilitation setting, she described this shift in her view of nursing as a deliberate progression for herself. She was trying to integrate the two in her documentation but was aware that she sometimes missed it out. Although she was progressing in understanding a rehabilitative focus, her comments suggested a disconnected view of rehabilitation where it was something separate that needed to be thought about or added, rather than an underlying view of everything that she did.

Another nurse shared this theme of learning that the nursing role was different between hospital and rehabilitation. She also articulated a progression towards understanding how she should be documenting to reflect this different focus in her role. She commented:

> *I want to try and articulate* [in] *my notes, specific rehab notes. I don’t quite know, so I work through my body systems which is what I’ve always done at* [the hospital wards], *I go through the body systems and that’s complete nursing but, don’t really quite know how that fits into then rehab.* (N2, p. 5)

The distinction in thinking became particularly evident when asking the nurses to explain how they defined and utilised the facility’s intervention descriptors when documenting in the rehabilitation timetable. As described in Chapter 5.2.4, there was a facility requirement to code each intervention, assigning interventions as rehabilitative (direct rehabilitative focus) or non-rehabilitative. However, the timetable obligation to categorise their nursing work in this way found that nurses’ perception of rehabilitation, as integrated or compartmentalised, was fundamental to the way they entered the data. Nurse 1, who saw nursing as

separate and worked within a checklist-style approach to her documentation, stated:

> *Probably tracheostomy care is, is nursing care but it's not really direct rehab. But if you've given education for the tracheostomy like, for example we have a client, the family has been looking after their tracheostomy and you give education towards the family, that's direct. So any education type is considered as direct but if the RN is involved for a dressing change for example, then its non-rehab directed.* (N1, p. 9)

The group of nurses who viewed their interventions as tasks and separated the rehabilitative component likewise coded the tasks for RCS[38] scoring purposes in a more structured manner. They looked at the purpose of each intervention separately rather than viewing the intervention in a holistic, integrated way. In contrast, when Nurse 3 was asked to describe what she would code as a non-rehabilitative focussed intervention, she said:

> *What's a good example of that one? Um, it's hard to find an example …Basically everything well it's hard because its, everything. You can link everything to a rehab moment …I can't really find something that I do on a daily basis which is not, which is direct but not rehab.* (pp. 10-11)

Utilising an iterative approach to interviewing, I proceeded to give instances of what others had suggested as non-rehabilitative, such as tasks that the client did not perform or engage in themselves. She was given the example of tracheostomy cares, where a nurse may be seen as 'doing for' the client. Nurse 3 responded, "for me, that would be part of the weaning and weaning is part of rehab" (p. 11). This response exemplified an integrated rehabilitative view that fully encompassed those care tasks that the nurse was implementing for a client. Nurse 4 similarly responded to the idea of timetabling some interventions as non-rehabilitative stating:

> *Because in my eyes it's all like for the rehab isn't it? You know to be medically fit to do something you know, be pain free or have like control of their pain level it's all contributing to their rehab. Because otherwise they wouldn't able to take part. So for me that's all rehab focus.* (p. 17)

Interestingly, she used the same analogy that tracheostomy tasks lead to weaning; therefore, were considered rehabilitative. She also talked about other

[38] RCS is abbreviation for Rehabilitation Complexity Scale (Turner-Stokes et al., 1998).

maintenance or wellness tasks such as routine, personal care tasks performed by nurses for clients:

> *It's good oral hygiene you know if they wouldn't do it, right, and they get pneumonia from that. Well, then they're off to hospital and they can't take part in the rehab process you know. So, for me, that's part of it. That's part of the rehab focus.* (N4, p. 18)

These nurses who took an integrated view considered every aspect of the client's wellbeing as essential to rehabilitation. They did not separate or compartmentalise what they were doing but integrated every task they did as part of the rehabilitative effort.

In summary, as the interviews progressed, it became evident that nurses had different perceptions of their nursing practice. Nurses who compartmentalised their practice viewed rehabilitation as something extra, aside from their nursing activities. This group of nurses used a structured checklist-style method of documentation. The stability of the client affected their documentation content, with nurses prioritising their role in, and subsequently documentation of, a more acute client. Other nurses reflected an integrated view of rehabilitation, considering that all nursing contribution was rehabilitation. Regardless of their different viewpoints of rehabilitation, they were still bound by a divisive funding system. Nurses' views concerning the funder's expectations of their documentation are discussed next.

6.3 Documentation in the Context of a Divisive Funding System

As discussed in Chapters 1 and 5, for funding purposes the contract treated the inputs of nursing and allied health differently. Furthermore, for nurses, it divided their inputs into rehabilitative or non-rehabilitative tasks, requiring that nurses code each of their intervention inputs to identify which were rehabilitative in nature and which were not. In contrast, allied health staff were only required to document how much time they spent with each client. It was the timetable component of the electronic client records system that provided the specific data used for RCS scoring. In turn, the RCS score indicated the intensity of client need and, consequently, was used to identify the rate that was invoiced for funding for the service as a whole.

Not all of the nurses were able to articulate the expectations of the funder (ACC) and what was important to document contractually, but they all described the

need to reflect or justify their contribution through their documentation. When talking of the RCS scoring, Nurse 3 commented that it was important that management "know what we're actually doing and to justify what nursing at [facility name] is doing, we need to be able to show that and reflect that somehow" (p. 5).

Despite recognising the need to document their contribution, many felt the entire electronic documentation system was complex and fragmented and hampered nurses from documenting what they did. Nurse 2 called the system, "disjointed" (p. 7), stating that she understood how to assign her time directly after a teaching session during orientation, but then "didn't really use it after that and then if you don't use something" (N2, p. 6). Nurse 6 disclosed that she was not using the timetable, she said, "I tried for a while to learn …from now on I can probably restart again. It was hard" (p. 3). These comments reveal perceived time and effort needed to use and navigate the system, and this complexity limited what the nurses documented of their contribution.

The timetable system was disliked because of its complexity and because entering information was seen as counterintuitive to how nurses work. Nurses talked of nursing interactions often occurring spontaneously and that within the context of a busy day it was difficult to go back and make decisions about how long each interaction took. Nurse 3 acknowledged that her time was not captured adequately and felt this did not reflect well on what she was actually doing:

> *It looks like the nurse is doing nothing else than just giving the meds but we do so much more but it's hard to plan like a wound dressing or something on a timetable thing you know …In the notes its good you write it down, you did the dressing, you did this, but it's so hard to write down how long you actually spend on that. And if you talk to parents …you spend easily half an hour talking to them about rehab or medication or what their concerns are. It's so hard to put that into, into a timetable. It's like for me* [the timetable] *it's a tool that's quite new to use as a nurse. Because most of our things just happens. Next to our other stuff that we do.* (N3 p. 4)

Most participants expressed difficulty with inputting information. Although there was functionality within the system to capture interactions retrospectively, many expressed the feeling that this too was difficult.

Others discussed the fragmentation of the documentation system as arising because information was gathered in multiple places. In addition to the timetable

(RCS system), information was also needed in their nursing notes and on a separate handover document. Nurse 5 noted that she prioritised writing the handover note, “I go straight and write it” (p. 20), and she will only write a related statement in the CMS if she has time. She also states that she had “reversed” (p. 20), this practice recently as she used to do the opposite. Additionally, when specific events occurred, nurses used the ‘alert or concern’ function in the electronic client record and/or emailed other members of the team. Because of these multiple documentation requirements, the nurses sometimes forgot to enter their intervention time into the timetable or prioritised recording information in other places, especially on shifts that were busy.

The complexity and duplication of the documentation system was exacerbated by ambiguous definitions of timetable codes used to capture the information needed. Nurses were tentative and varied in the interviews when asked about their definitions of coding interventions in the timetable.[39] Some interviewees were unable to recollect what the terms were (N4 & N6), which possibly showed their lack of usage of the tool. Others articulated completely different understandings of which of their interventions they would code under each specific term. For example, Direct Rehabilitation Focus was understood by Nurse 5 as when the “client is present and we are educating” (p. 14), whereas Nurse 2, felt this code could be used more generally, expressing when they were “interacting with the client” (N2, p. 24). Conversely, Nurse 1 did not relate the code to nursing, stating that Direct Rehabilitation Focus was, “more like therapy sessions. Like they [clients] attend to their physio” (p. 9). Differences were also seen with the term, Direct Non-Rehabilitation Focus. One nurse stated that they used with “generalised assessments [for example], pain assessment or if they are medically unstable” (N5, p. 15). Nurse 2 similarly stated that something “she has had to do to the client that’s not consensual . . . where clients have medically deteriorated” (N2, p.24). In contrast, Nurses 3 and 4 could not think of any examples that they would code as non-rehabilitation. The ambiguity of terms utilised for RCS data was specific to nursing, given the division in the contract requiring definitions of input in nursing only.

While all of the nurses articulated their knowledge of the need to justify their contribution, they found the tool time-consuming and difficult, and some did not believe that the structure fitted a nursing mind-set. The documentation system

[39] Coding choices were Direct nursing focus, Non-direct nursing focus and Indirect. Refer to Chapter 5.6.

itself was fragmented as information needed to be inputted in multiple areas, and the nurses tended not to prioritise the timetable component. This may have been because nurses were generally unclear of the contractual requirements and thus did not understand the rationale of collecting the data. The terms used for capturing data were not well defined, resulting in the nurses justifying their role in different ways. This was further complicated by their view of rehabilitation as being separate from their nursing activities or integrated with activities. Divisions were then perpetuated in the structural system more broadly, as the nurses articulated environmental reasons that constrained their documentation output.

6.4 Wider Environmental Constraints on Documentation

Not all of the nurses were able to articulate what influenced their documentation practices. Rather, throughout the interviews, there were multiple themes that they talked about which were similar including time, noise, inconsistent allocation of clients over rotating shifts, and practical issues in combining their supervisory role with documentation requirements. The most prevalent concern of all the constraints identified in the interviews was a lack of time, and that their style of documentation depended on how much time they had in a particular shift. While all nurses commented on time pressures within their working day, two nurses, in particular, made statements that suggested how stressful their day was when they were time pressured. Nurse 2 stated:

> *I've had days where I've just been so beyond, like stretching of my capacities and I can't even think straight and I just want to get out of here. I find it really difficult to sit down and do articulated notes …I do find it frustrating that I don't get the time during the day and I don't feel that I'm pulling my weight in terms of the paperwork here.* (pp. 18-19)

Nurses identified that the complexities of the information technology (IT) system magnified the time pressures. Nurse 1 explained that inputting information into the timetable was "really time consuming. And time's so precious for the nurses on the floor" (p. 13). She believed that often a lack of computers meant a delay in completing documentation for nurses (N1, p. 13). This was reinforced by another nurse, who attempted to structure her documentation time, but indicated, "it depends on the availability of computers" (N6, p. 4). In as much as there was an objective component to time, nurses' perception of it was subjective and contextual. The nurses had few activities that needed to be completed at a specific time in their day, medication timing being the obvious exception.

However, this lack of structure in their working day complicated their recording of their input.

Distractions and interruptions also had a significant effect, extending and breaking up the time taken to complete documentation. Many nurses referred to the influence of noise and believed that well-constructed documentation required a quiet environment, which was difficult within their workplace.

> *Sometimes it can take me 30 minutes to write one set of notes because of all the interruptions happening around me. So I definitely think that is one of another constraint that happens when you're doing any sort of documentation on [the electronic record] because you cannot filter that noise.* (N2, p. 19)

As discussed in Chapter 5.2.1, the nurses did not have separate office space, instead, they used a room that was in the same area as the clients. Nurses talked of the disruptions that happened around them and the difficulty in documenting within that noisy, busy environment.

> *We're constantly being distracted by others. The other staff or phone calls is sometimes unbelievable. You have so many phone calls within your one shift …I always need to find quiet time for documentation because you can think properly, like really think about what's happening during the day and what's happened to that client, what's happened to the other client. Because with so many things going on, you can't think properly and you just, constantly will mess up some point.* (N1, p. 7)

Nurse 4 echoed this concern, commenting "Because you know the nurses' station is right in the middle; right opposite the door you know where people walk in first place they come to" (p. 14). The positioning of the nurses' office in the building and the need for the nurses to be available to clients and their whānau throughout their shift intensified the potential for distractions and heightened noise levels when they required sustained thought to complete documentation efficiently.

The other factor that constrained the time available for documentation was varying allocation of clients. Nurses were often working with a different group of clients each day. Some nurses expressed a belief that their documentation processes would be quicker if they were consistently interacting with the same clients. Structurally, within the facility, this was difficult to achieve as nurses worked rostered shifts, and shift allocation combined with an irregular day-off pattern was difficult to align with a consistent client allocation across the nursing team. From a client perspective, the consequence of nurses' shift patterns meant

that one client would have 2-3 different nurses within a 24-hour period. The changing nature of the nursing workload was specific to the nursing discipline in this setting, and while structurally necessary within a shift pattern structure, nurses expressed this hampered efficient documentation.

Nurses 4 and 5 talked of their belief that if client consistency could be achieved, it would assist with the nurses' time management and engagement with the client and their whānau. They talked of the difficulties in getting to know a different group of clients from one day to the next and how they needed to allocate large amounts of time to familiarise themselves with each client's history, progress, and rehabilitation plan. This inconsistency also disrupted their ability to actively evaluate and add this evaluation to client's plans. When Nurse 5 talked about this situation she voiced, "nobody's saying anything about it [the inconsistent client allocation] and then the nurses are saying, how can we do it because we're running around this floor, that floor" (p. 24). Nurses felt they were not being listened to, but that they were also not articulating the issues due to their own busyness. While the allocation of nurses to clients was a complex system issue, it exaggerated the time constraints this team felt.

A further theme, which the nurses expressed as affecting documentation, was the limited interaction they had with each other.

> *Like we don't get much time as RNs here to interact with other RNs. In the DHB you're surrounded by other RNs and you bounce off each other and you rationalise, you do this all the time verbally. And it reaffirms and it self-affirms and it gives you confidence. And it makes you think of different ideas.* (N2, p. 35)

Nurse 2 compared the rehabilitation facility to working in a District Health Board (DHB)[40], noting a difference in RN staffing levels, and highlighted that, as nurses discussed client scenarios with each other, they gained confidence in their thinking or it allowed them to consider another point of view. Accordingly, these informal discussions may well shape their documentation content.

Nurses described their role in supervising non-regulated workers as a further influence on their available time for documentation, and the joint role in writing documentation. The nature of the physical environment meant that some nurses

[40] A DHB is a publicly funded entity providing acute and community based care for those with a health condition and those whose condition resulted from an accident. Refer to 1.4 for further detail.

covered multiple floors, which added to the complexity of their supervisory role and the number of clients they needed to document. While the documentation review revealed the supervisory role of the nurse with the non-regulated workers on each shift, nurses had differing perspectives of this relationship in relation to their documentation. One nurse felt that the non-regulated workers were independent in their daily activities, and articulated the difficulty in gaining information from them to support her nursing documentation. She commented that the non-regulated workers "do their notes, they write down but, unless you're really running behind them it's sometimes quite hard to get the information out of them" (N3, p. 4). In contrast, another nurse indicated that generally non-regulated workers worked efficiently and that they, rather than the nurse, completed the documentation of the clients' timetable activities. However, Nurses 1, 2 and 5 noted this was variable between the non-regulated staff and meant that nurses still needed to confirm what had occurred through the day and what activities had taken place. Overall, nurses expressed difficulty in their supervision role, regarding how they documented daily activities that the non-regulated workers had undertaken with clients, particularly in the timetable.

In conclusion, all nurses interviewed related time pressures, noise, distractions, and the inconsistent client allocation as negatively influencing their documentation practice. Some even expressed a level of busyness that contributed to feeling overwhelmed and despondent in their contribution. The staffing model, with its ratio of low nurse numbers per shift, led to a strong supervisory role for the nurses and this resulted in fewer collegial interactions between nurses, potentially impacting documentation confidence. Other influencers were the ambiguity of role responsibility in documentation between the nurses and the non-regulated workers. Nurses' perceptions of their practice and their role in contributing to clients' rehabilitation was a further key theme unearthed in the interviews.

6.5 Feeling of an Undervalued Contribution

The data from the nurses' interviews gave a sense that others misunderstood nursing. One nurse commented that the nurses "weren't even seen as like healthcare professionals" (N4, p. 19). Another stated, "the therapist, [was seen] to make the client progress better instead of the nurses, who are just making sure the client's having medications" (N1, p. 18). Complicating their perceptions of poor role recognition was their sense of their role being treated differently to those

of allied health, in the cultural fabric of the facility. Nurse 3 highlighted a perceived hierarchy most intensely, “like the physios and the OTs are on a higher level than the nurses you know, that’s true. But that’s my personal feeling …they do not value the work that we do” (p. 28). She appeared resigned to the fact that her allied health colleagues were recognised quite differently than she was as a nurse. Many nurses shared this underlying sense of not being valued.

Nurses experienced a difference in team culture in this rehabilitation facility compared to their experience of team culture in acute settings. Nurse 2 explained that when working in the hospital she “felt respected”, and that she “felt really diminished coming in here [the rehabilitation facility]”. She went on to say “there’s something not matching with, in terms of us nurses and the therapy and it is a little bit like us and them when it really probably shouldn’t be like that at all” (N2, p. 32). Nurse 1 stated that the nurses’ role was crucial in a client‘s journey and felt that it was seen positively by the client’s family/whānau. However, she expressed her concern about how allied health viewed nursing:

> *I saw the therapy team not really raise up you know nurses you know. Probably they think they’re more important than others because it’s therapists who make the clients able to walk, able to speak or OT [occupational therapy] have different strategies to make their cognition improve.* (N1, p. 18)

Nurse 1 went on to articulate that nurses were seen to deal with “basic cares” (p. 18) only, and, because of this, she did not feel the nurses were acknowledged as contributing to the progression of the client in the same way allied health were.

Nurses pointed to inter-related factors that led them to feeling undervalued as rehabilitation team members. These factors, in turn, influenced the confidence with which they wrote their documentation. The audit (Phase B) demonstrated that nurses were unlikely to write recommendations or give a rationale for their actions. Nurse 2 was uncertain if she was “allowed to put ‘I’ statements in our notes” (p. 34). While there was some uncertainty about whether nurses were able to express their opinion in their documentation, interviews also illustrated that the nurses felt under confident in doing so. This lack of confidence to communicate their views not only reflected in their writing but when verbally discussing their contribution in IPT meetings. While many attributed their lack of time as a factor in their non-attendance at meetings (N1, N2, N5), another expressed a lack of knowledge about the group of clients that might be discussed on any particular day (N6). This lack of knowledge derived from the changing shifts and resultant

difficulty getting to know clients in adequate depth. There was a general acknowledgement by nurses that they prioritised their clinical workload, or even the need to take a break, over meeting with allied health colleagues and discussing client progress. However, additional drivers for not attending meetings surfaced during the interviews. Although Nurse 3 reported that her client workload would affect whether she attended clinical meetings, she also alleged that the meeting was dominated by allied health and felt it was difficult for her to speak up. Only one nurse, Nurse 4, affirmed that if her shift coincided with a clinical review, she would attend. She commented that she liked to hear others' opinions of issues and rehabilitation planning, and felt it was important that she give her input. It is noted that she had two roles in the facility and acknowledged her confidence had changed as her interaction within the team altered in these different roles.

Despite her increased confidence, Nurse 4, articulated negative perceptions of nurses by the ACC, (the funding body). "I know [team member name] knows so many ACC people and she often told me that we weren't even seen as like healthcare professionals you know! We were just here to dish out the medication. That's that!" (N4, p. 19). Later, in the interview, this nurse was surprised to see the audit data (Phase B), with overwhelming documented frequency of medication administration, and client's input and outputs. She reflected that her documentation potentially influenced the ACC's understanding of the nursing role.

Despite these nurses expressing a sense of others not valuing their contribution, this quote was the only specific example given of anything overt within the team or external relationships. It appeared more likely that their undervaluing was a general perception within the nursing team of how others viewed their role, and this impression underlay what they did and how they worked within the IPT. Only Nurse 5 described her thinking behind how she was feeling. She related nurses' struggles to inconsistent client allocation and feeling that she should know everything that has occurred. However, she felt such knowledge was difficult to achieve due to the changing client allocation.

In summary, the data revealed some important discourses relating to nurses' perception of their role, how they related to others, and how this affected their documentation choices overall. Nurses felt their role was misunderstood and other team members did not value what they did. Those who had worked in both

acute and rehabilitation settings were convinced of the discrepancy in role value. Their lack of confidence influenced what they documented and was seen in their writing as well as in verbal communication with other team members. The nurse who was positive and self-assured in team meetings held a joint role, so this confidence was likely to be reflective of the work she did outside of her nursing role.

When talking further through role definition with specific client groups in the facility, clients who became more independent were seen as a low priority for the nursing team, and they tended to withdraw their input from this group. This theme is discussed next.

6.6 Perception of a Reduced Nursing Role with Independent Clients

Nurses who were asked about their role and documentation practices when clients were in the discharge-planning phase indicated that the nursing role, and consequently their documentation, reduced as the client moved closer towards discharge. While one nurse stated she moved to a "support" role (N3, p. 26), most had difficulty in articulating what their role actually was in this phase, voicing that they typically questioned clients about their mood and wellbeing. Others talked of input into medication self-administration programs or continence retraining but, if this was not needed, they had limited thoughts about their role at this point in a clients' rehabilitation. Nurse 5 stated, "at least we'd sight the client" (p. 10), which would then be documented.

Nurses indicated that if their client's levels of independence were varied, they would prioritise those clients who were more dependent. Their interaction with physically independent clients reflected the time available. Further, when qualifying her role as a rehabilitation nurse with an independent client, Nurse 2 explained:

> *So I guess in that sense that's the rehab that I feel that I can offer, is just sort of checking in. Checking in and making sure that person's on track and making sure that there's nothing on that day acutely wrong …But I think it's the assumptions that we start making when they become independent that they are independent. Well what does independent mean and why are we calling them independent when they are in* [facility name] *for a reason.* (N2, p. 30)

The nurse's words showed some realisation that led her to cast doubt on how she viewed an independent client. She also made the point that her documentation for clients nearing discharge was linked to her unknowingness about who read her notes and what exactly was required. She reflected that she needed to more carefully consider the relevance of the information that she held, and how this information might affect the client on discharge. She acknowledged she might inadvertently be withholding discharge-planning information:

> *I might fail to document that. And it won't be because I've meant to miss it but it's just because I've managed that on the day but, I haven't thought about what it means for that person as they go home or in the future. Or who and how to document that information to.* (N2, p. 21)

Likewise, Nurse 6 perceived a reduced role in the discharge planning phase, commenting that, "here [there are] a lot of keyworkers and social workers, they do a lot as well, but nursing can be involved I guess!" (p. 13). These examples demonstrate a phase of rehabilitation where nurses did not consider the necessity or usefulness of the nursing role. They prioritised other phases of the client's rehabilitation journey. This might have related in part to the busyness of their role but, nonetheless, created a gap in discharge documentation.

Perception of a reduced nursing role with independent clients also linked to nurses' perception of a more apparent role with clients who required sub-acute nursing support. The two nurses who articulated an integrated view of nursing and rehabilitation both highlighted the educational needs of clients and families, when entering the discharge period. Nonetheless, while in most interview topics they were more likely to express a holistic view of nurses' role and rehabilitation, they aligned with other nurses in talking of a reduced nursing role in the discharge-planning phase. Nurse 4 talked about clients who were "just waiting to be discharged" (p. 18), stating that they were not her focus. She justified this by explaining that when the client was discharged home, they would not have nurses present. As such, she felt it was reasonable that her role was reduced.

There was a general acknowledgement of the importance of specific nursing programs, particularly the medication-self administration program (M-SAP) and continence retraining in the discharge-planning phase. Nurse 1 commented on the importance of documenting, "whether the client's on self-medication programme, which phases and how they're doing. Because we need to evaluate whether we can progress this phase to the next phase" (N1, p. 10). Although the

importance of these programs tended to be highlighted more by those who had a compartmentalised view of nursing and rehabilitation, there was a sense that the joint language between the nursing team, relating to these programs, engendered provision of a cohesive framework.

