Leadership styles amongst Charge Nurse Managers

A mixed methods study exploring the relationship between charge nurse manager personality traits and ward key performance indicators

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Abstract

Background: Ward-level leadership plays a critical role in shaping registered nurse (RN) experience, workforce stability and patient safety. Charge Nurse Managers (CNM) occupy a pivotal leadership position within acute healthcare settings; however, limited empirical research has examined how CNM personality traits and leadership behaviours influence both staff experience and measurable organisational outcomes.

Objective: The objective of this study was to examine the relationship between CNM leadership style and personality traits, and their association with RN experience, RN retention, and medication-related adverse events at the ward level.

Participants: Participants included 15 Charge Nurse Managers employed across inpatient wards and rural facilities within Health New Zealand (Te Whatu Ora) Waikato district. The sample represented 50 percent of CNMs within the district. Ward-level data relating to RN turnover and medication adverse events were included for the corresponding clinical areas.

Methods: A sequential mixed-methods design was employed. Phase One involved semi-structured qualitative interviews exploring CNM leadership experiences and role perceptions. Phase Two utilised the 'Big Five' personality inventory to assess CNM personality traits. Phase Three involved analysis of routinely collected ward-