Evidence of nurses reducing their role with clients who had higher levels of independence was apparent in the documentation audit (Phase B). Minimal documentation was seen in the areas of education, coaching, or discharge planning and the nurses similarly acknowledged this lack in input in the interview phase. Collectively these two sources of data suggest that the lack of documentation of these areas was reflective of nurses' actual work patterns rather than the nurses failing to document the areas. Nurses prioritised clients who were dependent and limited their discharge-planning role by assuming it belonged to other team members rather than nursing. Some justified this position if the client was not going to receive nursing input in the community. In contrast, nurses aligned positively with standardised education programs within the facility; in particular, medication self-administration was prominent in the documentation audit and was acknowledged by the nurses interviewed.

6.7 Conclusion

The themes from the interviews interrelated with, and gave new insights into, how the nurses perceived their contribution and what they documented. The interviews highlighted important components that were not gained from data analysis during Phases A or B. Therefore, Phase C furthered my understanding of the contextual influences that shaped nurses' documentation.

Initially, there were difficulties for nursing staff as nursing relied on generic orientation, individual tuition and an unstructured buddy system to support new staff members in their documentation content within the facility. This approach did not adequately upskill nurses in the systems, concepts, and terms that were essential documentation requirements for nurses. Importantly, the nurses' demonstrated differences in their thinking about rehabilitation; some compartmentalising their nursing care and others seeing rehabilitation as integrated in all their interactions with clients and their family/whānau. These opposing views altered how they reflected their contribution in their documentation.

Within the facility, accurate recording of input was essential as it linked to a client's funding levels. However, complications occurred as the funding system differentiated between nursing and allied health inputs, with nurses required to divide and code their client interactions and interventions as either rehabilitative or non-rehabilitative. This structural division reinforced the concept that there were some parts of a nursing role that could be deemed non-rehabilitative. Further, environmental constraints such as time pressures, noise, distractions, and inconsistent client allocation hindered nurses' documentation. This group of nurses felt undervalued within the team, an impression that affected their interactions with other team members and impacted documentation of their contribution. Nurses were more confident in their role with clients who were dependent with activities of daily living as opposed to those who were nearing discharge and displayed functional independence, where the nurses believed they had less of a role to play. This perception was reflected in their documentation.

Chapters 5 and 6 have described what was occurring within the environment and how nurses tended to act in this context. The interviews with the nurses allowed further exploration to understand how they perceived their actions and what influenced their documentation choices. The combination of empirical and experiential data allowed abduction of themes and pointed to initial mechanisms. The diverse ways nurses responded to their context indicated some dominant practices and tensions that existed. This then led to the 'Field Analysis' phase of the study, as presented in the next chapter, which sought to explain why these mechanisms continued to operate within the organisational context.

Chapter 7 – Applying Archer's Morphogenetic Framework

7.1 Overview

In undertaking this research, I asked the over-arching question, why do nurses record their contribution to rehabilitation in the way they do? Drawing on a critical realist analytic framework, my thesis has progressed through the research sub-questions. In Phase A, I described and examined the organisational context, which incorporated the norms of practice, tenets of the facility, IT system, facility policy, procedures, and overarching funding implications. In Phase B, I identified what the nurses recorded of their contribution. Collectively, these descriptions of how the facility worked and the trends of how the nurses behaved (in this case, their documentation practices), are described by Vincent and Wapshott (2014) as 'configurational analysis' (refer to Table 9, p. 74). The findings from the configurational analysis in Phases A and B were reported in Chapter 5 which sought to understand general patterns within the facility and answered two sub-questions: What do nurses record about their contribution to TBI rehabilitation? What were the influences on nurses' documentation of their contribution as identified by an analysis of their documentation and context?

In Phase C, drawing on data from nursing interviews, I explored nurses' perceptions of their contribution and the influences on that contribution, termed 'normative analysis' (Vincent & Wapshott, 2014). This analytical tactic assisted in understanding why the nurses tended to document in the way that they did. Phase C sought to understand how nurses perceived their contribution, and their perception of what were the influences on their documentation of that contribution. Nurses' decision-making regarding what they chose to comment on, or withhold, and their perspectives of their documentation were central to gaining understanding in this study. The normative analysis was reported in Chapter 6.

'Field analysis' was the next analytical tactic used in this study, and is the focus of the current chapter. In field analysis, a description of causal mechanisms was sought within the context of the case, and explanation was theory-led (Vincent & Wapshott, 2014). Danermark et al. (2002) explained this critical stage as "explaining why what does happen actually does happen" (p. 52). The field analysis for my study, drew on critical realist theory, in exploring how nurses' documentation within the TBI rehabilitation setting, was produced and shaped by

underlying structures and powers in that context. It focussed on identifying these structures and powers and the ways that they influenced nurses, thereby uncovering the generative mechanisms within this environment. This aspect of analysis answered my research question, how do the influences identified, shape nurses' documentation of their contribution.

In this chapter, I re-examine the analysed themes from Phases A, B, and C, by applying Archer's (1995) morphogenetic analysis, in which I used retroductive analysis to identify and develop explanations of what was occurring (refer to 3.6 & 4.7). I will briefly restate Archer's morphogenetic analytical cycle and utilise this framework throughout the chapter to present explanation of documentation tendencies by nurses in the case study.

7.1.1 Morphogenetic/Morphostatic cycle

In conducting field analysis, I used Archer's (1995) morphogenetic/morphostatic (MM) analytical cycle to provide an analytical framework. I selected this cycle because I believed its concept of analytical dualism, discussed below, held good potential for revealing generative mechanisms and underlying relations. This allowed the research to move from a mere description of what nurses' document, and their perspective of their practice, to take account of the structural and cultural influences that impacted upon them. Crucially, the analysis enabled identification of mechanisms that allowed reproduction or that could be important in transformation.

As described in Chapter 4, Archer (1995) endorsed the need for analytical dualism, which involved separating structure (inclusive of both structure and culture), from agency. The dimension of time is used to clarify the autonomous but interactive relationship between structural and cultural powers (Archer). When undertaking this analysis, Archer suggested identifying "structure(s) independently of their occupants and incumbents, yet of showing its effects upon them" and confirmed that structures "pre-date any particular cohort of occupants/encumbants (sic)" (pp. 167-168). The focus was to explain the structural and cultural powers that impacted on the way the group of nurses in my study documented their contribution. This explanation could guide understanding as to whether the facility reinforced norms and mores so that nurses documented their contribution in a morphostatic way, or transformed their documentation practice and the structures they worked within. Transformation

would be seen when nurses actively shaped the documentation practices and mores within the facility.

The following image represents my themes (Figure 6) with reference to Archer's (1995) analytic MM framework. T1-T4 depict intervals of time as applied within my research context. I have followed the work of others who have utilised Archer's work, and determined time periods based on research access (Horrocks, 2006; Lipscomb, 2009). Interviews with nurses framed the socio-cultural interaction phase, and were obtained in the time period of T2-T3. Information gained regarding structural/cultural conditioning, prior to this timeframe, was therefore at T1. The time-frame sequence represents the order that they are discussed in as this chapter progresses.

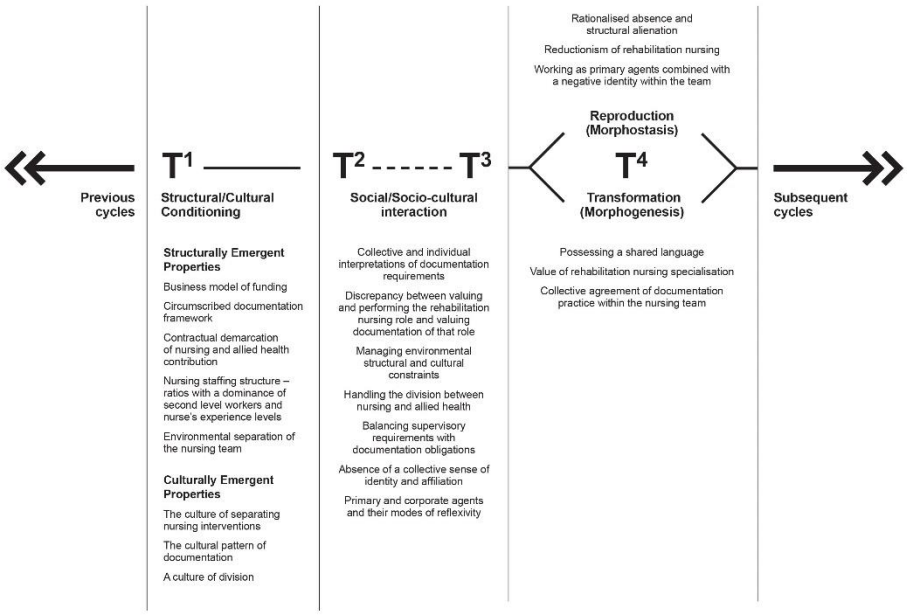

Figure 6: Graphic representation of morphogenetic cycle (Archer, 1995, p. 158)

7.2 T1: Structural/Cultural Conditioning

In following Archer's (1995) morphogenetic cycle, it is essential to understand the context, identifying the structurally emergent properties (SEPs) and culturally emergent properties (CEPs).[41] For my study, SEPs and CEPs were comprised of

[41] SEPs are "specifically defined as those internal and necessary relationships which entail material resources, whether physical or human, and which generate causal powers proper to the relation itself" (Archer, 1995, p. 177).

the conditions that nurses worked within, potentially influencing them to take particular courses of action, by enabling or constraining their documentation practices. Archer viewed the situational logic from T1 as antecedent to time point T2-T3. This section of the thesis, therefore, outlines the structures and cultural circumstances in T1 that were inherited by the group of nurses in T2-T3. Nurses' perspectives of, and responses to, their documentation are discussed in section 7.3 (T2-T3). Accordingly, the next section focuses on the SEPs identified in this case study.

7.2.1 Structurally Emergent Properties

Organisationally, the rehabilitation facility in this study was a healthcare provider, which had a contract with the ACC. As part of this contract, the standard rehabilitation pathway saw clients with TBI admitted to a hospital, transitioned to the rehabilitation facility (if clinically indicated), and then discharged home with community rehabilitation provider support. In transitioning clients, the rehabilitation facility in my study interacted with, and was interdependent upon, both the hospitals and community providers.

Five key structural properties were identified within the T1 timeframe (refer to Figure 7, p. 139). These structural properties are discussed in the following section. They are ordered in the thesis as they developed within the data and should not be seen as hierarchical. They are discussed in the following order: the model of funding; circumscribed documentation framework; contractual demarcation; nursing staffing demographics and structure with a predominance of non-regulated workers; and, environmental separation.

CEPs "include the stock of existing ideas, beliefs and ideologies (contained in particular discourses)" (Luckett, 2012, p. 2).

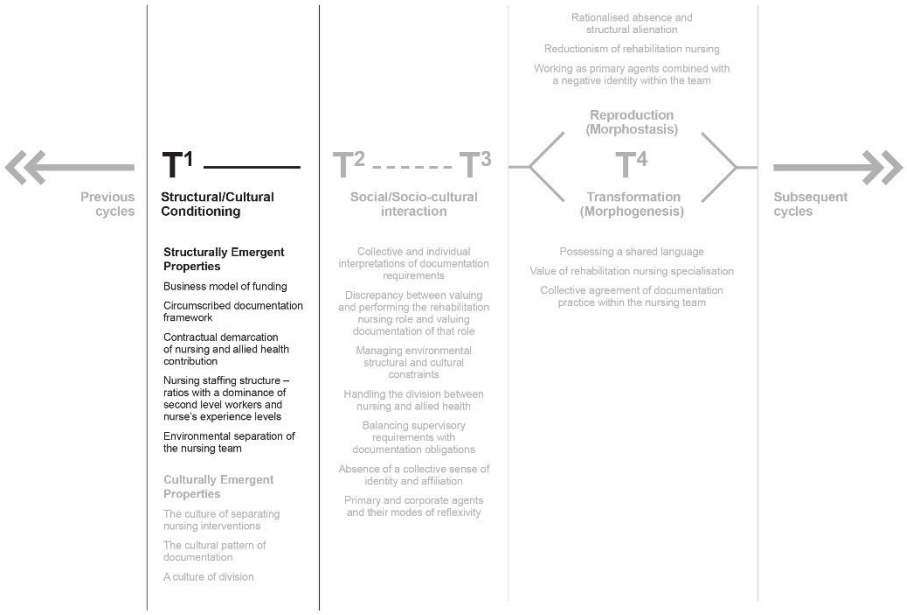

Figure 7: SEPs identified in the researched facility

7.2.1.1 Model of Funding

This case study focussed on the TBIRR contract between the ACC and a rehabilitation facility. Tensions involving the broader structural context indirectly placed pressure on nurses' documentation. In my analysis, I considered the immediate necessary relationship with the ACC, the TBIRR contractual obligations, and the rehabilitation facility.

One contract requirement was to utilise the RCS (Turner-Stokes, Disler, & Williams, 2007) "to determine the client's service level and input requirements" (Accident Compensation Corporation, 2014, p. 31). Use of the RCS within the contract meant that clients with higher levels of dependency and/or increased time spent in therapy sessions with rehabilitation staff determined higher levels of ACC remuneration to the facility. The ACC (Accident Compensation Corporation, 2014) acknowledged that the RCS tool was originally designed for "workload management" (p. 31) and workforce provision purposes. However, the ACC elected to use it to calculate the funding of services depending upon the client's requirements. This was a change in the funding model and compelled rehabilitation providers to review their rehabilitation delivery to meet contractual requirements. The change in direction for the crown entity was an ambitious and novel approach to funding rehabilitation services in NZ. It signalled the ACC's

intent to address its outstanding claims liability and net deficits posted since 2000 (Office of the Auditor General, 2017). It also affirmed the funder's position of moving from a flat compensation for services approach (based on client numbers) to progressing towards their ultimate aim of paying for outcomes (Accident Compensation Corporation, 2016).

Commissioning the TBIRR contract altered the climate of rehabilitation services. The contract necessitated rehabilitation providers to direct their attention to service intensity with individual clients and to ensure that documentation could support their billing process. This included requiring that nurses sufficiently documented their rehabilitation inputs so they could be measured and reconciled. Additional service expectations were detailed in the contract alongside the RCS scoring. These quality measures included client and family/whānau satisfaction surveys, Australasian Rehabilitation Outcome Centre (AROC) outcome measurement and stakeholder satisfaction. However, the funding based on an inputs approach elevated the importance of RCS scoring, as it was the only service expectation that was linked to financial return. Conversely, the quality service expectations were not linked to funding (Accident Compensation Corporation, 2015), so were likely to be secondary to the organisation. This phase of establishing the new contract was associated with a pressurised climate on nurses' documentation, due to the organisational need to be remunerated appropriately in order to remain financially viable.

7.2.1.2 Circumscribed Documentation Framework

The electronic client record circumscribed documentation writing within a SOAP format, which structurally shaped nurses' documentation. The SOAP documentation method categorises nursing notes into four sections: Subjective, Objective, Analysis and Plan. Employing this system framed the way that nurses wrote their progress notes. Nurses had to structure their thoughts, assessments, and interventions into this framework.

SOAP notes historically were created by physicians and have had positive uptake by allied health (Gateley & Borcherding, 2017). They are renowned for providing structure, particularly helpful in time-bound sessions where history, mechanism, assessment, intervention, and plans can be documented (Gagan, 2009). However, nurses within the rehabilitation setting seldom had this single structured approach to their working day, with multiple interactions with the same client or

family/whānau members possible throughout their shift. Therefore, they needed to adapt to a framework, which circumscribed their documentation choices.

Another SEP of the documentation framework was the multiple places where information was entered. While the nursing notes in the electronic client record and timetable were the main foci of my research, there were other methods of communication within the IT system. Staff could utilise a handover note function (within the client record) or the corporate email system. The handover note was auto-generated from SOAP notes, but staff could add their own note to a specific client's handover record. Nurses and allied heath staff also had individual emails, as well as belonging to a collective address book group, meaning users could select 'nursing' or 'allied health' and send an email to all members in each team. This circumscription was one of many in the organisation, and will be further discussed in 7.2.2.3. The following section will focus on the contractual demarcation of the team.

7.2.1.3 Contractual Demarcation of Nursing and Allied Health Contribution

As previously discussed, the funding contract delineated "nursing *services* [emphasis added]" and *"active* [emphasis added] therapy involvement" (Accident Compensation Corporation, 2015, p. 10). The ACC separated the contribution of these groups of professionals, thereby setting a premise of demarcation. Where "service" may be viewed as an act of helpful activity, "active involvement" implies engaging in action. A distinction between nursing and allied health inputs was further made in the RCS, which required the nurses to rate their skill level when undertaking each intervention. In contrast, the contribution of allied health team members was approved by time only, with no supporting justification required.

In response to the aforementioned TBIRR contract changes, managers and nurses questioned what components of the nursing role should be considered "nursing services", which were absorbed into the facility's day rate. Conversely, the facility needed to determine which elements were rehabilitative, and therefore added to RCS funding calculations. The facility adapted its ability to gather this information electronically and designed a process whereby input was captured with nurses' validation of the rehabilitative nature of the intervention given.

Although nursing advice was sought when developing the IT system, the electronic client record manager, who had an allied health background, predominantly developed the structures and frameworks within the documentation system. The IT system, therefore, likely reflected an allied health

way of working in rehabilitation. For instance, there are differences in documenting input based on a time-bounded 30-60 minute session, typically undertaken by allied health team members, as opposed to articulating nursing input over an 8 or 12-hour period. Moreover, basing input on a compartmentalised approach,[42] by necessitating justification of every intervention, did not encapsulate an integrated rehabilitative approach to nurses' rehabilitation practice. Accordingly, while the funding model promoted a division between nursing and allied health input, the facility continued this demarcation by further separating the contribution of these two professional groups through its structural IT framework.

7.2.1.4 Nursing Staffing Demographics and Structure: Ratios with a Predominance of Non-regulated Workers

Further shaping the context for nursing staff was the staffing structure. In my study, the questionnaire, which was completed by two facility managers,[43] detailed nurse staffing numbers, nurse to client ratios, and nurses experience levels.[44] Chapter 5 gave contextual information about staffing structures, where the majority of nurses within the research period had no prior rehabilitation experience prior to their employment with the research facility. Additionally, nurses worked shift patterns alongside a team of predominantly non-regulated workers. These causal properties shaped the conditions for nurses at T2-T3. (Refer to Figure 7, p. 139).

Nurse to client ratios within the rehabilitation facility were shift dependent, with the morning shift having higher ratios than afternoon or nights. This followed the facility's programme structure where intensity was framed on a working-day model (working hours deemed between 0830 and 1530). Even so, ratios in the morning were lower than the AFRM (Australasian Faculty of Rehabilitation Medicine, 2011) standards. The facility employed non-regulated workers to assist with supervision and rehabilitation needs of the clients. Although there were minor fluctuations in RN full-time equivalency (FTE) numbers, throughout the history of this facility there was always a dominant component of non-regulated staff supporting the nursing team. Consequently, alongside of their client allocation, the nurses had the added responsibility of supervising the practice of the non-regulated staff. Principally, the limited number of nurses compared to the AFRM

[42] Refer to Chapter 6.3
[43] Phase B encompassed the managerial questionnaire
[44] Nurse to client ratios and nurses experience levels were described in Chapter 5.3

standards revealed a disproportionate staffing ratio, requiring nurses to share their responsibility for clients with staff oversight, leaving reduced time for documentation.

In addition to staffing ratio factors in the rehabilitation facility shaping conditions, there were considerations about the skill composition within the nursing team. The managerial questionnaire recorded that only one nurse had rehabilitation experience prior to working in the facility.[45] Several authors have noted the inadequacy of rehabilitation principles within undergraduate nursing education (Clarke, 2013; Clarke & Holt, 2015; Loft, Poulsen, et al., 2017) and when combined with a lack of nurses with rehabilitation experience, this posed a barrier to broad rehabilitative thinking within the nursing team in this facility. Nurses were required to translate their active contribution to rehabilitation into comprehensive documentation, but with little past rehabilitation knowledge or experience to support this responsibility.

Structurally, nurses were embedded in a team where they shared client responsibility with non-regulated workers. While this compelled them to combine their rehabilitation-nursing role with a supervisory responsibility, it also added to their time demands, potentially influencing their documentation. Additionally, previous rehabilitation experience was atypical in this facility, and nurses therefore learned rehabilitative principles on the job within the constraints of environmental separation.

7.2.1.5 Environmental Separation of the Nursing Team

Nurses were environmentally separated from their nursing team colleagues due to the physical nature of the rehabilitation facility and their rostered working system. The building was comprised of floors that allowed approximately 6-8 clients residing per floor.[46] Nurses were assigned to a specific floor and workload responsibilities required that they remained in their assigned client areas. Structurally, this model affected opportunities for the nursing team to interact with each other—environmentally they were separated during their working day, and limited nursing numbers on each shift meant other nursing staff providing rehabilitation were not available to meet. Conversely, the allied health team

[45] The timeframe of giving the managers' questionnaire and conducting the nurses' interviews were different. During the timeframe of the manager questionnaire, only one nurse had previous rehabilitation experience. In contrast, two nurses who participated in the nursing interviews had previous rehabilitation experience.

[46] Facility layout described in Chapter 5.2.1

worked similar hours to each other over a 5-day week, and maintained a joint office space allowing them to meet together formally and informally. Nursing and allied health experienced different ways of working, which was upheld environmentally, as the nurses were not afforded opportunity to collaborate with nursing colleagues. Meeting opportunities were limited, inhibiting the nurses' ability to discuss practice, articulate or refine their decision making, and seek a second opinion on client presentations or interactions. Interaction and discussion during clinical periods may support clinical decision-making, and promote confidence in documentation as nurses receive verbal feedback from others prior to their writing (Nibbelink & Brewer, 2018). The impact of the separating, environmental structure meant that nurses were likely to document in their own, individual silos. As a result, uncertainties about how to document were not resolved, as evidenced by individual interpretations of the documentation requirements and the different documentation styles seen in Phase B.

Professional roles within the facility relied on documenting intervention intensity; however, the nurses' office areas were discordant with the quiet reflective spaces needed to articulate that contribution. The allied health team scheduled time with each client but then completed their documentation in the separate office space located in a floor designated for administration staff. Conversely, nurses worked different shifts over a 7-day period and completed administration tasks in an office on the floor to which they were assigned. This office was readily accessible to clients and their family/whānau, and was situated near the client lounge, kitchen, and bedroom, in order to maximise client safety. Ultimately, the potential for distraction was high, as the nurses' documentation area had continual availability for clients and visitors.

In summary, the SEPs that were identified as significant within this facility related to the model of funding; the circumscribed documentation framework; and contractual demarcation that arose from the funding model. In addition, the nursing structures within the facility were weighted towards non-regulated staffing numbers with limited registered nursing staff rostered each shift. Furthermore, ways of working due to environmental structures were seen as hindering possibilities of teamwork and collaborative practice. While these structural factors shaped the experience and documentation practice of nurses, culturally emergent properties were also identified.

7.2.2 Culturally Emergent Properties

As previously discussed, Archer (1995) advocated for analytical differentiation between structure, culture, and agency. CEPs are described as “the stock of existing ideas, beliefs and ideologies (contained in particular discourses)” (Luckett, 2012, p. 2). Within the facility I studied, there were a number of discourses relating to how core concepts were understood and the ways of doing things in the facility. Study Phases A and B assisted with understanding the cultural situation that existed at T1. The following sections describe the cultural mores that were identified as CEPs (refer to Figure 8): inclusive of the culture of separating nursing interventions; the cultural pattern of documentation; and, divisive practice.

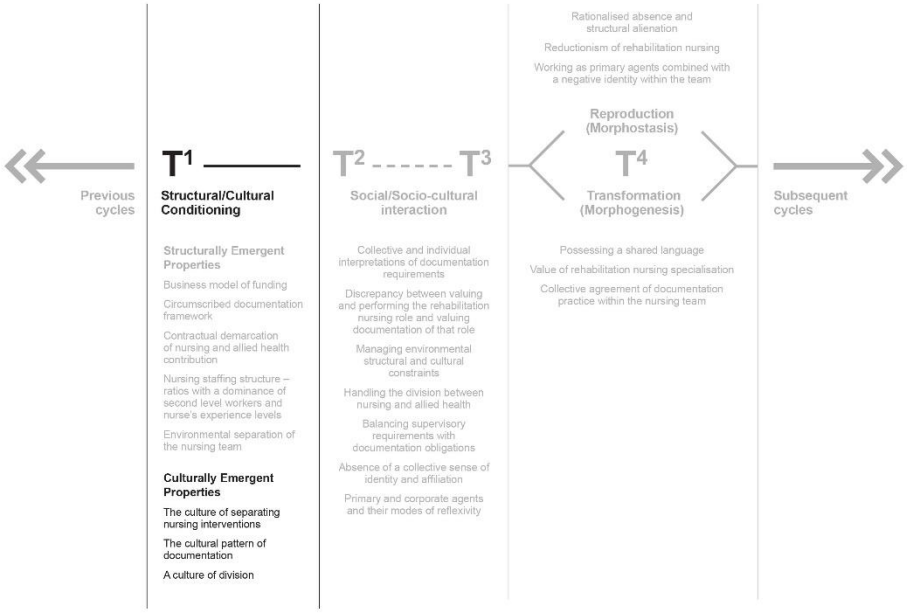

Figure 8: CEPs identified in the researched facility

7.2.2.1 The Culture of Separating Nursing Interventions

There was a separation between interventions that were seen to be ‘rehabilitative’ and those considered ‘non-rehabilitative’. This cultural separation arose from the ACC contract, which structurally placed components of the nursing contribution as being not about rehabilitation, informed by the RCS. As previously discussed, in response to changes in the ACC contract, the facility subsequently required nurses to identify whether or not any particular intervention was rehabilitation when being documented in the timetable for facility auditing and billing purposes.

While the contract structurally framed a separation in the facility, data from staff revealed that the separation became part of the cultural fabric of the facility. This CEP was likely to be a combination of the difference in manager's beliefs regarding the funding terms, and the individualised nature of nurses' induction, which set the tone for organisational mores.

Results of the questionnaire (Phase A) revealed that managerial perceptions of terms in the timetable were disparate. Manager 1 related interventions with a direct rehabilitation focus as those with involvement of "client or family" or where the nurse was "'actively' looking and measuring cognition, responses, understanding (and) social interaction" (QM1, p. 5). In contrast, manager 2 described a direct rehabilitation focus as the nurse "with the client and working on a goal directed rehabilitation task" (QM2, p. 3). The divergence in manager descriptions appeared to involve the necessity of rehabilitation being associated with the client's goal. Local policy did not clarify these terms, as processes were fluid during this period of contractual change.

Additionally, there was a difference noted in whether or not nurses saw rehabilitative principles integrated into their nursing role. Many of the team considered nursing care as a priority and believed rehabilitation to be an extra that they did, while their documentation demonstrated an impersonal-regulatory style[47] that focussed on recording completion of specific tasks. This documentation style set mores of how nurses worked and documented their contribution as they read each other's notes and were orientated, though the buddy system, by existing staff with the same, facility-generated mores.[48]

The underlying culture established a separation in components of the nursing role. However, there was variance in definitions of timetable terms (i.e., "Direct rehabilitation focus" and, "Direct non-rehabilitation focus") between managers, and policy did not guide the nurses' decision-making about what interventions were considered rehabilitation.

7.2.2.2 The Cultural Pattern of Documentation

There was an underlying theme of the *everyday* of documentation; that it was something the nurses did and were expected to do every day. Phase B demonstrated a cultural pattern of documenting tasks done for the client,

[47] Refer to Chapter 5.5.10
[48] Refer to Chapter 6.2

frequently in a checklist-style method. Documentation of coaching, education and support given was reported with less frequency. This cultural documentation pattern was reinforced structurally within the current practice model through professional body affiliation, where the legal ramifications emphasised the need to ensure that what had been completed was documented. However, nurses appeared to relate this to physical tasks, input, output, and medications, and thus met their legal standards. In Phase B, I interpreted this as an impersonal-regulatory style, whereby the nurses reduced their role to demonstrating that tasks had been performed to manage basic bio-medical components. Additionally, both managers commented in the questionnaires that nurses seldom used the planning section within their SOAP notes. Their identity as rehabilitation nurses did not translate through to their documentation practice and they did not consider their documentation as the forum for expressing the value of their contribution within the broader rehabilitative team.

7.2.2.3 A Culture of Division

There was a divisiveness seen within the workplace practices for providing team learning and opportunities to collaborate. Nurses only met as a nursing team three times each year for learning opportunities; hence, culturally, a sense of teamwork was difficult to promote. This meant that it was not a cultural norm for the nurses to collaborate and learn as a team. Orientation practices demonstrated an individualised approach to learning documentation expectations supported by a buddy. Ongoing learning of nurses reflected their contribution as rehabilitation nurses was minimal due to the limited, full team training. Therefore, not only were the nurses impeded in seeing themselves culturally as a part of a rehabilitative nursing team, but they were also hampered in seeing themselves culturally as part of a wider rehabilitation team. In the wider rehabilitation facility, team case reviews and IPT meetings were scheduled providing group-learning opportunities to reflect on practice, celebrate successes, and look to opportunities for improvement. However, due to shift work, only those nurses, who were rostered on duty when these meetings occurred had the opportunity within work time to attend.

Literature suggested that nurses preferred verbal forms of communication as opposed to writing their opinions and contribution (Jefferies et al., 2012); yet, data from Phase A was at odds with that suggestion. It was not a cultural norm within the facility for the nurses to actively attend the interprofessional meetings, let alone, speak up and voice their opinion or contribute their perspective to decision

making within the facility. Again, the rostered nature of nurses' work divided them from attending interprofessional meetings. Inconsistent attendance at IPT meetings shaped their ability to remain conversant of rehabilitation issues and plans. These cultural mores framed and influenced the documentation practice for nurses in the facility.

7.3 T2-T3: Socio-cultural Interaction

The different SEPs and CEPs that were identified at period T1 gave an understanding of the structural and contextual factors that were in existence prior to, and during, period T2-T3 in which this cohort of nurses were interviewed. Recognition of analytical dualism and the antecedent properties of existing structures and cultures then interacted with the nurses within T2-T3. These emergent properties shaped the nurses' responses and predisposed them towards a specific pattern of action. Cruickshank (2003) warned that although it appears that structures are separated in T1 from agents in T2-T3,

> in reality structure and agency are always already embedded, with agents always acting in some form of social context, we have to separate – or abstract – the structural factors from a preceding series of events in order to explain how agency was enabled and constrained by those structures, and how such agency led to either change or continuity. Thus we have a 'dualism' rather than a 'duality'. (p. 112)

Whether these pre-existing structures and cultures constrain (impede) or enable (facilitate) is up to the individual or collective group. The factors recognised in T1 have causal powers that may or may not be activated in T2-T3 (Archer, 1995). Explaining why agents, in this case the nurses, might respond to the structural and contextual environment they find themselves in, can be clarified by understanding their 'mode of reflexivity'. Archer (2003) contended that our thoughts (coined internal conversations) about how we decide whether to act tend to unfold in a similar way. Needless to say, these responses are socialised within certain environments and are subject to change. Examples of the four reflexive modes[49] were evident through the nurses' actions and will be identified throughout the following sections.

Understanding the documentation tendencies of this group of rehabilitation nurses required analysis of the interaction between structural and cultural factors,

[49] The four types of reflexivity explained in 3.4.4 are: meta reflexive; autonomous; communicative; and, fractured (Archer, 2003, 2007).

and agency.[50] This following section, seeks to identify nurses' responses to the structural and cultural context, and to understand how they responded to and mediated those emergent properties (SEPs & CEPs) individually and collectively. During the period under review, there were several key responses identified (refer to Figure 9, p. 149). These included: collective and individual interpretations of documentation requirements; discrepancy between valuing and performing the rehabilitation nursing role and valuing documentation of that role; managing environmental structural and cultural constraints; handling the division between nursing and allied health; balancing supervisory requirements with documentation obligations; and, the absence of a collective sense of identity and affiliation.

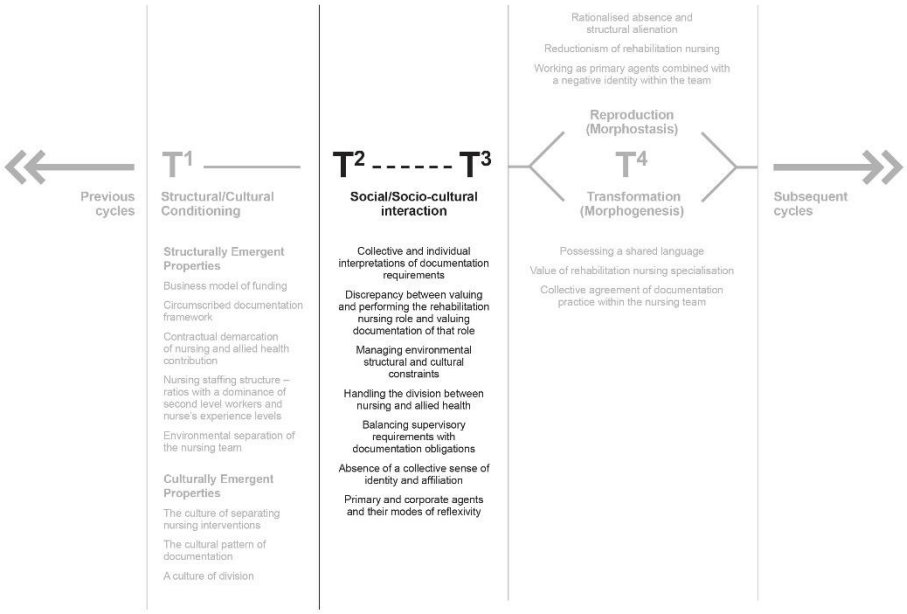

Figure 9: Social / socio-cultural interaction identified in the researched facility

7.3.1 Collective and Individual Interpretations of Documentation Requirements

Nurses interpreted what was required in their documentation within the pre-existing context, identified in T1. There was some collective understanding of documentation requirements as well as many examples of individual

[50] Danermark et al. (2002) explained that it is not the structure that sets goals and has the ability to progress towards those goals by taking action; this ability is only possessed by humans. This capacity of a person to act independently is referred to as agency.

interpretations. The T1 time-period identified, throughout the phases of data collection, a division between the nursing and allied health teams. This division was seen structurally, primarily in the divisive funding model. Separation was also demonstrated culturally, in managerial variance in defining the timetable terms, which were required for the input-funded approach, combined with the individualised nature of nurse's induction. Within this context of SEPs and CEPS, nurses interacted with, and navigated their own constructions of documentation practice.

Nurses in this facility applied their knowledge of the funder's documentation requirements within their own understandings about what was expected of them from a medico-legal documentation perspective. "My main foremost thing is my legality. Protecting myself" (N2, p. 16). Difficulties arose when they had incomplete knowledge of the funding system and needed to navigate the differing expectations of management. In addition, they navigated the requirement to capture their 8-hour shift with potentially multiple client episodes within that period. In response, the nurses overwhelmingly wrote documentation as a 'task', stating the discrete nursing tasks done for clients. Whilst some nurses spoke of integrating rehabilitation throughout their interactions with clients, this interaction was not explicitly recorded in the documentation. For example, there was little documentation of coaching, educating, or supporting clients towards their goals. Conversely, most frequently documented within the Task – doing for, sub-category were bowel and bladder management, enteral feeding, and medication tasks. The complexity of navigating these SEPs and CEPs within the facility became clear within the research. Nurses tended to make documentation choices that focussed on, and fulfilled their nursing regulatory requirements.

Nurses acknowledged the need to 'justify' their input, "I do try to keep that in mind, you know that ACC wants to read what nurses are doing here and that we're justifying the hours that we spend" (Nurse 4, p. 19). Therefore, in addition to a task-related focus, which emphasised 'doing for' the client and which met legal requirements, they also documented their specific assessment undertaken for clients with clients' self-medication and nursing assessments the highest recorded frequency. Despite this justification aim, not all nurses were able to articulate the actual contractual expectations of the funder, and their documentation revealed the notion that nurses' view of justifying their contribution encompassed nursing tasks and assessments.

In spite of this documentation emphasis on tasks done for clients and assessments, many nurses commented on their belief that others only saw their role as medication, managing feeding, and continence. One responded, “we weren’t even seen as like healthcare professionals you know! We were just here to dish out the medication” (Nurse 4, p. 19). This quote exemplifies the frustration that some nurses felt in how others viewed them. However, many seemed surprised by the Phase B audit results, which indicated their documentation tendencies. This pointed to an ontological gap (Bhaskar, 1978), in relation to the actual domain, exposing a concern for the gap between what is expressed in scientific data and information that is socially defined. Nurses articulated dissatisfaction with the cultural conditions they worked within, but they had not extended that to what their own documentation was conveying about their role. They did not seem to reflect on the way their documentation might reinforce others’ view of them, prior to it being raised at interviews.

When nurses joined the facility, the cultural pattern of a checklist-style of documentation was prevalent, and this was confirmed in interviews where many spoke of this compartmentalised approach to their documentation. In contrast, one nurse stated, “I know that my notes contain more information than most of the other notes” commenting, “that’s something I struggle with is with the ways certain people define their nursing” (N3, p. 28). This study did not examine her specific documentation, rather it considered her perception of how she was documenting. Comments from Nurse 3 indicate she actively resisted the dominant cultural patterns of documentation within the facility, exercising agency to document outside the norm of her peers.

Archer’s (2007) ideas about modes of reflexivity[51] help explain the contrast between the nurses’ collective views of their documentation practices and their individual differences in practice, such as that shown by Nurse 3. Archer explained that different levels of reflection shape our actions. Nurse 3 displayed a tendency to act in an autonomous reflexive way, indicating action without considering others because she acted on the basis of what she believed was right. In this example of autonomous reflexivity, the outcome is unlikely to have an impact on others (Goodman, 2016). However, Nurse 3 is more likely to challenge the inherent power structures. Other nurses’ responses were polarised, with acceptance by some nurses who conformed to customary documentation

[51] Archer’s modes of reflexivity are discussed in 3.4.4

practices within the facility, (likely communicative dominant[52]). In contrast, others provided reflective examples where they actively considered alternatives when discussing their documentation choices (meta-reflexivity[53]) at interview. This range of responses is important, as within the team there were many different personalities, but also some dominant modes of reflexivity.

In summary, understanding the team composition shed further light on how the nurses mediated the SEPs and CEPs within the facility. Nurses each articulated an individual construction of what was needed in their documentation. However, they were all influenced by mechanisms of contractual demarcation that led to a division between nursing and allied health. Also influential was the cultural mechanism of separating the data required. A cultural pattern of documenting in a checklist-style, alongside of predominantly documenting the tasks they had completed, was common. However, interviews demonstrated that the nurses viewed their practice in different ways. Whether they had an integrated or compartmentalised view of rehabilitation was not overt in the documentation audit. Nevertheless, the nurses were collective in recognising the need to justify their contribution for funding purposes. Despite that, they expressed individual views of what they documented and what they perceived was required. Nurses did not link the content of their rehabilitation to their perception that others saw their input in a limited way. Negotiation of structural and cultural emergent properties was also observed in the value the nurses placed on their documentation choices and inherently what they valued about their role.

7.3.2 Discrepancy between Valuing and Performing the Rehabilitation Nursing Role and Valuing Documentation of that Role

The following section explores how the nurses responded to the SEPs and CEPs identified within the context of what they valued in their role and their documentation choices. Nurses articulated a strong sense of value in the work they did. However, this sense of value did not necessarily translate to their documentation. Consequently, they prioritised their actions rather than administrative, documentation tasks.

[52] Communicative dominant is described as requiring confirmation by others before they can act (Archer, 2003; Goodman, 2016)
[53] Metareflexive dominant frequently questioning and critiques themselves prior to acting (Archer, 2003; Goodman, 2016)

Understanding what the nurses valued about their role was key to unearthing the value they placed on their documentation and, thereby, how they interacted within the structural and cultural features of the facility. One nurse said she realised the merits of engaging with the client over a 24-hour period and stated, “our opinion I think, (is) quite valuable” (N4, p. 26). Others echoed these thoughts stating that while there were some short periods of the day where allied health colleagues were intensely involved with individual clients, “the rest, it’s us” (N3, p. 18), and “we cover everything” (N6, p. 17). Another nurse used the term, “specialised” (N1, p. 11) to describe her view of the value of the nursing role, and there was a strong sense of value in the management of “acute clients” (N5, p. 8), within the rehabilitative context. Nurse 2 saw value in her actions, commenting that, “I think a lot of what we do, the important stuff is around our discussions with clients, our discussions with family members, it’s about problem-solving”. However, she also remarked that, “it’s really difficult to document a conversation” (N2, p. 11). Consequently, valuing and comprehensively carrying out the rehabilitation nursing role did not proceed to their documentation, with Nurse 2 commenting, “I’m a real nurse, nurse as in action nurse. I don’t do paperwork very well! And I don’t like that to disrupt or take away anything that I’m doing with my clients” (p. 3). Accordingly, her view of documentation was that it distracted her from her role, her core strength, and the value that she placed in herself as a nurse.

Others also felt that their value was in working with the client and, ultimately, this impeded their documentation as they prioritised activity and interactions with clients and family/whānau. Furthering this theme, one nurse remarked that documentation content and quantity often “all depends on the day” (N5, p. 33). Another felt that they, as nurses, often reinforced information, and provided education and encouragement and just see that as “part of your daily work” (N4, p. 37), but that was not always documented. Nurse 4 indicated that she was more likely to document “the task you do with your hand” rather than “the task you do with your mouth” (p. 37). Along the same line, when Nurse 4 reflected on an interaction on the day of the interview, where throughout the conversation she was continually assessing the client for behavioural warning signs, she did not think to write that in her notes. Nurses indicated that time constraints were a significant factor as to how they would document; they also indicated they were more likely to document physical interventions rather than communications with a client.

In like manner, translation of the value nurses saw in their role did not correspond to other areas of their documentation. While these nurses were aware of the need to identify their input with a client on the timetable, they did not prioritise their role in the financial processes of the facility. Nurses articulated that they did not think about the financial implications of their documentation, one nurse commenting that she "never really thought about it to be honest" (N2, p. 25), and later mentioned,

> *I don't think that I've really grasped fully the whole ins and outs of how the whole* [facility name] *system works and I think for myself personally, and it might be for everyone, is that I need to understand and rationalise something before I can do it. Or before I even have an incentive or* ***want*** [emphasis added] *to be able to do it. It's like well, you're just adding on more paperwork, why should I?* (N2, p. 25)

It is evident from these comments that she had not prioritised understanding the payment system, seeing it as an arbitrary administrative task. Combining a response such as the nurse above, with the CEPs of separating nursing interventions and predominant patterns of documenting tasks, gave rise to a disconnection in valuing their role and documentation practice.

Valuing their own documentation was challenging particularly when the financial implications were not recognised. Many nurses seemed to share the view that documentation was a low priority. However, a new nurse to the facility drew my attention to the impact of the nurses' incomplete understanding of the funding system and her documentation choices. She scheduled her assessment time in her own outlook calendar rather than in the electronic timetable (N1). Therefore, even though she completed many rehabilitation interventions, they were not available for RCS scoring. As discussed in Chapter 6, nurses did not have complete knowledge of the funding system; however, they also did not think this was an issue. There were no comments that reflected an impetus to change their knowledge, as their focus was in valuing their client and doing their best for them: "it's that balance of how do we reflect that without taking away from that" (N2, p. 5). Nurse 2 indicated that she was balancing her documentation with not wanting to lessen the time she spent with her clients.

With many nurses entering rehabilitation from a hospital setting, they viewed documentation from a professional legalistic framework, "my main foremost thing is my legality, protecting myself" (N2, p. 16); often writing with an acute framework based on a biomedical body system approach. They saw documentation as a

necessary, legalistic, regulatory task and did not see value in changing it. As long as the client was improving, they got intrinsic value, and environmental constraints, such as time and computer resources, structurally reinforced this practice thus supporting morphostasis (Archer, 1995). I questioned what it would look like if nurses did value their documentation.

I suspected that one of the ways that nurses may show their value in their documentation would be to articulate that reading other nurses' notes was essential to them. While there were some comments, where nurses stated that they read others' documentation (N3 and N4), there were also many constraints to this process. Nurse 5 remarked that there were multiple locations where information could be found,[54] and she prioritised the handover note rather than her nursing notes. Another two nurses (N4 and N6) commented that the email was very valuable, and they felt that this was where important communication between the entire rehabilitation team took place. Nurse 1 commented she would read other nurses' notes if looking for a specific piece of information, but would not read other nurses' notes in a general sense. While, Phase A data analysis suggested that the nurses were not communicating with the allied health team or generating a team approach to planning care, nurses highlighted that they did this by other means (i.e., communicated and made decisions by email and planned care through the handover function). However, these alternative electronic functionalities were not seen by the funder and were not taken into consideration with funding justifications through the RCS. Therefore, the nurses' contribution was largely invisible to funders and management.

To conclude, the nurses valued the work they did within the client space particularly across the 24-hour time-frame and with clients who were medically fragile. Nurses remarked that they found it difficult to document conversations and acknowledged they were less likely to record interactions where they supported and encouraged clients, and this was in line with the audit findings in Phase B. However, documentation of their work was low on their priority list, and they did not perceive the task in itself, as valuable, but saw it as a legalistic necessity. For this reason, when they were under time pressures, the content and quality of their documentation varied, with the emphasis on documenting discrete tasks that had been done for the client. Moreover, the financial implications of their documentation choices were not viewed as an impetus for change, as they

[54] Refer to Chapter 7.2.1.2

had an incomplete understanding of the contractual consequences. Nurses individually formulated alternate forms of communication and methods to plan clients' care outside of auditable files. Only two nurses regularly read their colleagues' notes, so this practice was not a norm within the facility. There were multiple other places where communication took place and the nurses were not collectively consistent in the choices they made. Whilst the facility recognised the importance of comprehensive nursing documentation due to the financial implications, overall, nurses revealed low value in their documentation, as they prioritised time with their clients. The SEPs and CEPs previously identified meant the nurses either did not understand the funding implications of their documentation and/or they disengaged due to structural and cultural constraints.

7.3.3 Managing Environmental Structural and Cultural Constraints

Shift work is an accepted requirement for nurses who work within 24-hour services. Nonetheless, this group articulated difficulties working on a rotating shift pattern. Two of the nurses referred to difficulties in familiarising themselves with a changing group of clients and the time pressures relating to this (N4 and N5). Nurses felt their documentation was time-dependent. When they were "pressured for time" (N5, p. 16), documentation was lessened. The environmental constraints of computer availability and time issues overrode the priority of entering information. "It's really time consuming. And the time's so precious for the nurses on the floor" (N1, p. 13). Another time demand was the SEP of relatively low nursing numbers along with the dual need to supervise the non-regulated staff.

Some nurses related a lack of confidence in expressing their opinions due to fragmented shift patterns. One nurse stated she did not feel up-to-date with information "because of my shift" (N6, p. 15). Another reflected on her desire to increase her hours as she wanted continuity with clients, but she felt this would be too stressful (N2, p. 22). There was also mention of nurses' lack of confidence in completing documentation for those clients who they met part way through their journey, as they did not feel as able to comment on progress. Nurse 2 stated "we're not getting that overall connection with what's going on for that client" (p. 21). In this cohort, shift work requirements produced difficulties in keeping updated with clients' progress and plans, reducing nurses' confidence in their ability to give their opinion. Consequently, nurses tended to avoid documenting their recommendations, as seen in Phase B.

When asked their opinion of ways to enhance documentation, suggestions included reducing distractions and managing time. Nurses wanted a quiet space to write their documentation, as suggested in this comment, “probably the nurse can be away from the floor like certain periods” (N1, p. 19). Others expressed a requirement for specific allocation of time to complete documentation (N5), and simplification of login requirements (N3). Some nurses gave the impression that structures were too difficult to change, for example, “oh, I don’t know what we can do about the environmental things …the phone will be ringing, it’s just one of those things” (N4, p. 27). None had ideas that addressed the impact of shift work on their knowledge of clients and its subsequent effect on their documentation.

Management required documentation of nursing input but structurally the nurses perceived the available time, provided space, co-located with client and family/whānau space, as incompatible to quiet thought. All resources were within the client space and the nurses stated they were not able to move to a quieter workspace with hard copies of paperwork, as others needed them concurrently. The nurses did not work regular shifts and this constrained their communication as part of the wider team. Additionally, within the wider team culture, no process had been instigated that supported the nurses to provide their input into the client’s rehabilitation plan from a nursing perspective. This was accepted and not challenged; rather, was considered part of rehabilitation nursing. Given that the nurses reported busyness as part of their working day, while some may have considered ideas for change, they were not collectively united in planning transformation.

7.3.4 Handling the Division between Nursing and Allied Health

Throughout this doctoral thesis, structural and cultural divisions within the wider rehabilitation team became evident. Structurally, IT systems were set up to capture the ‘rehabilitation inputs’ of nurses, but differentiated between nursing input and that of allied health. While the system required nurses to analyse each intervention they delivered, their allied health colleagues were not required to scrutinise at an intervention level, and only needed to document the total time they spent with each client. A physical environmental separation of the teams further reinforced this divisive approach. Nurses spent their working day within the client space and potentially missed informal and formal discussions with the wider team regarding client planning and progress. These structural properties exhibited powers that divided the team, and likewise culturally emergent properties shaped the institutional context of the nurses. Nurses themselves

articulated a variety of responses to this division. While some verbalised irritation, most seemed resigned to this perception of division within the facility.

The two managers articulated differing definitions in funding model terms by assuming either that rehabilitation be identified when an activity was linked to the client's goal or that it depended upon the activity of the nurse. These differing institutional beliefs about contractual documentation definitions set the cultural practices in the facility (highlighted in Phase A). Essentially, the two managers indicated a difference in distinguishing intervention types and deeming an intervention nursing care or nursing rehabilitation. While separating these terms contractually shaped a divisive approach in and of itself, this distinction was then unclear within the wider facility as to which interventions were seen as rehabilitative versus those which were non-rehabilitative and therefore not funded as a specialist intervention within the contract. Not surprisingly, during the interviews nurses themselves demonstrated conflicting views when defining which intervention was rehabilitation or non-rehabilitation. Unfortunately, this also included nurses' understanding of the funding system itself, so they did not fully understand the implications of their documentation choices. Consequently, they could not move to the point of change or consider another approach to documentation.

While the interviewed nurses had differing views in defining the rehabilitation classifications, this confusion was at odds with the documentation audit (Phase B), which revealed nurses overwhelmingly designated their interventions as having a Direct rehabilitation focus. Interviews revealed that some of the nurses viewed their contribution in an integrated way, which might account for some of this result; if they regarded their input holistically, it was not the task itself that defined the rehabilitative status. However, there were still curious findings where 1/6th of 'education' interventions were deemed non-rehabilitative, and all family/whānau support was coded as either indirect (24 episodes) or non-rehabilitative (3 episodes). This demonstrates that although nurses perceived that most of their timetabled interventions were rehabilitation focussed, there were still areas of inconsistency regarding their documented rehabilitative contribution.

Individual nurses handled the organisational division between the teams in differing ways, but they were more confident in their documentation of set programs. During the interviews, the nurses reflected apprehension about their

nursing notes documentation, with one referring to not having “the rehab language yet” (N2, p. 5), while many others expressed their uncertainty of facility expectations. There was, however, confidence in utilisation and documentation of set programmes (e.g., the M-SAP[55]). All nurses interviewed discussed the M-SAP procedures and expectations utilising a common language.

In summary, divisive structural and cultural properties were evident in T1, which set the context in which nurses worked. In Phase A, nurses overwhelmingly coded their interventions as rehabilitative; however, there were inconsistencies in the dataset. Furthermore, during interviews, the nurses were not articulate as to what the coding definitions meant and demonstrated an incomplete understanding of how they coded their interventions. Overall, the nurses managed the identified divisions individually rather than collectively agreeing on a way of doing things. The exception was in their understanding and documentation of set programs such as the M-SAP, where collective language and agreement of stages was evident. The individual nature of the nurses’ responses to how they handled the division within the team, will be further be discussed in 7.3.7, where Archer’s (1995) notion of primary and corporate agency is considered.

7.3.5 Balancing Supervisory Requirements with Documentation Obligations

Nurses conveyed the complexity in balancing supervision of non-regulated workers with their documentation obligations. This complexity was two-fold; firstly, the impact on their own time of confirming in their documentation what had occurred, and secondly, some nurses assumed that the staff they were supervising would document their own interactions. It was not apparent whose role documented which actions, with individual differences as to which team members, either nurses or non-regulated workers, were responsible for different documentation components.

One nurse indicated the independent nature of the non-regulated workers, describing the time impact of gaining the information needed for her notes, “unless you’re really running behind them it’s sometimes quite hard to get the information out of them” (N3, pp. 4-5). While this nurse spent time checking

[55] M-SAP is the acronym for the medication-self administration program

information, another nurse saw the non-regulated workers as responsible for their own documentation.

> *I think that it's, personally unrealistic to be able to document interactions with all 14 clients if those interactions haven't happened [with me]. I kind of assume or want to assume that anything like that the [non-regulated workers] will document what they've done. So because I don't really like to take ownership of anyone else's subjective information.* (N2, p. 18)

However, she earlier expressed:

> *The [non-regulated workers] are really effective and efficient at using the timetable. At ticking off the timetable. …I find that I have to do very little check-ups and follow ups. But having said that, occasionally I'll think it's been done and I've noted that it's actually just been ticked off because it's been automated. So what I'm thinking is a constraint is that RNs are sort of assuming these things get done.* (N2, p. 12)

This cohort of nurses discussed how they balanced their supervision of non-regulated workers with their own documentation requirements. It became evident throughout the interviews that individual nurses had different perspectives regarding documentation components for which they were responsible. One nurse reflected on her confidence in relying upon others without confirming that documentation had occurred. These individual responses were enabled by SEPs and CEPs, which separated and divided nursing team practice within the facility.

7.3.6 Absence of a Collective Sense of Identity and Affiliation

The documentation from the nurses did not demonstrate a collective sense of their rehabilitative role and strength in their rehabilitation knowledge base. Phase B revealed that the nurses rarely documented their clinical rationale, recommendations, or education interventions. Infrequently recording their decision-making and clinical rationale meant that collectively they were unlikely to learn through each other's documentation, or add to a documented existing knowledge base regarding a client's plan or progress. They rarely documented recommendations to others who were not nurses. In addition, nurses did not document their role in traditional nursing areas where they might be expected to hold specialised knowledge, such as wound care or continence. Most frequently documented in the education category was medication education. These nurses demonstrated a value in this area, which coincided with the facility's collective nursing approach regarding phases of self-medication (M-SAP). Nurse 4 reflected that she only documented education if she initiated this activity in a

formalised way, and reflected that she had “already had so many conversations while you’re taking their blood sugar” (p. 32). These informal interactions were not captured.

Nurses tended to mediate the SEPs and CEPs with individualised responses and I became interested in how these identified properties shaped nurses’ agency. Bhaskar (1993), and later Norrie (2012) discussed the notion of absence, which involves considering what is absent from the data. When reviewing the interview data, I explored whether nurses referred to themselves in a collective sense. I found that nurses talked occasionally of themselves as “we” or “us” but only one nurse made one reference to nurses as a “team” (N3, p. 7) outside of interviewer prompts posed by a question. In contrast, many nurses articulated the word team when describing their allied health colleagues (i.e., “therapy team”; N1, N3, N4, and N5). Nurse 2 said she “emailed to the team” (p. 8); however, it was unclear within the context of her discussion whether she was referring to the nursing team or, more broadly to the full rehabilitation team. This absence prompted me to question whether the nurses saw themselves with a sense of collective identity, working together, and as a team of rehabilitative professionals within the broader rehabilitation team. Congruent with absent perceptions of themselves as part of the rehabilitation team, their identity as rehabilitation nurses did not translate through to their documentation practice. They did not consider documentation as the forum for expressing the value they added to rehabilitation, or of their contribution within the broader rehabilitative team. Additionally, the structural and cultural constraints mentioned previously, fragmented working hours and dearth of time together as a team, hindered their ability to collectively shape an identity within the facility. It also maintained a culture whereby they worked individually, each forming their own understanding of documentation requirements.

7.3.7 Primary and Corporate Agents and their Modes of Reflexivity

Nurses’ individualised responses and absence of collective identity can be explained by Archer’s (1995) conceptualisation of people’s emergent properties (PEPs) and her differentiation between primary and corporate agents.[56] Nurses handled the division between themselves and allied health with primary agency; there was a sense of irritation to their situation in that they felt undervalued as a team. However, they demonstrated individual understandings as to whether their

[56] As discussed in Chapter 3.4.2 and 3.4.3

interventions were rehabilitative (in particular, Direct rehabilitation focus and Direct non-rehabilitation focus), and the nurses were not consistent in their approach to documentation. To exacerbate matters, the nurses constantly felt under time pressures and considered their contribution was undervalued. Although they were confused about funding terms, they had not collectively questioned them, but felt constrained by structural and cultural properties. Therefore, the nurses did not have a collective strategy to clarify documentation components or bring about change as a group. Archer (1995) asserted:

> What is crucial for the outcome is whether they [people] merely remain as Primary agents, inarticulate in their demands and unorganized for their pursuit, in which case they only exert the aggregate effects of those similarly placed who co-act in similar ways given the similarity of their circumstances. (p. 185)

However, Archer also noted that whilst structural and cultural antecedents influence agency, they do not predispose people into single courses of action. This is where PEPs are important in modifying their action. With these points in mind, understanding the nurse's dominant modes of reflexivity gave some explanation as to how they mediated the SEPs and CEPs in relation to their documentation practice. There were many who articulated they did not feel they could influence the system. Nurses felt stressed by time demands and, on reflection, knew their documentation did not fully reflect their contribution to rehabilitation. However, they appeared to have limited solutions as to how to change the constraints they felt. These examples may indicate 'communicative reflexivity', whereby individuals require validation from others and, consequently, are reluctant to challenge the status quo (Goodman, 2016). In contrast, one nurse, in particular, demonstrated that she was pursuing her own ideal of what documentation should be. Moreover, she was not concerned about what others were writing. This exemplar demonstrates 'autonomous reflexivity', as she did not require confirmation from others regarding her documentation style (Archer, 2007; Goodman, 2016). Ultimately, though, if the majority of nurses within the facility are communicative reflexive, they will require support and opportunities to collaborate in order to collectively review their approach to documentation.

7.3.8 Summary of Socio-cultural Interaction

Where T1 identified the existing structures and culture for this group of rehabilitation nurses, in T2-T3 I sought to understand how the nurses interacted with those structures and culture, and to articulate those interactions. For

example, the funding structure within the contract was in existence prior to this research, producing consequences for this group of nurses of demarcation and enabling a compartmentalisation of nurses' documentation. Cultural norms within the facility separated nursing inputs into nursing care or rehabilitation nursing, and the nurses' documentation patterns demonstrated an impersonal-regulatory approach. Combined with a staffing structure where the nurses were in the minority on each shift, producing limited opportunities to meet together and environmental separation, the nurses were not afforded opportunity to modify their behaviour and/or collectively share a normative understanding of the funding requirements. Instead, nurses tended to individually interpret what was needed from their documentation. What was seen overall in the data was that although the nurses may have been engaging in rehabilitative practice, it was not overtly documented. The integrated approach that some nurses took with their practice was constrained with the structures and culture of documentation within the facility.

What can be seen by conducting a MM analysis is the interaction of structural mechanisms and mechanisms of the cultural norms. Further, interaction occurs at the point of the individual, where for this study, each nurse possessed agency to choose their response or reaction. This leads onto the T4 phase of reproduction and transformation.

7.4 T4 – Reproduction/Transformation

Central to this research was the commitment to understand what mechanisms either reproduced a morphostatic cycle for nurses or, alternately, which might transform, as part of a morphogenetic cycle in this rehabilitation facility. Archer (1995) explained:

> at the end of a transformational sequence, not only is structure transformed, but so is agency as part and parcel of the same process. As it reshapes structure, agency is ineluctably reshaping itself, in terms of organization, combination and articulation, in terms of its powers and these in relation to other agents. (p. 74)

T1 and T2-T3 is a version of reality that allows analysis with the benefit of time[57] to understand how events occur. The action of the nurses was recognised by first examining the structures and culture that pre-existed in the facility. Subsequently,

[57] Time periods relate to T1 (structural/cultural conditioning), and T2-T3 (socio-cultural interaction)

I examined how the nurses in this research were affected by social-cultural conditioning and then, through interaction, either reproduced or transformed the pre-existing SEPs and CEPs.

In her own seminal work, Archer (2013) researched the educational systems of England, France, Denmark, and Russia. Her work was historical and she used T4 to describe what and how change occurred. As previously stated, other contemporary researchers also using Archer's framework have influenced my work. Fleetwood (2004) explained that, "the starting point for an analysis of any cyclical phenomena is always arbitrary: we have to break into the cycle at some point and impose an analytical starting point" (p. 41). In the doctoral work of both Horrocks (2006) and Lipscomb (2009), interpretation of mechanisms was based on a specific snapshot in time and applied to recent time periods in their research. T4 then, for my study, involved retroducing the interplay between structures, culture, and social interaction, and then theorising as to whether these three factors were static or whether they might be transformed in that specific social context.

It became apparent following the literature review that a fresh research approach may assist in understanding why nurses documented in the way they did. In the above discussion, by analytically separating structure, culture, and agency across time periods, the way nurses recorded their contribution and the influence on their documentation have become clearer. The next section will describe mechanisms that maintained nurses' documentation behaviours (supporting reproduction) and those that enabled transformation.

7.4.1 Reproduction

The interaction of existing structures and cultures shaped and conditioned nurses' responses in T2-T3. The T4 time period recognises the final sequence of this interaction, as morphostatic (reproducing) or morphogenetic (transformation). In my research, reproduction was seen where there was opposition or apathy towards changing the current practice. Analysis of the way in which nurses documented their contribution was shaped by structures, organisational expectations, and cultural norms, which originated at T1. Within the T2-T3 interval, I questioned how documentation expectations, legal, and financial ramifications were seen by the nurses themselves and what value they placed on documenting their contribution. During this next, and final, stage of analysis, T4, I considered whether nurses were influential in the facility related to

their documentation practice. This influence was determined by how they articulated their unique contribution and revealed rehabilitation nursing expertise.

Identification of three key trends that likely continued morphostatic consequences were analytically seen at T4 (refer to Figure 10, p. 165). These will be elaborated upon and include: 1) rationalised absence and structural alienation; 2) reductionism of rehabilitation nursing; and, 3) negative core beliefs.

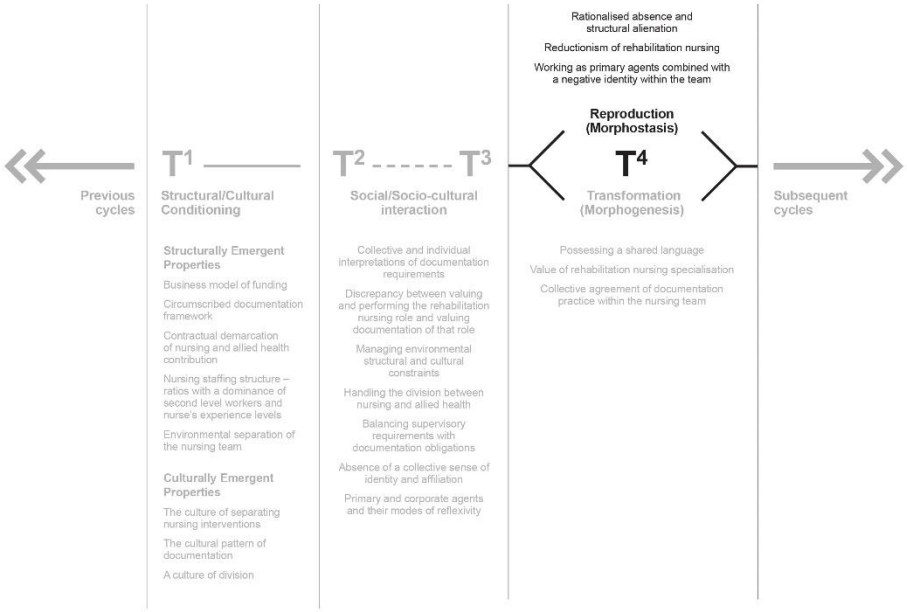

Figure 10: Themes of reproduction identified in the researched facility

7.4.1.1 Reproduction: Rationalised Absence and Structural Alienation

Because of the structural framework in the facility, namely, the staffing structure with nurse numbers in the minority, coupled with environmental divisions between the professional teams, nurses responded by rationalising their absence from group processes. Fragmentation due to shift patterns meant they were not confident in contributing to team meetings and perceived that others undervalued their role. Nurses rationalised their absence by stating the value they saw in the role was centred on 'action' and the interventions they were engaging in with the client. This reflected their decision making regarding their documentation practices, as nurses viewed their core value in nursing activity rather than in documentation. Concerns over time demands and limited understanding of

various key terms in the documentation framework influenced their documentation of interventions with implications for funding.

Nurses rationalising their absence from team meetings was identified, but they were also structurally constrained from having a collective voice. I interpreted this as structural alienation. The nurses met together as a team infrequently and, due to working requirements, both shift work and environmental work conditions, did not have to opportunity to meet during their working day. Therefore, they did not develop a collective voice, meaning they had little opportunity for change. Equally, they had little shared normative understandings.

7.4.1.2 Reproduction: Reductionism of Rehabilitation Nursing

Structurally, the facility's contracts required the nurses to code every intervention rather than empowering nurses to record their interventions holistically. In the interviews it became evident that nurses fundamentally viewed their documentation approach in different ways, from compartmentalised through to an integrated approach. Regardless of which approach they used, most of the documentation demonstrated a reductionist view of nursing. Nurses themselves reduced their contribution by abiding by an impersonal-regulatory framework and reducing documentation to their basic bio-medical components (i.e., input, output, and medications). Additionally, the cultural discourse within the facility absented defining the terms within the documentation framework, which allowed reproduction of the cycle. This morphostasis was further reinforced as nurses inducted nurses to documentation practice, which allowed for individualised perceptions of these financially important definitions.

7.4.1.3 Reproduction: Working as Primary Agents combined with a Negative Identity within the Team

I have identified many cultural and structural forces within the identified facility, and also detailed nurses' agency. Throughout this doctoral thesis, there have been many examples where the nurses have used individual agency in their documentation decision making and practices. However, the nurses were predominantly working as primary agents; while many expressed negativity in the system, they had not collaborated with ideas for change, and subsequently their perspectives of a negative sense of identity continued a morphostatic cycle within the team.

Nurses expressed negativity when discussing how they could expand their documentation. For example, documenting their recommendations to the wider

rehabilitation team or setting sessions in advance for a client. They reported being concerned they would “offend” (N2, p. 36); or “get judged” (N3, p. 20); and expressed that they would not plan for others by setting timetable sessions in advance for other members of the team (N4). The lack of confidence in expressing their opinion and concern over how others might view their documentation, constrained advancement of documentation processes. When talking about nurses’ lack of documented recommendations to others documented by nurses, one nurse remarked that she felt nurses did not “know how to make these recommendations without coming across as degrading someone else’s knowledge or, their input, or concerned that we’re going to make them feel offended” (N2, p. 36). In addition, nurses perceived that other team members saw their role in a negative light. Nurses spent limited time with the wider team due to shift patterns. They were also environmentally separated from one another while on shift. These factors likely reinforced their beliefs, regardless of whether this negative view was actually held by allied health team members. Nurses under-confidence in, and negative core beliefs about, the nursing role influenced their documentation choices; thereby preserving the cultural patterns of separating interventions and divisive practice, as they reacted individually with no agreement of action between them.

One of the benefits in choosing a critical realist approach is that it acknowledges the multi-strata view of actual, real, and empirical. Engaging with MM analysis recognises the powers of structures, culture, and agency, and these are discussed next.

7.4.2 Transformation

There were many positive features uncovered within this research period, which had potential to transform the nursing documentation practice within this facility. As discussed throughout this doctoral thesis, morphogenetic change would involve challenging the cultural norms of the facility, while being unconstrained by the boundaries of structural entities. Danermark et al. (2002) commented:

> The most productive contribution to social practice that social science can make, we conclude, is the examination of social structures, their powers and liabilities, mechanisms and tendencies, so that people, groups and organizations may consider them in their interaction and so – if they wish – strive to change or eliminate existing social structures and to establish new ones. (p. 182)

It is recognised that morphogenesis was overshadowed somewhat, in this facility, by the morphostatic nature of documentation practice. While Chapter 8 will consider the possibilities for morphogenesis in the future, the themes discussed here are what was evident during the timeframe of this period of analysis (refer to Figure 11, p. 168).

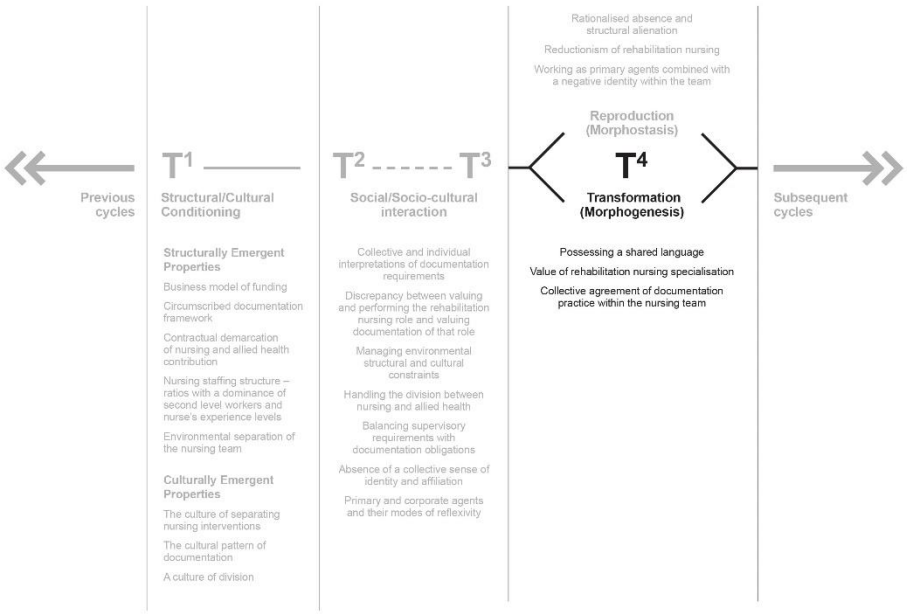

Figure 11: Themes of transformation identified in the researched facility

7.4.2.1 Transformation: Possessing a Shared Language

Nurses within the study facility consistently referred to the M-SAP in a positive collective sense. The shared language and procedures within the program appeared to empower nurses as it gave them a framework on which to base their documentation. All used the same language of progression when describing the teaching and achievement process that they shared with clients.

While the notion of a shared language was particular to the M-SAP, potentially there are many strands of rehabilitation nursing practice where programs could be defined within the facility. Accordingly, a collective sense of identity, and shared meaning of rehabilitation practice could be framed alongside the cultural patterns of the facility. This would further enable consistency in documentation practice and clarify communication patterns within the nursing team.

7.4.2.2 Transformation: Value of Rehabilitation Nursing Specialisation

Members of the nursing team valued their role within the client's rehabilitation journey. They valued their own opinions, the specialisation of rehabilitation nursing, role differentiation as they worked throughout the day and night, and their management of acute clients. They also valued their role in their interaction with their clients. Ultimately, the value they saw in their documentation was inferior to the value of being with their client. However, if documentation of their contribution was framed alongside of benefits to the client, for example, improved communication between the team, this would increase cohesion and agreement of the client's rehabilitation plan, potentially valuing their specialty could be utilised more broadly. Additionally, drawing attention to their value as rehabilitation nurses and their contribution and specialisation within the broader rehabilitation team, would reap benefits for this group of nurses.

7.4.2.3 Transformation: Collective Agreement of Documentation Practice within the Nursing Team

As each interview progressed, nurses reflected upon their documentation practices and the repercussions for the facility. These reflections demonstrated individual agency and appeared to be personally helpful. There was a promising sense that nurses could collectively establish definitions to support and legitimise their documentation after personally reflecting upon their own practice. However, movement from primary to corporate agency would involve resolving some of the underlying environmental constraints, to establish consistency of documentation practice within the team.

7.5 Summary

This chapter has applied Archer's (1995) morphogenetic analysis to the data from Phases A, B and C. Combining the principals of field analysis (Vincent & Wapshott, 2014) with Archer's analytical framework supported retroduction of the observed regularities seen in the three research phases. Additionally, it enabled acknowledgment of the complexity in nurses' decision making regarding what they chose to document of their daily practice. Complexities included how the nurses understood the broader organisational context, contractual definitions, and how they engaged with these structural properties, as well as the cultural context of the facility. The structural and cultural powers that were identified were viewed through the nurses' perspective by asking them to reflect on their documentation decisions and the influences of their documentation practice. Even though nurses collectively had the potential to reflect upon and change their

documentation practice there was little evidence of their influencing the social or cultural structures within the facility. Accordingly, I identified mechanisms that reinforced and continued a morphostatic cycle within the rehabilitation facility. Alternately, examples of themes that demonstrate a degree of morphogenesis were also revealed.

In the following chapter, these findings are related to research within the field. Considering the contribution of other researchers and relating to the NZ context was helpful in determining recommendations and, ultimately, the quest to achieve corporate agency.

Chapter 8 - Discussion

> Rehabilitation nurses must claim their worth by consistently providing appropriate documentation for all patients. If excellent rehabilitation nursing care is given, nurses need to prove it through their 24-hour nursing documentation. (Hentschke, 2009, p. 132)

8.1 Overview

This doctoral thesis is the first study to use critical realist principles to explore the documentation practices of rehabilitation nurses. In doing so, it contributes a comprehensive analysis of the nurses' documentation, guided and informed by a theory that shines a more critical light on nursing work, including 'every day practice' (A. M. Clark, Lissel, & Davis, 2008; Schiller, 2015; Williams et al., 2017). A case study methodology was adopted, and the 'case' was situated in a TBI rehabilitation facility in NZ. Implementing a case study in this setting brings unique and much needed understandings about the different issues facing nursing teams working in rehabilitation in this country. The results not only lend valuable insights into key factors that were operating to constrain documentation practices and nurses' perceptions of their contribution to rehabilitation, but also identify avenues that can be drawn on to bring about transformation.

The main aim was to understand nurses' documentation of their contribution to TBI rehabilitation, and the influences that shaped that documentation, within the context of this case. Several sub-questions were formulated and theoretical propositions were developed that provided boundaries for the case and which guided data collection. Three research phases were conducted; Phase A included a description of the facility and managerial questionnaires, documentation audit of nursing notes and timetable data was undertaken in Phase B, and in Phase C, nurses from the facility participated in interviews. The three phases were reported in Chapters 5 and 6, then Archer's (1995) morphogenetic framework was applied and reported in Chapter 7.

In this final chapter I present a discussion relating to my research questions where I position the conclusions to each research question within the existing literature. The study's novel findings are then discussed through the transformative mechanisms (identified in 7.4.2). The strengths and limitations of this research are considered, together with reflections on the research process

itself. The chapter concludes with recommendations and implications for practice, and future research.

8.2 Conclusions

There were multiple conclusions that emerged within the context of this case study. They have come from the themes that have been discussed in the previous three chapters, and are restated here, with reference to my research sub-questions.

8.2.1 What do Nurses Record about their Contribution to TBI Rehabilitation?

The nurses in this study predominantly documented assessments and the tasks they performed for their clients. While these interventions encompassed a portion of their perceived role, the nurses' impersonal and regulatory writing style was problematic as it only recorded tasks as being 'done for' the client. The fundamental view of whether nurses saw their rehabilitative practice as integrated in everything they did, or compartmentalised, separating a nursing and a rehabilitative role, was not clear in their documentation. Additionally, some nurses used a checklist style approach to their documentation, framing their contribution using body-systems headings. Whilst such documentation may meet legal and regulatory requirements, it was unclear how nurses were involved in interactions with their clients, or what their thoughts or analyses were. Nurses seldom recorded their contribution to the wider aspects of a client's rehabilitation and documentation of their clinical rationale, recommendations, interprofessional discussions, coaching, or education were largely absent. They reported they were not aware they could write their rationale and were uncomfortable in including recommendations to others. Writing down their reasoning regarding decisions was not the culture in the facility, and it upheld a difficulty for nursing staff to learn off each other. Nurses reflected that they found it easier to record physical tasks rather than verbal conversations. It was, therefore, easy for a reader to surmise the nursing contribution was simply a list of tasks, of interventions that were 'done for' the client, which promoted a view that rehabilitation and care were separated.

Unexpectedly, the timetable data showed that most nurses coded their interventions as rehabilitative. A tension was, therefore, apparent, with coding of interventions as rehabilitative in the face of absent documentation of key aspects of rehabilitation. One of the key conclusions was that the nurses' written documentation may not have adequately represented their contribution.

8.2.2 How do Nurses Perceive their Contribution to TBI Rehabilitation?

Talking with the nurses in the interviews led me to realise that some compartmentalised their role as a nurse and their role in undertaking rehabilitation. Others viewed their entire contribution as rehabilitation, integrated in everything they did. In spite of those differences, most of their interventions documented in the timetable were coded as rehabilitation. This shows a discrepancy between their documentation and the statements by some nurses at interview that components of their role were not seen as rehabilitation.

These differences in underlying perceptions of how nurses viewed their role were unclear in Phase B, due to the dominance of documentation that was written in an impersonal-regulatory style. While coding within the timetable affirmed that some nursing interventions could be considered as not rehabilitation,[58] the nurses were not united in their perception of this concept. This led to an inconsistency in documentation and revealed differences in data between timeframes, even between common interventions. Additionally, nurses acknowledged that time played a factor in the completeness of their documentation and was possibly reinforced by the ambiguity in perception and definition of nursing interventions. In effect, nurses individually interpreted what was required of their documentation. Although there were organisational requirements relating to contractual funding requisites, the nurses had different understandings and perceptions of how they incorporated these into their documentation.

Nurses perceived they had a greater role with clients who had higher levels of dependency, rather than those clients who were independent and nearing discharge from the facility. They also valued their role with the client, and subsequently prioritised this role over their documentation.

8.2.3 What are the Influences and how do these Influences Shape Rehabilitation Nurses' Documentation of their Contribution?

Multiple influences shaped nurses' documentation practice. Many of these were revealed as SEPs or CEPs in the MM cycle of analysis. These included:

- The contractual demarcation between rehabilitation nursing and allied health, with the RCS also separating their contribution;

[58] One of the timetable coding choices for nurses was Direct Non-Rehabilitation Focus.

- Documentation utilised the SOAP framework which influenced documentation practice by circumscribing what they wrote of their contribution;
- Disproportionate nursing numbers in comparison to non-regulated staff per shift and rotating shift patterns lessened the opportunities for feedback and discussions;
- Unclear, inconsistent definitions within the facility of funding terminology;
- No formal guidance in terms of documentation exemplars within the facility. Lack of guidance was compounded by a buddy orientation practice, leading to conflicting, individual interpretations of documentation requirements being perpetuated; and,
- Environmental constraints of time pressures, noise, distractions, and inconsistent client allocation all influenced the documentation practices of the nurses.

The next section articulates my research conclusions alongside of current literature.

8.3 Situating Key Findings within the Literature

Various researchers have considered structural and cultural influences when viewing the role of nurses in rehabilitation but not in relation to documentation practice. Reconsidering others' work alongside my own provides a combination of insights and adds to the richness of explanation while relating to a specific rehabilitation context.

8.3.1 Rehabilitation Nurses' Recording of their Contribution: The Cultural Pattern of Documentation

My work makes a useful addition to the few tangible examples about documentation within a rehabilitation-nursing framework. Chin, Finocchiaro and Rosenbrough (1998) and Hoeman's (2002) texts, draw heavily upon the nursing process and give examples in various sections of assessment, diagnosis statements, and intervention examples. These texts do not articulate day-to-day documentation specifically, although affirm the need to evaluate throughout the implementation process concerning a client's progress relating to outcomes. For example, Jester (2007) writes theoretically rather practically, alongside others

who employ various taxonomies to guide documentation practice[59] (Mueller et al., 2008). Thus, while documentation is seen as an essential part of nursing practice, there is little consensus on exactly which components are necessary to document within free-text nursing notes.

In my study, rehabilitation nurses expressed concern and confusion about this issue of documentation. In line with this concern, there are multiple posts throughout ARN member circle, of nurses asking for advice or template examples for documentation. A recent 2017 post (Association of Rehabilitation Nurses Member Circle), requested resources for her documentation practice as a rehabilitation nurse, adding that her organisation wanted to be more explicit in their rehabilitation contribution, yet lacked guidance from textbooks. On this occasion, the nurse was then directed to an ARN *Rehabilitation Nursing Documentation Pocket Guide*. However, as one reviewer noted, the pocket guide was seven pages long, and did not contain any documentation examples.

A notable exception is an article from Hentschke (2009), who wrote to advise nurses working in the United States under the Medicare scheme. She noted that, "cues, suggestions, and education offered to patients demonstrate the importance of 24-hour rehabilitation nursing, but these things often go unnoticed because they go undocumented" (Hentschke, 2009, p. 132). This reminder to ensure a more complete account of the rehabilitation nurses' contribution, aligns with the concerns raised in my research.

8.3.2 Rehabilitation Nurses' Perception of their Contribution: Integration or Compartmentalisation

Before embarking on this research, based on my own experience in the field, I had wondered about a dichotomy between care tasks and rehabilitation interventions. A notion of the client being passive and not engaging in the activity, where nurses provided what was needed, was proposed when defining care (Burton, 2000; Wade, 2005a). This differentiation between care and a rehabilitation activity seemed to relate specifically to the nursing contribution within rehabilitation. Pellatt (2003) similarly noted in her literature review that nursing care was seen as "something complementary to rehabilitation rather than a rehabilitation intervention in its own right" (p. 298). What became interesting as

[59] For example: North American Nursing Diagnosis Association (NANDA), Nursing Interventions Classification (NIC), Nursing Outcomes Classification (NOC), International Classification of Nursing Practice (ICNP), and the International Classification of Functioning (ICF) (Mueller et al., 2008).

my research progressed, were the different ways that nurses viewed their contribution. Although some literature and NZ contractual documents appeared to compartmentalise the nursing role, by separating some interventions as rehabilitation and others as nursing care, the interviews in my research revealed a group of nurses who saw their role as integrated in everything they did.

There appears to be an underlying philosophical difference in how nurses and scholars of nursing view the nursing role in rehabilitation. A recent Danish study presented this difference, where some nurses and nurse assistants' definition of the concepts of nursing care and rehabilitation were separate, while others described these as being interconnected (Loft, Poulsen, et al., 2017). Dreyer et al. (2016) wrote: "caring for (the) basic needs was the foundation for the total rehabilitation effort" (p. 116), describing care tasks as "pre-requisites" in a successful rehabilitation program. They commented that nurses "deal with basic nursing care" and later "train the patient" in those activities (Dreyer et al., 2016, p. 114). The separation in terminology indicates that the focus may be independent of each other. This is further delineated in a later statement, "Nurses play a key role in preparing and conserving the patient *for* [emphasis added] the rehabilitation process" (p. 116). The word 'for', implies that the rehabilitative process is separate from a nurse's key role, as nurses 'prepare and conserve' rather than contribute to the rehabilitation process. Subsequently, in nurses' efforts to define their role within rehabilitation, some separate the rehabilitative and the care component. Whether or not, researchers intended to articulate a separation in the role, nurses may have interpreted this division. Research continues to evidence that nurses perceive rehabilitation as something separate from their other nursing activities, that is only achieved if time allows (Clarke, 2013). Questions then arise regarding how nurses are expected to document that contribution.

In my study, compartmentalisation of the nursing role was also evident in the documentation audit, when nurses wrote in task-focused or checklist-styles. The latter style of documentation was based on an acute documentation model, with both expressing interventions as 'doing for' the client and consequently failing to communicate the rehabilitative nature of the nurses' inputs. Pellat (2003) acknowledged the difficulty in moving from "an acute care orientation to a rehabilitation philosophy of self-care and independence" (p. 298). Mauk (2012) also compared the nurse's role between hospital and rehabilitation. She stated that acute nurses "provide care provision that involves performing activities of

daily living *for* persons, whereas rehabilitation focuses on educating persons to be able to perform activities of daily living for themselves" (pp. 1-2). What is less clear in statements such as these, is how this translates to a person that is in rehabilitation, but unable to participate in performing their own self-care tasks. Within my research, nurses did not see a role for themselves with those clients who were independent, but maintained higher levels of confidence and higher frequency in documenting with those clients who were more dependent. Overall, my research highlights a need for clarity, across research, funding contracts, and organisational policy, in all components of the rehabilitation nurses' role.

8.3.3 Influences Shaping Rehabilitation Nurses' Documentation: Structures and Culture

A key finding of this doctoral thesis has been the influence of contractual demarcation. The separation of nurses' contribution was shaped by the way rehabilitation organisations in NZ organised their services and the documentation that was required to respond to the funder's needs. This was seen in both the contract and the funding framework, which was based on the RCS. It is not to condemn the RCS as a scale, for the literature states its creation was for a separate purpose. The idea of the scale, was for workforce provision by quantifying the complexity of case mix and specialisation of a rehabilitation unit (Turner-Stokes et al., 2007). What is interesting is that the measure quantifies within nursing, by regarding each intervention and each nurse's skill in doing that intervention, rather than being time based, as in allied health. The scale, thereby, sets the narrative for nursing being something different to allied health, and raises a demarcation in its approach.

What is difficult to quantify is the increase in intensity related to nursing given the issue that nurses have 24-7 availability. What implications that has in other countries, and how it is viewed by nurses, is not the subject for this thesis. What I can comment on here, is RCS utilisation in a NZ context. The nurses associated RCS presence, with the need to 'justify' what they did. Consequently, it was one of the factors that tended to continue the morphostatic cycle of reductionism, as it compartmentalised nursing and separated the profession from their professional colleagues. This study is the first to consider the influence of using such a tool to uncover nurses' perceptions of their contribution to rehabilitation. Whilst my study suggests that this was one of the influences in maintaining a perception that much of what nurses did was not rehabilitation, at this stage, there is no other literature to consider it against.

In contrast, the literature has looked at structural influences relating to the nurses' role within rehabilitation. Aspects that relate similarly to my research are the division of the rehabilitation nurses' role to incorporate positions for non-regulated staff. Multiple studies adopt the premise that non-regulated staff are employed to 'free-up' the time of professional staff members. However, the caveat is that this suggests care needs to be taken with quality outcomes, clear role definition, and ratios of professional and non-regulated staff (Lizarondo, Kumar, Hyde, & Skidmore, 2010; McPherson et al., 2006; Munn, Tufanaru, & Aromataris, 2013; Nancarrow, Moran, & Sullivan, 2015). Several studies directly warn against substituting nursing roles with non-regulated positions within an acute ward model, citing an increase in patient complications (e.g., urinary tract infections and falls) (Jacob, McKenna, & D'Amore, 2015; Staggs & Dunton, 2014; Twigg et al., 2016). Authors add that clear definitions of practice and patient outcome impacts should be closely monitored.

The premise of giving more time for nurses has been raised as a benefit when considering allocation of tasks to a non-regulated workforce. However, unanticipated consequences of this practice were revealed in my research. There were difficulties in sharing care and supervision of non-regulated staff, and the effect, or confusion in documentation responsibility, that these factors had upon the nurses' documentation. These complexities were evident particularly as the facility in the case study worked on a dominance of non-regulated staff. While researchers have called for clarity in role definition (Lizarondo et al., 2010; McPherson et al., 2006; Munn et al., 2013; Nancarrow et al., 2015), my research found that clarity needs to also incorporate understanding of documentation responsibilities between roles. Nurses wrestled with their overall responsibilities and they were not consistent in whether they needed to document events that others witnessed or completed. This phenomenon was complicated by the nurses' use of an impersonal-regulatory style of documentation, where it was not evident whether the nurse was involved in that event or was simply recording the event.

Australian researchers examined structural influences on the disparity between nursing and allied health teams. They recognised environmental factors such as differences in timetabling, ways of working, and the physical workspace (Pryor, Walker, O'Connell, & Worrall-Carter, 2009). While Pryor and colleagues' work is now ten years old, my study found that many of these factors did not seem to have been addressed. So while my work affirms Pryor et al. (2009), it adds to it

by shedding light on additional structural and cultural influences, such as the IT systems that captured inputs based upon allied health ways of working, discordant understandings of terminology by both nurses and management, and disparities in team learning and information sharing opportunities.

Pryor et al.'s (2009) work also identified nurses' distancing behaviours within the organisation and collegial relationships. They believed nurses distanced themselves "to manage systemic constraints" (Pryor et al., p. 1130). My research provides support for Pryor's finding, in that it similarly identified that nurses prioritised activities with their clients and had limited engagement in team meetings. In my research, nurses seldom documented interaction with their allied health colleagues. There was also a perception that nurses were not seen as being on an equal footing with allied health. Nevertheless, rather than nurses minimising systemic constraints, as in Pryor et al.'s work, my research saw these structural constraints as continuing a morphostatic cycle of alienation, supporting nurses to rationalise their time priorities away from team interactions.

8.4 Reconsideration of Potentially Transformative Mechanisms

In adopting a critical realist philosophical approach, my doctoral research exposed mechanisms, which appeared to contribute to morphostasis within the facility, namely:

- Rationalised absence and structural alienation;
- Reductionism of rehabilitation nursing; and,
- Working as primary agents combined with a negative identity within the team.

Conversely, there were also positive mechanisms that had the potential to enable nurses within this context towards morphogenetic transformation. These were:

- Possessing a shared language;
- Value of rehabilitation nursing specialisation; and,
- Collective defining of terms and goal setting as a team.

In considering my findings against the extant literature, my study has highlighted the way causal mechanisms were related to each another, and operated in unison. Rather than only drawing attention to mechanisms that led to a continuation of the morphostatic cycle within the facility, I also identified transformative mechanisms that were present. These mechanisms were

highlighted for their potential, as they required further development to augment their influence in the facility, and are explored in the next sections in consideration of extant literature.

8.4.1 Possessing a Shared Language

Contemporary literature has concentrated on the standardisation of documentation and the development of frameworks to assist within a rehabilitation scope of practice (Bjartmarz et al., 2017; Johnson et al., 2009; Lunney et al., 2010; Mueller et al., 2008; Tosin et al., 2016). Utilisation of a standardised framework would provide a shared language for the rehabilitation team. My research concurs with the need for framework development, as the nurses lacked a cohesive basis for communicating and ensuring their documentation was consistently written, evidencing their rehabilitative contribution. It was evident that SEPs such as the circumscribed mode of documentation and contractual demarcation of interventions exerted constraining powers on the nurses, in their choice of what to document. There is certainly potential for guidance by way of shared exemplars to support common knowledge of what is required in nurses' documentation. Additionally, promoting scope to build a shared language, such as the M-SAP would have benefits in other intervention areas. These changes have potential to empower nurses, as it gives them a framework on which to base their documentation.

8.4.2 Value of Rehabilitation Nursing Specialisation

Pryor (2001) linked the valuing of rehabilitation nursing to visibility of the speciality. The need for visibility of nursing generally has been recognised by other researchers (Allen, 2015; Lydahl, 2017; McWilliam & Wong, 1994; Sparrow & Draper, 2010), and was discussed within the literature review (2.2.4). Lydahl (2017) has concluded that invisibility is augmented if nurses do not document their entire contribution. A similar phenomenon is recognised in CR, where absence is noted with similar weight to presence. Consequently, visibility, presence, invisibility, and absence surfaced themselves and were considered within the thesis phases.

Within the documentation audit phase of my study, the practice of documentation itself, was commented on with the third most frequency. This mirrors Allen's (2004) research which found that a "considerable amount of nursing activity is centred on the creation and maintenance of clinical documentation" (Allen, p. 277). While nurses legitimised their documentation practice by including it within

the clients' timetables, they failed to disclose a number of other aspects of their contribution. An example of this was their verbal handover, which, although occurring at the end of each shift, (2-3 times per day) was rarely recorded. Therefore, the majority of nurses suppressed this component of their everyday practice, rendering it invisible to one another and the wider team.

My study also revealed which components of the nurse's role were documented in more or less frequency. Kearney and Lever (2010) hypothesised that rehabilitation nurses rarely documented activities of daily living. While my research did not find this, there was an alignment in another area. In the same research, Kearney and Lever posited that verbal interactions were also less likely to be documented. This aligned with my research, with coaching, education, and support appearing infrequently.

8.4.3 Collective Agreement of Documentation Practice within the Nursing Team

As each interview progressed, nurses reflected upon their documentation practices and the repercussions for the facility. While these reflections appeared personally significant, if discussed collectively as a team, they are likely to foster agency and engender change. Nurses in this facility had untouched strength in the collective, where common goals to strengthen the culture and robust documentation frameworks to enhance structures would be beneficial.

Whilst the nursing team as a whole in my study held potential to effect change, the team lacked a collective agreement and a shared sense of identity. Archer (1995) highlighted this distinction being primary and corporate agency.[60] In my research, multiple quotes confirmed that nurses perceived they were very short of time in their working day, and that they felt this gave variance to the content and quality of their documentation. Few had suggestions for pragmatic ways to approach the situation, and were accepting of the need to comply with existing contractual and institutional requirements for documentation. Archer identified a similar theme when she explained: "subordination of Primary Agents (thus) allow(ing) the structure to be perpetuated" (p. 261). She later commented: "Corporate Agents maintain/re-model the socio-cultural system and its institutional parts: Primary Agents work within it and them" (p. 265). My research uncovered a predominantly morphostatic nature of documentation practice, where nurses were unable to see any alternatives to their situation (Archer,

[60] See Chapter 3.4.3

2000). The structures, cultures, and social interactions maintained the practice of documentation in this facility.

Fortunately, CR presents potential for transformation. Nurses have demonstrated areas where they could modify or alter documentation practices and implement innovation that includes structural and cultural properties. Much of this progression requires nurses to play an active part in shaping their context and collectively developing their practice.

8.5 Limitations

I have discussed generalisation and the concept of tendential prediction in Chapter 3, so will not rewrite similar information here. However, what should be restated is that a critical realist approach is reserved for the context in which the study has taken place: “Realist researchers do not offer specific advice about action: instead they provide practitioners with knowledge of structures, their mechanisms and tendencies that practitioners can apply to their specific contexts” (Edwards et al., 2014, p. 322). Therefore, while I have proposed implications for the rehabilitation sector, readers must consider their own context, both external and internal, when deciding on transferability.

Many of the research decisions themselves possess advantages and disadvantages. Decisions were made in accordance with literary guidance, but also related to the NZ rehabilitation context, facility size, and ethical approval. For example, the decision to limit the research to one facility was taken cognisant of time limits in the doctoral process, and with the intention to collect data that was in-depth. However, it meant that comparison of data between facilities could not be made.

In considering the limitations of the study, it should be acknowledged that I did not set out to determine the presence and extent of agreement or discrepancy between what nurses actually did within their role and what they recorded of what they did. Therefore, I did not compare what specific nurses were doing as opposed to what they were writing. Rather, the nurses’ documentation provided one component in the research and assisted with understanding what they were documenting about their contribution. This information sat alongside other key components including nurses’ perceptions of what was important to them to document and the context in which they were documenting information. This data was recognised as important in identifying mechanisms, which shaped the

documentation and the potential for change. Additionally, because Phase B was collated retrospectively to support client confidentiality, the nurses who were involved in Phase C, may or may not have been included in the previous phase. Again, this design feature was consistent with the focus of the research on mechanisms underlying the phenomena, rather than a focus on specific nurses and their documentation content.

Furthermore, it is important to acknowledge that the research was conducted within a snapshot of specific time periods. Analysis was undertaken with the data that were gathered within those time periods, and did not include changes made post the research period. It is acknowledged that following the data collection, the facility embarked on a number of changes in response to the information that was emerging and nurses' reflections upon their own documentation practice.

8.6 Reflections

Choosing a critical realist philosophical approach to my research project was not straightforward. Decision making throughout each research phase compelled me to verify my choices aligned with a critical realist approach. I communicated with other novice researchers who experienced similar uncertainties in applying CR, and this was reinforced geographically for me. I was fortunate to attend two international critical realist conferences at crucial times, which supported my thinking. At one of these, I presented my working thesis during their doctoral workshop and feedback from experts in the field was extremely helpful. Additionally I met and continued regular correspondence with two Australian PhD candidates. Together we shared ideas, experiences and research. Moreover, I was very fortunate to have supervisors who were supportive of my continuing with this philosophical approach.

My doctoral research related to a practice problem that I had witnessed as a rehabilitation nurse. While CR acknowledges a critique of your own opinions, this required ongoing recognition during the retroduction process of my assumptions and empirical data. My background as a clinician also impacted each phase. An example of this was during the interviews where my supervisors suggested that I allow each participant to talk more. I soon realised that clinical interviewing was quite different from researcher interviews. As a nurse, I was accustomed to acknowledging and rephrasing what people say, to positively encourage their input, and ensure my understanding of their perspective. Some of my participants seemed nervous of the process and perhaps the tape recorder, and I was

absorbed in providing reassurance. Whilst it was possible participants' nervousness reflected some lack of confidence in their documentation, I found it was a learning process in supporting participant ease, and carrying out my role as an active interviewer, all the while allowing the participants to verbalise their opinions.

8.7 Implications for Practice

Although a case study enables an in-depth examination of what is occurring within a specific context, Archer's (1995) morphogenetic framework engenders analysis of SEPs, CEPs, and socio-cultural interaction within the data. This combination has generated a comprehensive and valuable perspective of my practice dilemma. It led to an understanding of the way nurses tended to document their practice and revealed those data tendencies in recognising contributing influences.

While documentation has been considered by some within a framework style approach, my research highlights the complexities of examining the documentation practices of rehabilitation nurses. There is a need to incorporate rehabilitation principles within education, and to ensure structural and cultural factors that enhance those principles rather than compartmentalising the contribution of rehabilitation nurses, by separating 'rehabilitation' and 'care'.

There are six major implications for clinical practice. I have separated these to relate specifically to the site of the study, followed by recommendations that should be considered more broadly in the rehabilitation sector.

Implications specific to the study facility include:

- Modifying the induction/orientation processes for new nurses joining the facility, ensuring that;
    - Documentation is discussed with a senior nurse alongside education about the electronic client records system;
    - Examples/exemplars are provided regarding documentation;

- Providing structures and forums to enhance nurses' collective voice;
    - Includes structures that facilitate the entire nursing team's involvement in client reviews and decision making regarding a client's rehabilitation plan;

    - Schedule opportunities that ensure the entire nursing team's involvement in group learning opportunities;

- Reviewing the way documentation supports communication within the facility;
    - To avoid the need to document input into similar, but repetitious, electronic locations;
    - To facilitate nurses' awareness of the views of others in an efficient way;
    - To simplify and increase effectiveness of communication between the nursing team so nurses feel confident they are updated, and updating others, regarding their clients progress and current needs;

- Establishing ongoing, regular education to the nursing team from a senior nurse knowledgeable in rehabilitation nursing documentation requirements which includes the clients progress, incorporating nurses' opinions and recommendations; and,
    - Amend documentation to require nurses to document full interaction with, support of, and analysis of client response to interventions.

These implications have come directly from this research, encompassing structural and cultural properties and the nurses' response, within this specific TBI rehabilitation facility. The research found that much of the nurses' documentation practice within rehabilitation was taken for granted. Nurses entered the facility and it was assumed they would document their rehabilitative contribution. However, within this facility, there were a number of constraints and influences on that process. Furthermore, the context in which nurses worked was not consistent in its messaging regarding the rehabilitation nurses' contribution and enabling documentation within a rehabilitation-nursing framework.

Recommendations that should be considered more widely by those in the field of rehabilitation include:

- Endorsing an integrated model of rehabilitation nursing that supports understanding of the way all nursing interventions contribute to rehabilitation;

    - Review of contractual and policy structures to examine the contradictions to an integrated model of rehabilitation nursing;
    - Collectively define documentation terms and provide universal examples of how to document care planning, nursing interventions, and goal setting;

- Articulating a shared language structure within the nursing team to consistently describe nursing interventions; and,
    - Review of structures and cultures which promote shared understandings and reviewing ways of doing things as a team.

The above implications for practice and recommendations for the rehabilitation sector are an attempt to enable action by focussing on the context in which the nurses are placed. Not enacting the recommendations continues the morphostatic cycle within the facility, where rehabilitation nurses do not fully articulate their contribution within their documentation. While nurses feel that others do not understand or appreciate their role, those who read their documentation are not aware of the integrated nature of their role and, therefore, may assume nursing exists as a series of tasks, which may or may not be rehabilitative. Consequently, structures and cultures will continue to separate the role and demarcate between nursing and allied health's contribution in rehabilitation.

8.8 Recommendations for Future Research

Embarking on this research, I wanted greater recognition of the role of rehabilitation nurses' contribution within the rehabilitation team. It seemed to me, that nurses communicating their practice and interactions with their clients was valuable in understanding what components resulted in positive outcomes for clients. I soon realised how little we knew about the documentation practices of rehabilitation nurses and crucially, why they chose to document in the way that they did. Future research involving other rehabilitation facilities could reveal further insights into the underlying mechanisms influencing nurse's documentation choices. This work may be useful to guide establishment of documentation frameworks enabling a shared language between the rehabilitation team.

My research did not set out to audit whether nurses fully documented their contribution. However, now that potential mechanisms have been uncovered and

recommendations made relating to influences that hinder nurses fully documenting their contribution, future implementation research is required. Subsequent research could then specifically consider what components of their daily practice are left out, and that which they tend to include. Comparison of documentation themes with allied health professionals is another research option, particularly relating to interventions and clinical rationale for their intervention choices.

8.9 Conclusion

What is unique about this research is its ambition to review causal factors in association with rehabilitation nurses' documentation patterns. The documentation trends themselves were not viewed in a solitary manner. Use of frameworks and education, while they have their place, are not the 'answer' to this practice-based problem. Rather, each context needs to be considered; SEPs, CEPs, and agency, as influences, frame what nurses consider needs to be validated or that which is valuable and, therefore, legitimate in their contribution.

In undertaking this study, I have gained a deeper understanding of rehabilitation nurses' documentation of their contribution. The challenge, now, is to move forward so nurses are seen as a critical part of the rehabilitation team.

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Appendices

Appendix A: The Rehabilitation Complexity Scale

(Turner-Stokes, Williams, & Siegert, as cited in Accident Compensation Corporation, 2014)

PATIENT IDENTIFICATION **Name:** **Hospital No:** **Date of score:…../…../…….** **For each subscale, circle highest level applicable**				
BASIC CARE AND SUPPORT NEEDS Describes the approximate level of intervention required for basic self-care				
C 0	Largely **independent** in basic care activities			
C 1	Requires **help from 1 person** for most basic care needs			
C 2	Requires **help from 2 people** for most basic care needs			
C 3	Requires **help from >2 people** for basic care needs **OR** Requires constant **1:1 supervision**			
SKILLED NURSING NEEDS Describes the level of intervention required from qualified or skilled rehab nursing staff				
N 0	No needs for skilled nursing			
N 1	Requires intervention from a **qualified nurse** (e.g. for monitoring, medication, dressings etc)			
N 2	Requires intervention from **trained rehabilitation nursing staff**			
N 3	Requires **highly specialist nursing care** (e.g. for tracheostomy, behavioural management etc)			
THERAPY NEEDS Describes the approximate level of input that is required from therapy disciplines				
Disciplines: State **number of different therapy disciplines** required to be actively involved in treatment				
TD 0	**0**	**Tick therapy disciplines involved:**		
TD 1	**1** disciplines only	□ Physio	□ Psychology	□ Orthotics
TD 2	**2-3** disciplines	□ O/T	□ Counselling	□ Prosthetics
TD 3	**≥4** disciplines	□ SLT	□ Music/art therapy	□ Rehab Engineer
		□ Dietetics	□ Play therapy	

		□ Social work		□ Other:

Intensity: State **overall intensity of <u>trained</u> therapy intervention** required	
TI 0	**No therapy intervention** (or<1 hour total/week - Rehab needs met by nursing/care staff or self-exercise programme)
TI 1	Low level – **less than daily** (eg assessment / review / maintenance / supervision) **OR Group therapy only**
TI 2	Moderate – **daily intervention 1:1** (+/- assistant) **OR <u>very intensive</u> Group programme** of ≥6 hours/day
TI 3	High level – **very intensive 1:1 intervention** (eg 2 trained therapists to treat, or total 1:1 therapy >25 hrs/week)
Total	**Total T score (TD + TI) :……**
MEDICAL NEEDS Describes the approximate level of medical care environment required for medical/surgical management	
M 0	**No active medical intervention** (Could be managed by GP on basis of occasional visits)
M 1	**Basic investigation / monitoring / treatment** (Requiring non-acute hospital care, Could be delivered in a community hospital with day time medical cover)
M 2	**Specialist medical intervention – for diagnosis or management/procedures** (Requiring in-patient hospital care in DGH or specialist hospital setting)
M 3	**Acutely sick or potentially unstable medical condition** (Requiring 24 hour on-site acute medical cover)
TOTAL	**C: N: T: M : Summed score: /15**

Further instructions for application

For each subscale, circle <u>highest level</u> applicable	
BASIC CARE AND SUPPORT NEEDS Includes washing, dressing, hygiene, toileting, feeding and nutrition, maintaining safety etc.	
C 0	**Largely independent**. Maintains their own safety and manages basic self-care tasks largely by themselves. May have incidental help just to set up or to complete – e.g. application of orthoses, tying laces etc
C 1	Requires **help from 1 person** for most basic care needs ie for washing, dressing, toileting etc.

	May have incidental from a 2nd person – e.g. just for one task such as bathing				
C 2	Requires **help from 2 people** for the majority of their basic care needs				
C 3	Requires **help from >2 people** for basic care needs **OR** Requires constant **1: 1 supervision** e.g. to manage confusion and maintain their safety				
SKILLED NURSING NEEDS Describes the level of skilled nursing intervention					
N 0	No needs for skilled nursing – needs can be met by care assistants only				
N 1	Requires intervention from a **qualified nurse** (e.g. medication, wound/stoma care, nursing obs, tracheostomy management, enteral feeding, IV infusion etc)				
N 2	Requires intervention from **nursing staff who are trained and experienced in rehabilitation** (e.g. for maintaining positioning programme, walking / standing practice, splint application, psychological support)				
N 3	Requires **highly specialist nursing care** e.g. for very complex needs such as Management of tracheostomy or ventilation Management of challenging behaviour / psychosis / complex psychological needs Highly complex postural, cognitive or communication needs Vegetative or minimally responsive states, locked-in syndromes				
THERAPY NEEDS Describes the a) number of different therapy disciplines required and b) intensity of treatment Includes individual or group based session runs by therapists, but not rehab input from nursing staff which is counted in N2. (NB The Northwick Park Therapy Dependency Assessment (NPTDA) can be used to calculate total therapy hours in more complex cases e.g. Total T4 and above, and provide more detailed information regarding time for each discipline etc.)					
T 0	**No formal therapy** involvement (or <1 hr /wk) – Rehab needs met by nursing/care staff or self-exercise				
TD 1	**1** discipline only	Each discipline must be actively involved (≥ 1-2 hrs/wk)	□ Physio □ O/T □ SLT □ Dietetics □ Social work	□ Psychology □ Counselling □ Music/art therapy □ Play therapy	□ Orthotics □ Prosthetics □ Rehab Engineer □ Other:
TD 2	**2-3** disciplines				
TD 3	**≥4** disciplines				

Intensity	
TI 1	Low level – **less than daily** (eg assessment / review / maintenance/ supervision of self-exercise programme) **OR** by **therapy assistant** only **OR Group therapy** only
TI 2	Moderate – **daily intervention 1:1** (+/- assistant) – may include mixture of group and individual therapy **OR <u>very intensive</u> Group-based programme** of at least 6 hours/day.
TI 3	High level – **very intensive 1:1 intervention** (eg two trained therapists to treat, or total 1:1 therapy>25 hrs/wk)
Total	**Total T score** (TD + TI):……

MEDICAL NEEDS Describes the approximate level of medical care environment for medical/surgical management	
M 0	**No active medical intervention** (Could be managed by GP on basis of occasional visits)
M 1	**Basic investigation / monitoring / treatment** (Requiring non-acute hospital care, could be delivered in a community hospital with day time medical cover) i.e. requires only routine blood tests / imaging. Medical monitoring can be managed through review by a junior medic x2-3 per week, with routine consultant ward-round + telephone advice if needed)
M 2	**Specialist medical intervention** (Requiring in-patient hospital care in DGH or specialist hospital setting) i.e. requires more complex investigations, or specialist medical facilities e.g. dialysis, ventilatory support. Frequent or unpredictable needs for consultant input or specialist medical advice, surgical intervention
M 3	**Acutely sick or Potentially unstable medical condition** (Requiring 24 hour on-site acute medical cover) i.e. requires acute medical/surgical care e.g. infection, acute complication, post surgical care or potentially unstable requiring out-of hours intervention – e.g. for uncontrolled seizures, immuno-compromised.

Appendix B: Managerial Questionnaire

Questionnaire of Local Context

Date Information Sheet Produced:

19 June 2017

Project Title

Nurses' contribution to TBI rehabilitation in an Aotearoa-New Zealand rehabilitation unit: A critical realist approach

An Invitation

My name is Angela Davenport. As part of my Doctoral research through Auckland University of Technology (AUT), I am undertaking a research project to learn about what nurses' document of their work in a traumatic brain injury rehabilitation setting and the things that affect that documentation.
I would like to invite you to take part in my research. Participation involves answering this short questionnaire. Participation is voluntary and you do not need to give a reason for non-participation.

What is the purpose of this research?

The research is seeking to understand why nurses record their contribution to rehabilitation in the way they do. My research involves a data review of nurses' input in the electronic client records system, then talking with nurses to gain their perspective about their documentation choices.
In addition, this local context questionnaire will provide management's perspective of the documentation systems utilised by the nursing team.

Better knowledge of what nurses' document and why they document those things can support clearer understanding of their roles within this type of setting. It may support improved intraprofessional teamwork and more effective rehabilitation for clients.

The results of this research will contribute to my DHSc thesis and will be presented at appropriate conference forums and published in professional journals.

How do I take part?

By answering the attached questionnaire, you indicate you have consented to take part. Your personal details will not be recorded within the thesis.

Questionnaire of Local Context

Designation: _____

Date:_____

Please tick your choice or complete as appropriate

Section 1 – Demographics

1. What is your current FTE?

2. What number of nurses do you currently have on staff?

3. How many of those are full time (0.9-1.0)?

4. What country did your current nursing staff obtain their initial nursing qualification?

Country of nursing qualification	NZ	Australia	Philippines	India	UK
Number of staff					

Other – please specify _____

5. How many years' experience did each nurse have in rehabilitation prior to joining your organisation?

Nurse identifier	Number of years in rehabilitation	Nurse identifier	Number of years in rehabilitation

Section 2 – Working conditions

1. What nursing staff to client ratio is the roster designed to?

2. What is the ratio of trained nurses to non-regulated workers?

3. What interactions are scheduled with the wider team (inclusive of meetings) and how many nurses attended these sessions / meetings within the last two weeks?

Name of session / meeting	Number of nurses in attendance

Section 3 – Contractual key performance indicators (KPIs)

1. What information / data is needed from the electronic client records system from a contractual viewpoint? (Discuss the ACC TBIRR contract only)

2. Has the information requirement changed over time?

3. In the timetable nurses classify the type of intervention into three categories: Direct rehabilitation focussed; Direct non-rehabilitation focus; and Indirect. What is your understanding of these terms?

Section 4 – Environment

1. What expectations / standards does your facility have regarding nursing documentation?

2. What is your expectation what nurses should write within the SOAP framework of their documentation?

Thank you for taking the time to complete this questionnaire, your response is greatly valued.

Researcher Contact Details:

Researcher Contact Details:
Angela Davenport
E: angela.davenport@abi-rehab.co.nz
M:

Project Supervisor Contact Details:
Doctor Margaret Jones
Department of Occupational Science and Therapy
Auckland University of Technology
E: margjone@aut.ac.nz
P:

Approved by the Auckland University of Technology Ethics Committee on 11/11/16, AUTEC Reference number 16/298.

Appendix C: Auckland University of Technology Ethics Committee Ethics Approval

AUTEC Secretariat

Auckland University of Technology
D-88, WU406 Level 4 WU Building City Campus
T: +64 9 921 9999 ext. 8316
E: ethics@aut.ac.nz
www.aut.ac.nz/researchethics

11 November 2016

Margaret Anne Jones
Faculty of Health and Environmental Sciences

Dear Margaret

Ethics Application: 16/298 **Nurses' contribution to TBI rehabilitation in an Aotearoa New Zealand rehabilitation unit: A critical realist approach.**

Thank you for submitting your application for ethical review. I am pleased to confirm that the Auckland University of Technology Ethics Committee (AUTEC) has approved your ethics application for three years until 7 November 2019.

Approval to waiver client and nursing staff consent to access and use notes has been granted.

AUTEC advises removing the reference to counselling in the Information Sheet and replacing it with a statement that says something like 'you don't have to answer any question you don't want to'.

As part of the ethics approval process, you are required to submit the following to AUTEC:

- A brief annual progress report using form EA2, which is available online through http://www.aut.ac.nz/researchethics. When necessary this form may also be used to request an extension of the approval at least one month prior to its expiry on 7 November 2019;
- A brief report on the status of the project using form EA3, which is available online through http://www.aut.ac.nz/researchethics. This report is to be submitted either when the approval expires on 7 November 2019 or on completion of the project;

It is a condition of approval that AUTEC is notified of any adverse events or if the research does not commence. AUTEC approval needs to be sought for any alteration to the research, including any alteration of or addition to any documents that are provided to participants. You are responsible for ensuring that research undertaken under this approval occurs within the parameters outlined in the approved application.

AUTEC grants ethical approval only. If you require management approval from an institution or organisation for your research, then you will need to obtain this. If your research is undertaken within a jurisdiction outside New Zealand, you will need to make the arrangements necessary to meet the legal and ethical requirements that apply there.

To enable us to provide you with efficient service, we ask that you use the application number and study title in all correspondence with us. If you have any enquiries about this application, or anything else, please do contact us at ethics@aut.ac.nz.

All the very best with your research,

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

Appendix D: Confidentiality Form for Data Collection

Confidentiality Agreement

Project title: Nurses' contribution to TBI rehabilitation in an Aotearoa New Zealand rehabilitation unit: A critical realist approach

Project Supervisor: Doctor Margaret Jones

Associate Professor Peter Larmer

Researcher: Angela Davenport

- ○ I understand that all the material I will be asked to collect is confidential.
- ○ I will not keep any copies of the information nor allow third parties access to them.

Data Manager's signature:.....

Data Manager's name:.....

Date:.....

Project Supervisor's Contact Details:

Doctor Margaret Jones
Department of Occupational Science and Therapy
Auckland University of Technology
Private Bag 92 006
Auckland 1142

E: margjone@aut.ac.nz

Approved by the Auckland University of Technology Ethics Committee on 11 November 2016.

AUTEC Reference number 16/298.

Note: The Data Manager should retain a copy of this form.

Appendix E: Participant Information Sheet

Participant Information Sheet

Date Information Sheet Produced

19 October 2016

Project Title

Nurses' contribution to TBI rehabilitation in an Aotearoa New Zealand rehabilitation unit: A critical realist approach

An Invitation

My name is Angela Davenport, I am a student at Auckland at Auckland University of Technology (AUT) and I work at ABI Rehabilitation. I am undertaking a research project to learn about what nurse's document of their work in a traumatic brain injury rehabilitation setting and the things that affect that documentation.

I would like to invite you to take part in my research.

Participation in this study is entirely voluntary and it would involve a short interview with me, followed by a focus group at a later date. If you change your mind about taking part, you would be free to withdraw for up to 8 weeks after your interview. Whether you choose to participate will neither advantage nor disadvantage you. You do not need to give a reason for non-participation or withdrawal from the study.

What is the purpose of this research?

The research is seeking to understand why nurses record their contribution to rehabilitation in the way they do. I want to talk with nurses employed at [rehabilitation facility name] to gain their perspective on their documentation choices and the influences that have enhanced or constrained that documentation. Better knowledge of what nurses' document and why they document those things can support clearer understanding of their roles within this type of setting. It may support improved intraprofessional teamwork and more effective rehabilitation for clients.

The results of this research will contribute to my DHSc thesis and will be presented at appropriate conference forums and published in professional journals.

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

I am hoping to talk with 4-8 permanent members of the [rehabilitation facility name] nursing team. You have been invited to participate because you are a member of that team and have experience of documentation practice and knowledge of company processes around documentation.

What will happen in this research?

If you consent to take part in this study, you will be invited to take part in an interview with me about your role, the sorts of things that nurses document, and the things that might affect nurses' choices about what to document.

Interviews will take place in one of the [rehabilitation facility name] meeting rooms and at a time which is convenient to you. They will take approximately 60 minutes and will be audio recorded for ease of transcription.

Following the interviews you will be invited to a focus group meeting, this will be a chance to discuss the initial research findings as a group.

What are the benefits?

Benefits to you: There is potential that reflecting on your practice will enhance your understanding of why you choose which interactions or interventions you document.

Benefits to others: This research gives you the opportunity to contribute to a local understanding of nurse's contribution within the TBI rehabilitation field. I am hoping that the greater understanding of the contribution of rehabilitation nursing will enhance teamwork and lead to more effective rehabilitation for the client.

These findings should make an important contribution to rehabilitation in New Zealand by enhancing future practice.

What are the discomforts and risks?

I don't anticipate any risks to you from participating in this research. However, if you find the interview upsetting, I can provide contact details for counselling services available at AUT.

How will my privacy be protected?

The interview recording and transcription will only be available to me and my two supervisors from AUT.

Some of your quotes from individual interviews and the focus group may be used in the thesis and publications however anonymity for participants will be maintained by changing identifiers within the quote and by using pseudonyms so you cannot be recognised. The name of the organisation will not be published.

After the interviews, there is an opportunity to meet together as a focus group to discuss themes of the research. As you will meet each other, there is a separate opportunity to decide if you would like to participate in this phase. You will sign a separate consent form which acknowledges you will maintain confidentiality of the session content and details of other nurses participating in the group.

Transcripts will be stored in a locked filing cabinet at AUT and on password protected computer files. Data will be kept for 6 years and will then be destroyed by shredding and deleting.

What are the costs of participating in this research?

There is no cost except your time which is expected to be approximately 60 minutes.

What opportunity do I have to consider this invitation?

I will be available at the upcoming Nursing Training Day to discuss any questions you may have.

How do I agree to participate in this research?

I have included a consent form for you to complete if you want to participate. You can return the completed consent forms in the [room name] in a folder labelled 'Nurses contribution to rehabilitation'.

Will I receive feedback on the results of this research?

A summary of final conclusions will be emailed to participants at the conclusion of the research.

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

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Margaret Jones, margjone@aut.ac.nz, 921 9999 ext 7781.

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

Whom do I contact for further information about this research?

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

Researcher Contact Details:

Angela Davenport
E: angela.davenport@abi-rehab.co.nz

Project Supervisor Contact Details:

Doctor Margaret Jones
Department of Occupational Science and Therapy
Auckland University of Technology
Private Bag 92 006
Auckland 1142

E: margjone@aut.ac.nz
P: 921 9999 ext 7781

Approved by the Auckland University of Technology Ethics Committee on 11 November 2016, AUTEC Reference number 16/298.

Appendix F: Interview Consent Form

Interview Consent Form

Project title: Nurses' contribution to TBI rehabilitation in an Aotearoa New Zealand rehabilitation unit: A critical realist approach

Project Supervisor: Margaret Jones

Researcher: Angela Davenport

- ○ I have read and understood the information provided about this research project in the Information Sheet dated 19 October 2016.
- ○ I have had an opportunity to ask questions and to have them answered.
- ○ I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- ○ I understand that I may withdraw myself or any information that I have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.
- ○ If I withdraw, I understand that all relevant information including tapes and transcripts, or parts thereof, will be destroyed.
- ○ I agree to take part in this research.
- ○ I wish to receive a summary of the research findings

(please tick one): Yes ○ No ○

Participant's signature: .....

Participant's name: .....

Participant's Contact Details:

.....

.....

.....

Date: .....

Approved by the Auckland University of Technology Ethics Committee on 11 November 2016, AUTEC Reference number 16/298.

Appendix G: Indicative Questions for Interviews

Welcome to this interview. Firstly, thanks for taking time to join me today. I am undertaking a research project that seeks to understand nurse's documentation of their contribution to traumatic brain injury rehabilitation and the influences that shape that documentation.

The aim of this interview is to assist me to understand your perception of your documentation practices and what you think constrains or enhances your documentation choices of your contribution within rehabilitation.

You were invited as I wanted to ensure the 'voice' of nursing was throughout this research. But I want to assure you there are no right or wrong answers and your opinion is as important as anyone else on our team.

You've probably noticed the microphone. I'm tape recording the session because I don't want to miss any of your comments. That said, your comments will be confidential within the study, on writing conclusions if there is a quote cited, you will be assigned a number, no names will be included. The transcripts will be seen by myself and my AUT supervisors and then securely stored at AUT.

Main question	**Clarifying/Probing**
Just as a starting point can you tell me a when you use the documentation tools within your working day	Is there any difference on different shifts? At what point in your nursing education was documentation talked about?
How do you use the documentation tools?	How do you know what is the right way to use them? And give me some examples What advantages are there is using this system of documentation? What limitations are there is using this system of documentation?
How do you define interventions that are 'rehab' vs those that are 'care'?	Can you give me some examples of each?
How do you choose whether to choose the 'rehab' label vs 'care' when evaluating your nursing interventions?	Can you give me some examples
What do you think nurse's contribution is within a client's rehab journey?	
What do you feel is seen as most important task / intervention you do within a client's rehab journey?	
What do you feel are the enablers and constraints within your workplace that impact on your documentation choices?	
Do requirements of ACC have an impact on your documentation choices?	What do you think ACC think is the most important things you do?
What do you think about the way you are required to document in your workplace	
How have you developed your understanding of documentation practice at this facility?	How do you think others have developed their understanding? What would improve your understanding?
Some research suggests that nurses communicate more effectively verbally	Do you actively attend IDT meetings to discuss client's progress or issues?

rather than written, what are your thoughts about this?	What meetings have you attended in last two weeks?
Do you feel your contribution or nursing's contribution is seen as important as other team members?	Why is this?
Do you feel you withhold information from others of your nursing practice / contribution?	What are the reasons for this?
What would make you more effective in documenting your contribution?	

Can you clarify some demographic information about yourself?

Country of nursing education
Length of experience post qualification
Length of experience in rehabilitation
Length of time working in this facility

Appendix H: Confidentiality Agreement for Transcriptionist

Confidentiality Agreement

Project title: Nurses' contribution to TBI rehabilitation in an Aotearoa New Zealand rehabilitation unit

Project Supervisor: Doctor Margaret Jones
Associate Professor Peter Larmer

Researcher: Angela Davenport

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

Transcriber's signature: .....

Transcriber's name: .....

Transcriber's Contact Details:

.....

.....

.....

.....

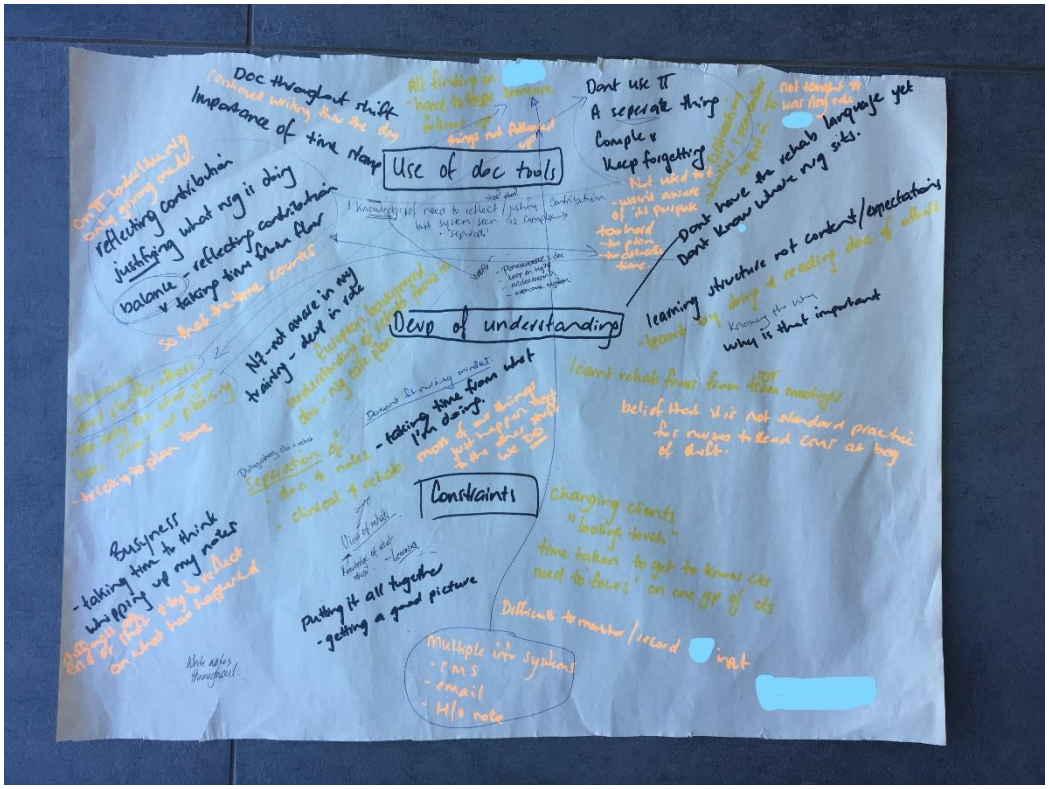
Date:

Approved by the Auckland University of Technology Ethics Committee on 11 November 2016.

AUTEC Reference number 16/298.

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

Appendix I: Example of Cognitive Mapping



Appendix J: Coding Descriptions

Primary Intervention Category	Detailed Description of Nurses' Intervention	Description
Task – Doing for		Documentation of the intervention as a task completed by the nurse where no interaction with the client (beyond that necessary for the task) was documented, giving the appearance of 'doing for' the client
	1 to 1	Supervision of client
	Bowel and bladder management	Tasks involving bladder, bowel or colostomy management, includes catheters, suppositories and toileting. (N.B. Incontinence care coded as personal care)
	Dialysis management	Tasks relating to managing and setting up dialysis
	Enteral feeding and stoma care	Tasks involving enteral feeding and care of stoma
	Eyecare	Tasks relating to providing eyecare
	Fluid management and meals	Tasks relating to managing fluid, recording hydration and meal intake or feeding client without input of client
	Medication	Task of giving medications as charted
	Oral hygiene	Providing oral care, cleaning teeth
	Pain management	Task of giving analgesic medication

Primary Intervention Category	Detailed Description of Nurses' Intervention	Description
	Personal care	Providing personal care includes bedwash, with no documented input from client. Includes incontinence care (N.B. toileting in bladder management)
	Positioning and splinting	Task of positioning and applying splints with no documented input from client
	Sensory stimulation	Sensory activities with emerging conscious client
	Tracheostomy management	Tasks relating to care of tracheostomy and stoma
Assessment		Assessment of a client
	Alert, concern or fall investigation	Notification of alert or concern and action documented within nursing notes
	Bowel assessment	Documented assessment of bowel function or colostomy
	Cognitive assessment	Assessing cognition of client
	Communication & social interaction	Assessing communication or social interaction of client
	Continence assessment	Assessment of continence, bowel and urinary function or continence training
	Diabetes assessment	Assessment of diabetes including blood sugar levels
	Diet, Nutrition and Fluid assessment	Assessment of diet, nutrition, weight or fluid including client initiation and dependence levels of eating or drinking. (N.B. Excludes the nurse coaching a client with meals).
	• E & D well	Nurse documents "eating and drinking well"
	Mood	Assessment of client's mood and emotional wellbeing

Primary Intervention Category	Detailed Description of Nurses' Intervention	Description
	Nursing assessment	Documentation of nursing assessment that are not categorised within any other codes within this category, includes admission assessment
	Observations	Assessment of vital signs including Glasgow Coma Scale and oxygen saturations
	Pain assessment	Assessment of pain includes intensity, exacerbating factors and response to treatment
	Personal care assessment	Assessment of client completing self-care
	Physical assessment and falls prevention	Assessing mobility and falls prevention, includes cast checks
	Self-medication assessment	Assessment of self-medication or documentation of progress with self-medication program. Excludes self-medication planning.
	Skin assessment and pressure area care	Assessment of skin including pressure area care
	Wound assessment and management	Assessing wound and providing wound care, includes PEG and tracheostomy stomas after decannulation
Coaching – Doing with		Working with, encouraging or prompting the client
	Activities of daily living (ADLs)	Encouraging or prompting WITH activities of daily living includes toileting, showering, dressing, grooming
	• Food and fluids	Coaching client with eating or drinking by encouragement and interaction in task
	Behaviour management	Working with client in managing behaviour

Primary Intervention Category	Detailed Description of Nurses' Intervention	Description
	Breathing exercises	Coaching client in breathing exercises, includes encouragement of deep breathing
	Coaching family	Working with or encouraging family and friends of client
	Communication encouragement	Encouraging communication or speech
	Diabetes coaching	Working with client to self-manage diabetes includes supervision of client testing their blood sugar levels
	Diversional activities	Interacting with client by activities, puzzles or distraction
	Mobility	Providing assistance, supervision or prompting with mobility
	Swallowing exercises	Encouraging or coaching client with swallowing exercises
Education		Provision of education to the client or their support persons
	Behaviour management	Discussion of behaviour or education of appropriate behaviour
	Brain injury	Provision of education regarding brain injury
	Continence education	Education of continence (bowel, urinary or mixed) or devices
	Diabetes education	Provision of education related to diabetes and blood sugar management
	Family education	Provision of education, information to family
	Food and fluids	Provision of education regarding food and fluids
	• Enteral feeding	Provision of education regarding enteral feeding
	Medication	Provision of education regarding
	Orientation	Provision of education regarding
	Physical and mobility	Discussion and provision of information regarding physical functioning

Primary Intervention Category	Detailed Description of Nurses' Intervention	Description
	Procedure preparation	Discussion of upcoming procedure and preparation needed
	Rehabilitation process	Information given about processes or procedures within rehab
	Rehabilitation progress	Information to client regarding their progress in rehab
	Safety	Information regarding client safety e.g. helmet
	Symptom management: Fatigue, pain and sleep and relaxation	Provision of education relating to managing symptoms of fatigue, pain or sleep and relaxation
	Tracheostomy	Provision of education regarding tracheostomy
	Wellness and smoking cessation	Provision of education regarding health wellness or smoking cessation
	Wound	Provision of education relating to wound management or wound dressings
Clinical rationale	Clinical rationale	Nurse documenting their opinion or clinical rationale
Making recommendations	Making recommendations	Nurse making recommendations to team members includes rehabilitation planning and goal setting with steps and strategies
	Discharge planning	Planning client's leave or discharge, with or without the client
Documentation		Task of documenting
	Documentation	Task of writing documentation
	Highlighting issue	Highlighting an issue or concern
	Information sharing	Documentation with the purpose of sharing information to any team member, with no evidence of active assessment or involvement
	No concern	Note comments on nurse opinion of "no/nil concerns" of entire notation

Primary Intervention Category	Detailed Description of Nurses' Intervention	Description
	Of staff support	Documentation of others supporting client, specifically excludes nursing role in involvement except for documentation
	Risk assessment or management	Nurse updating or highlighting potential risk event
	Social support	Family or friends supporting the client, written as observation from the nurse
Support		Giving emotional/social support to others
	Discussion	Discussion with client
	Family	Nurse supporting the family
	Reassurance and emotional support	Reassurance and emotional support - specific to the client
	Social interaction	Nurse documenting social interaction with the client
	Staff support	Nurse providing support to staff
Interprofessional team (IPT) review or discussion		Documentation of interaction with team members internal or external
	Dietician	Documentation of interaction with the dietician
	External facility or agency	Documentation of interaction with any external facilities or agencies
	Handover	Documentation of verbal handover to other nurses or non-regulated workers
	Medical team	Interaction with medical team includes documentation of discussion, relaying medical instructions or new orders
	Allied health team	Documentation of interaction with allied health team

Primary Intervention Category	Detailed Description of Nurses' Intervention	Description
Miscellaneous		Interventions that were unable to be coded into other detailed categories

Appendix K: Data from each Primary Descriptor Category

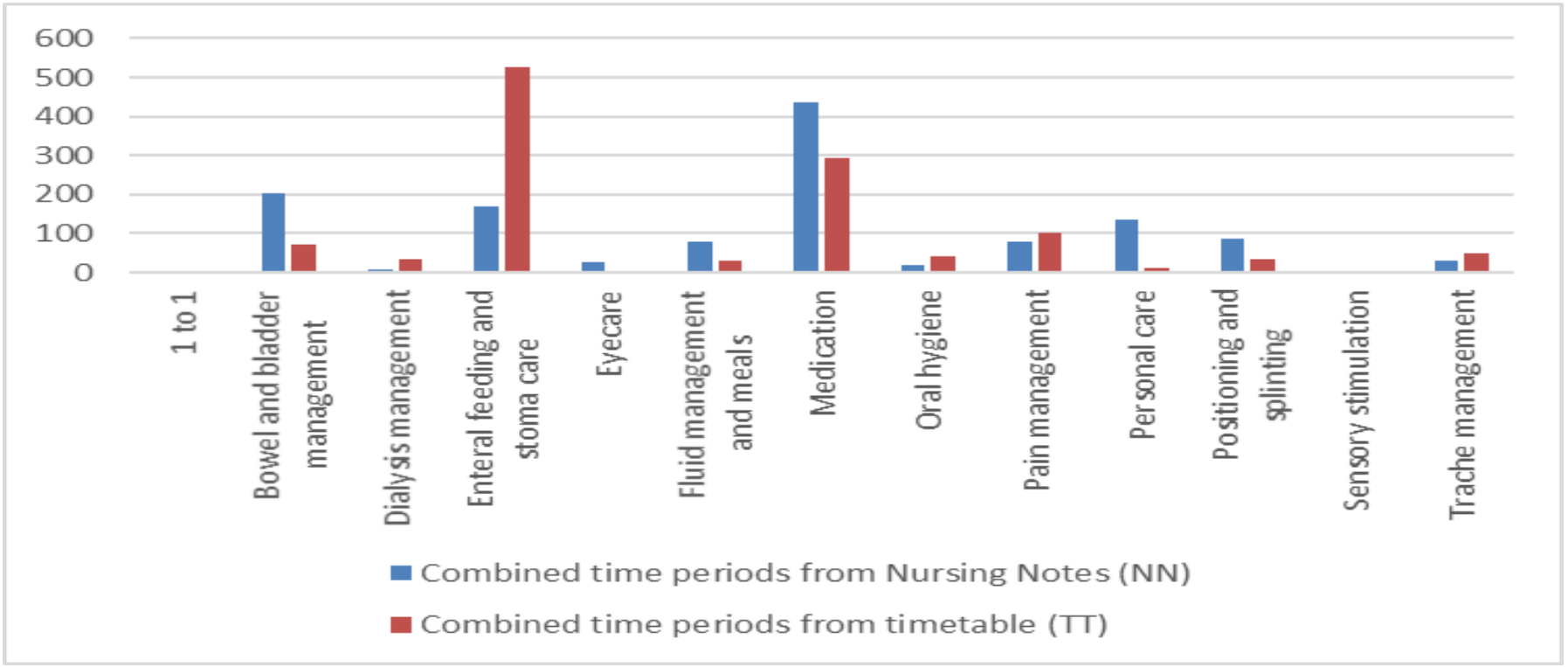


Figure 12: Task – 'doing for' category across nursing notes and timetable

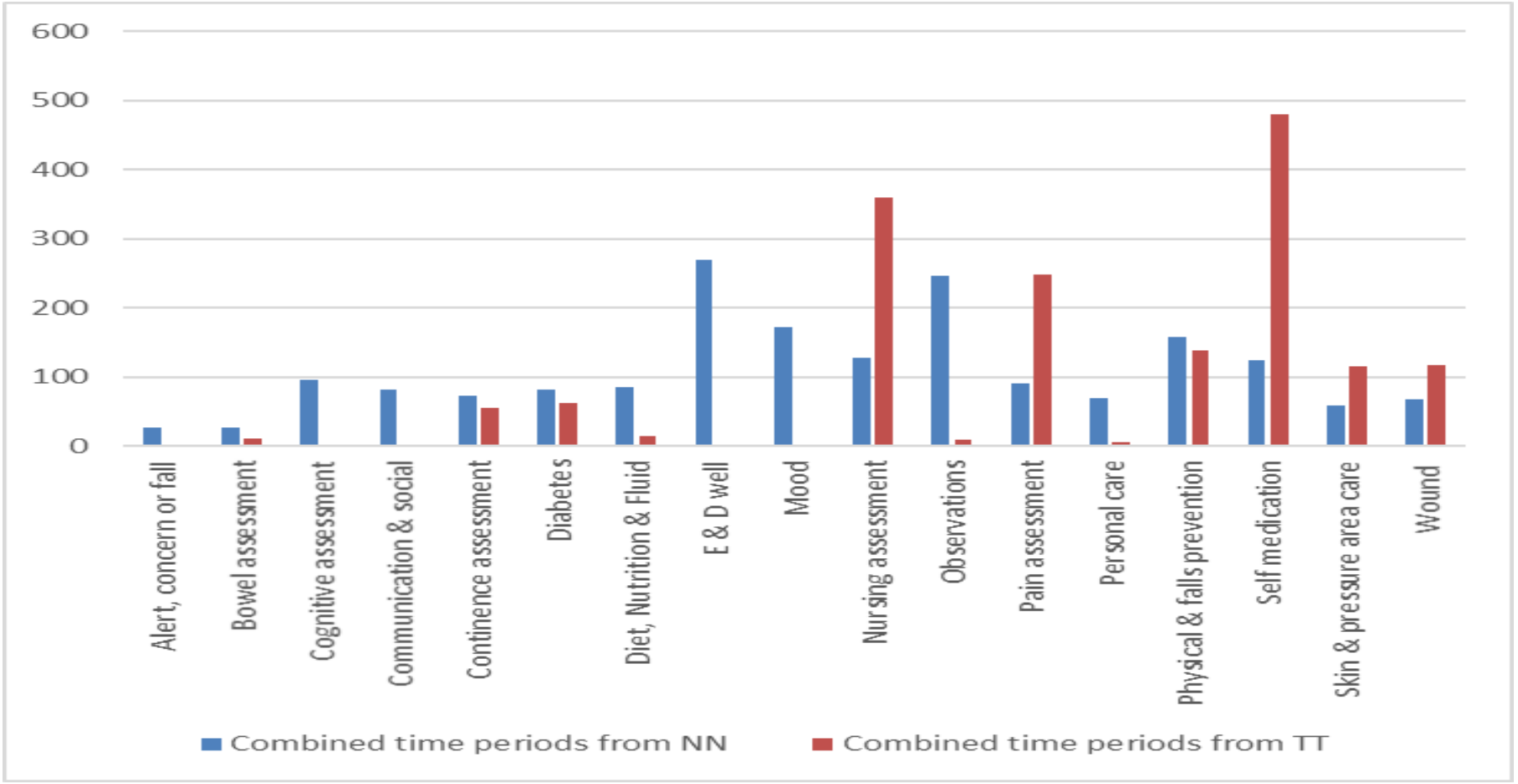


Figure 13: Assessment category across nursing notes and timetable

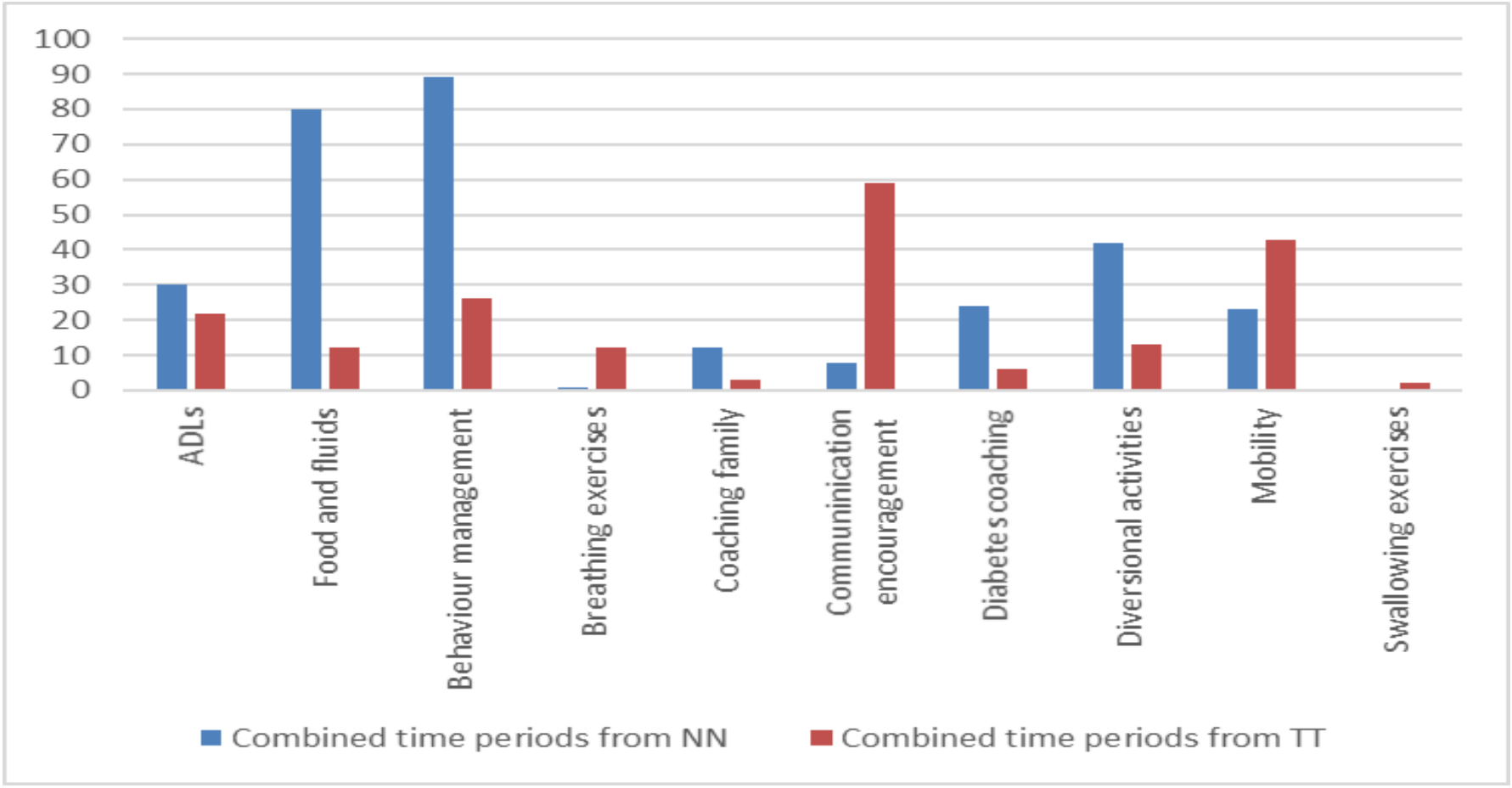


Figure 14: Coaching category across nursing notes and timetable

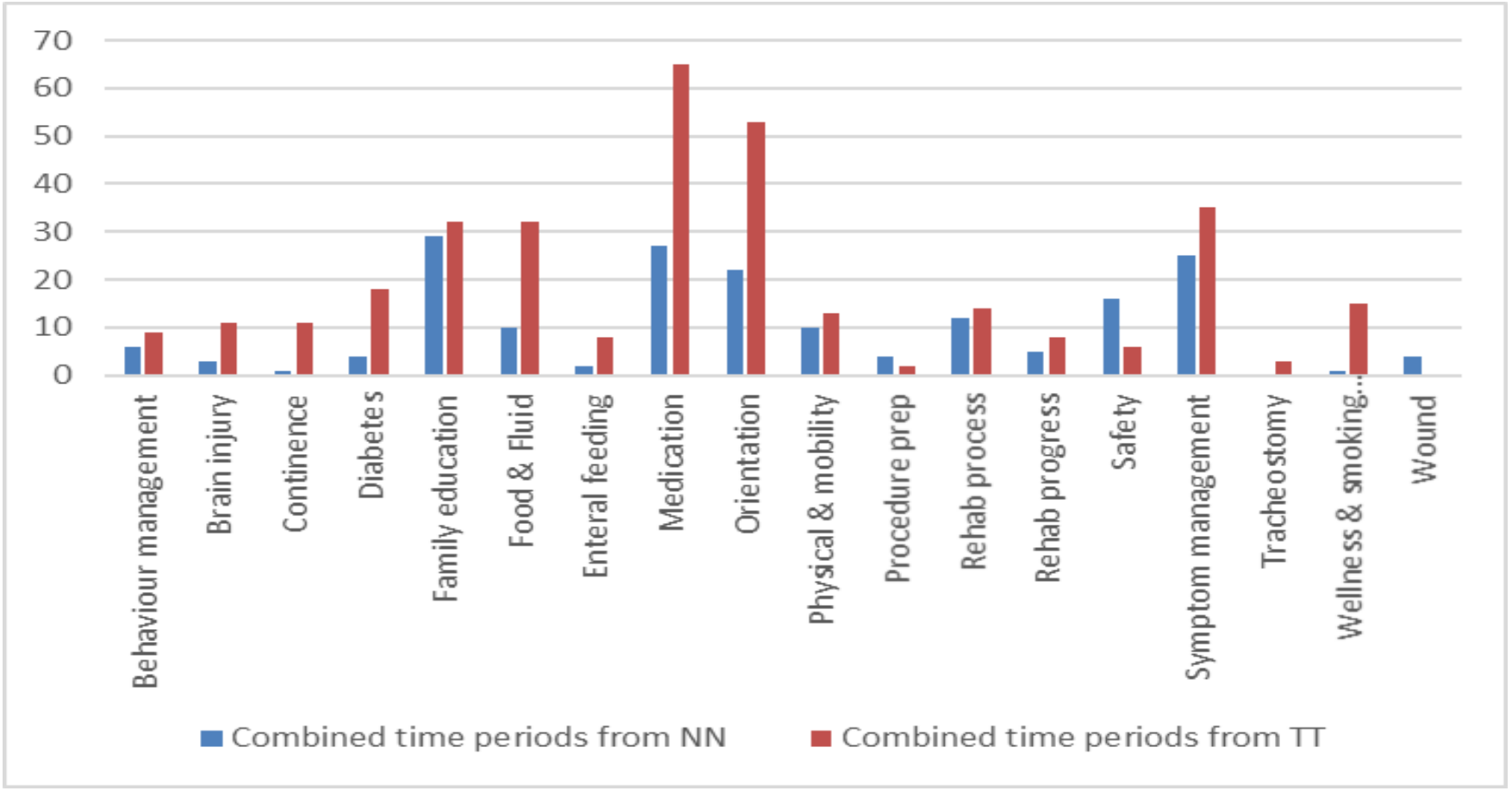


Figure 15: Education category across nursing notes and timetable

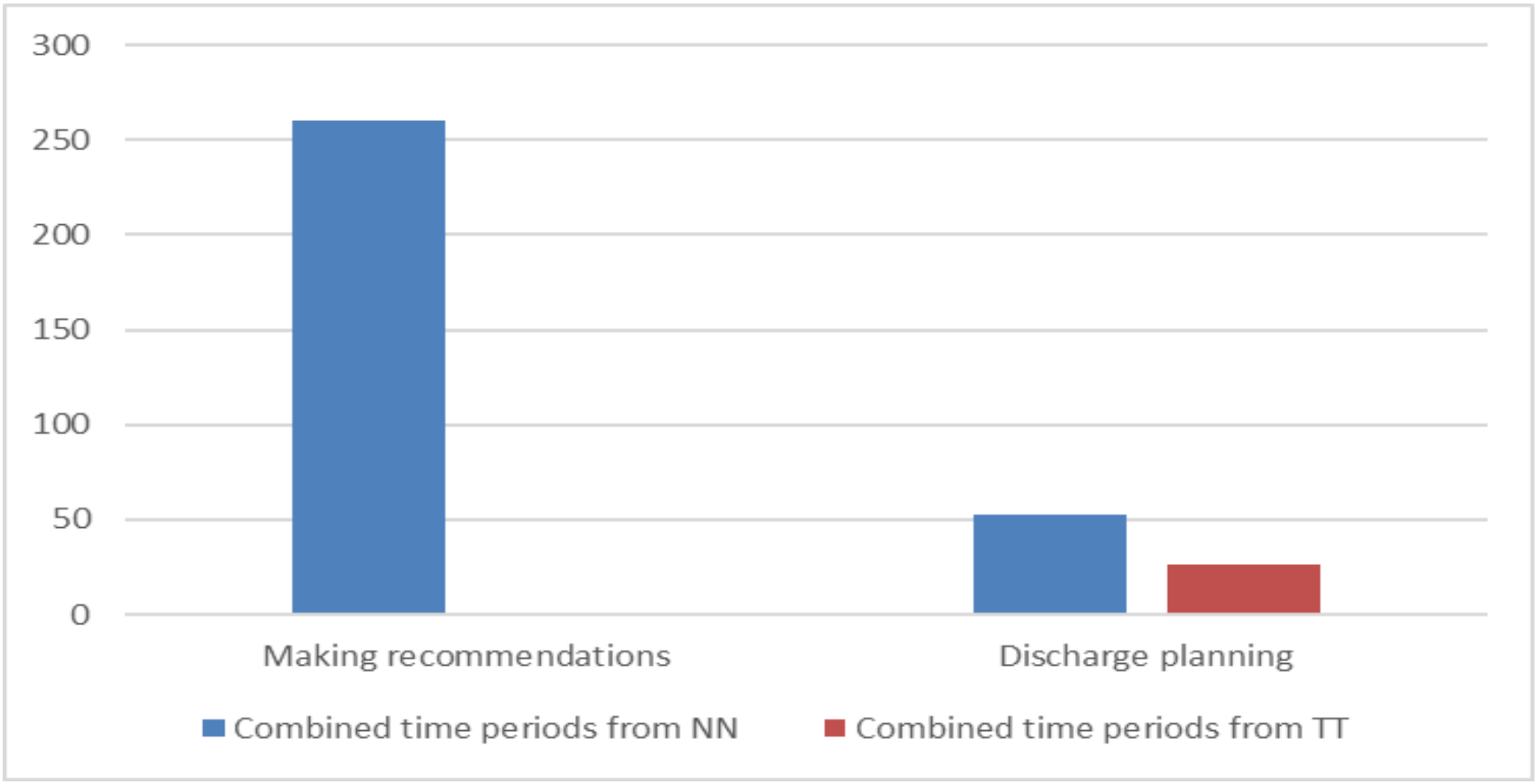


Figure 16: Making recommendations category across nursing notes and timetable

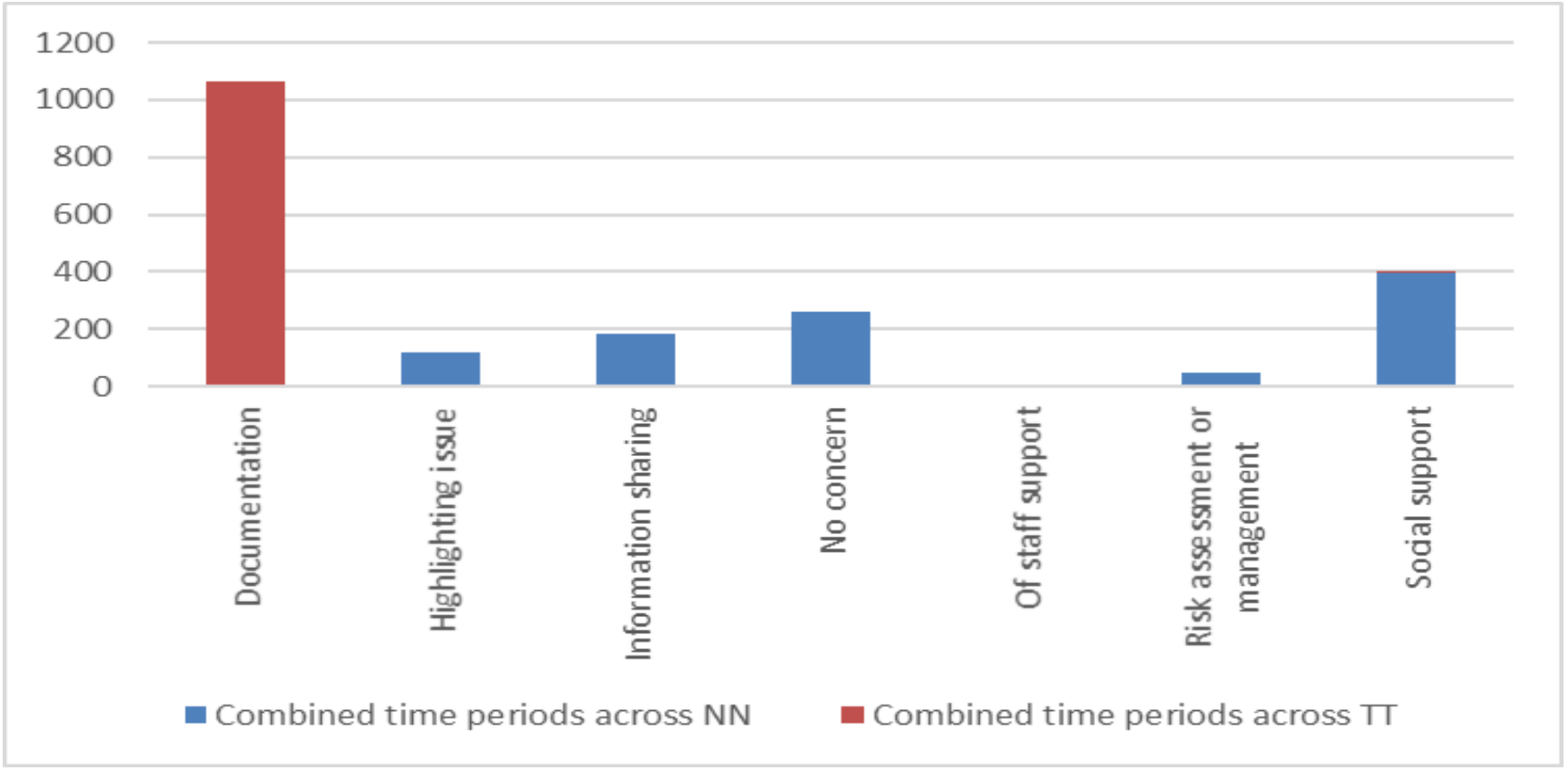


Figure 17: Documentation category across nursing notes and timetable

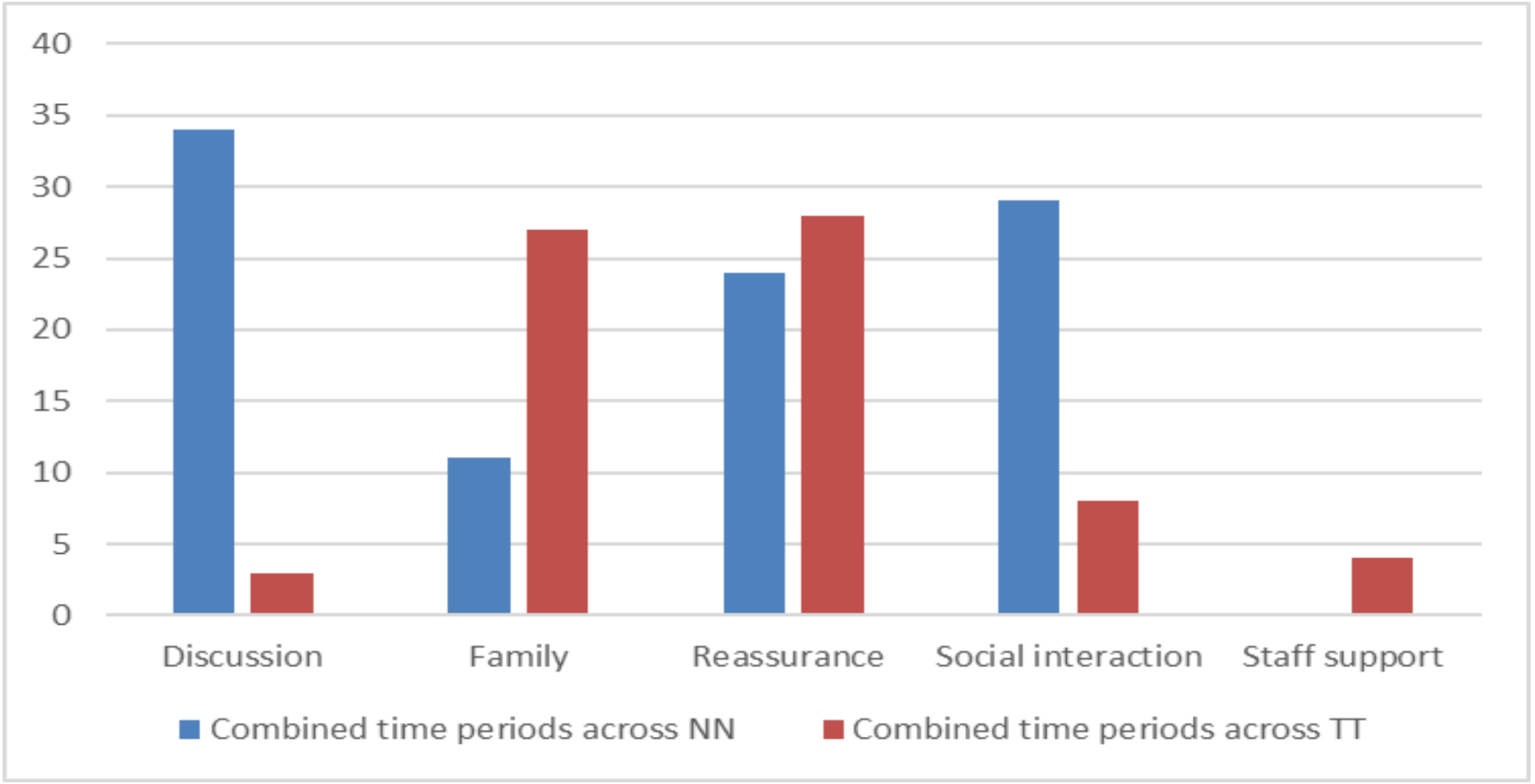


Figure 18: Support category across nursing notes and timetable

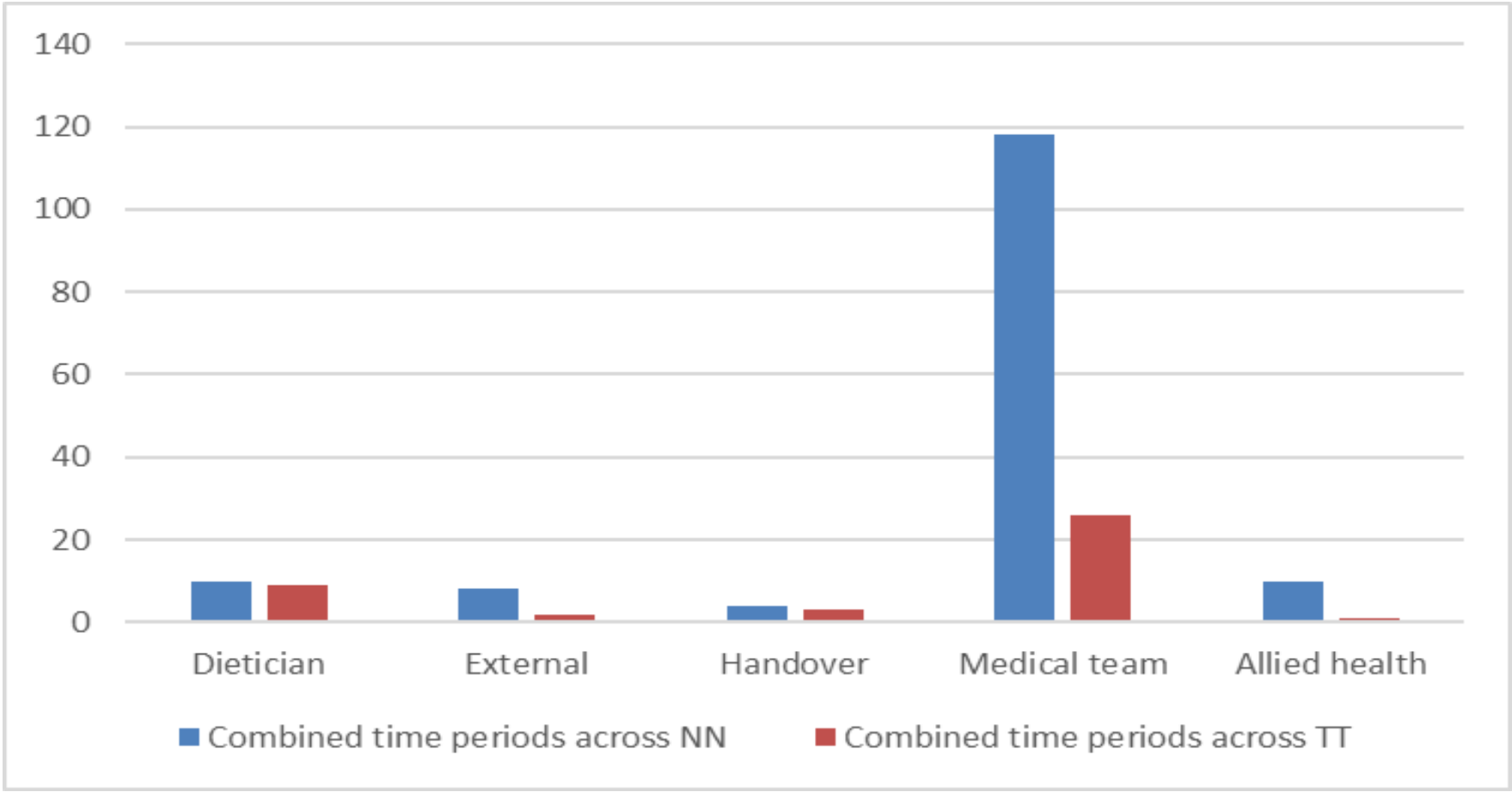


Figure 19: IDT review or discussion category across nursing notes and timetable

Appendix L: Comparison of 2014 and 2015 Primary Descriptor Categories

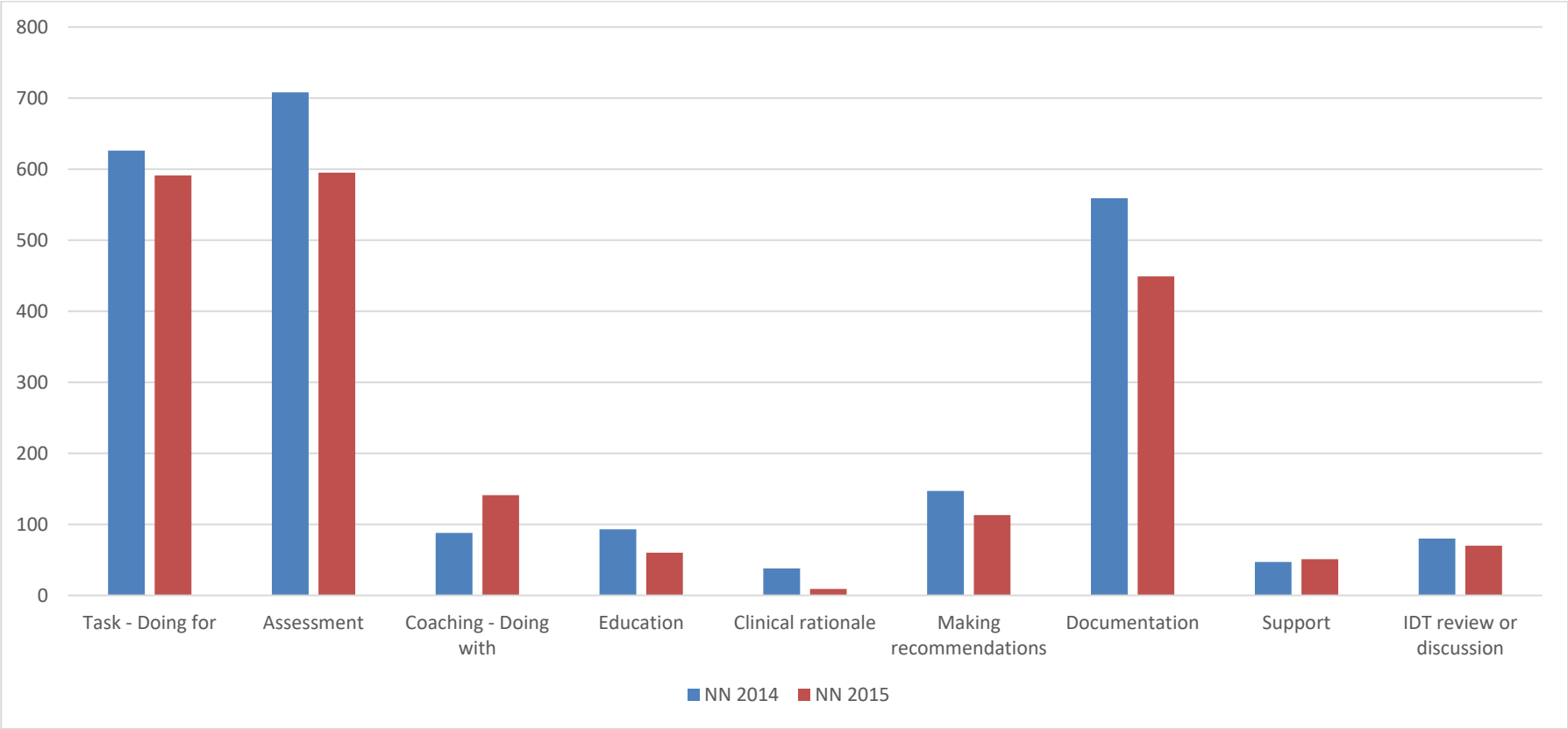


Figure 20: Comparison of primary descriptor categories from the nursing notes data

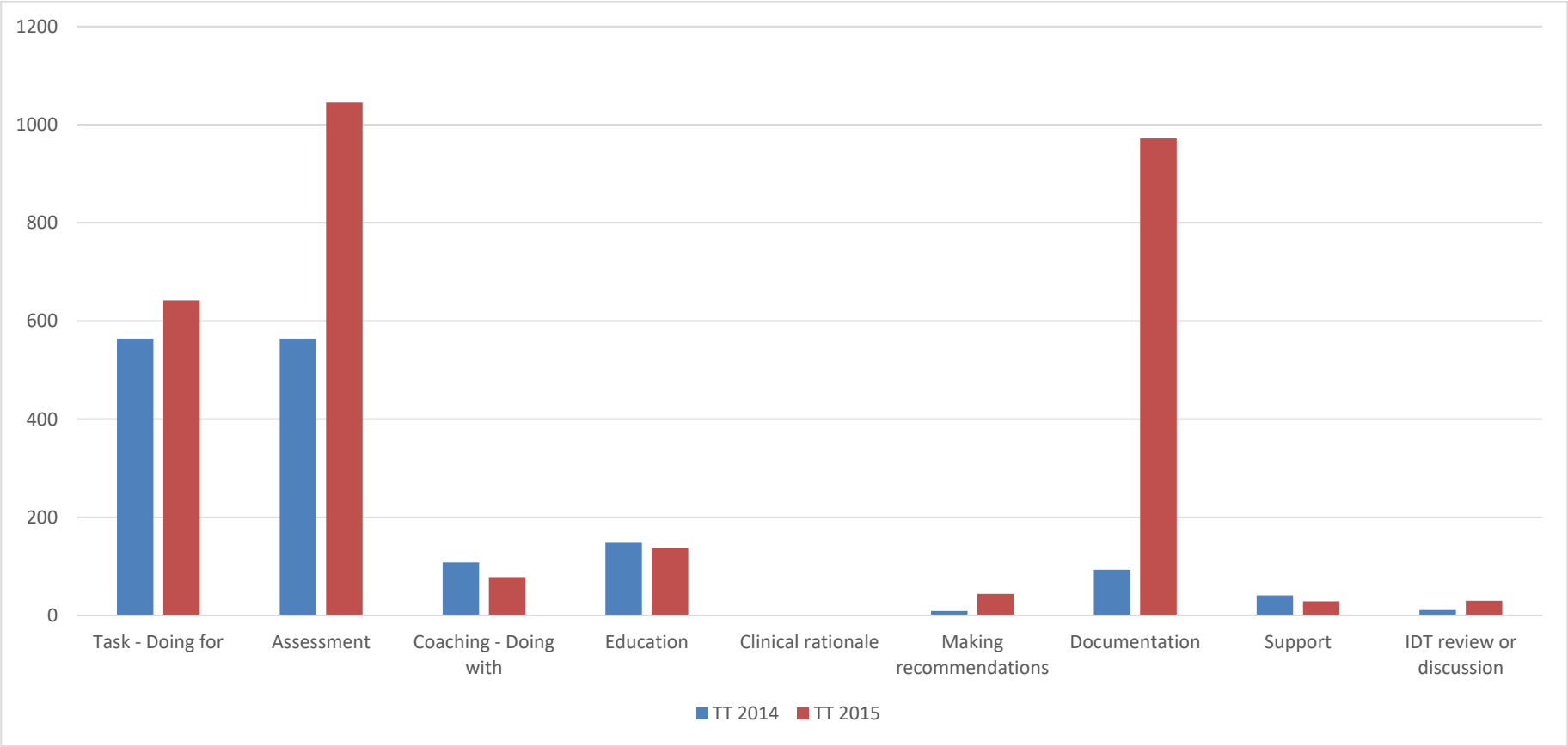


Figure 21: Comparison of primary descriptor categories from the timetable data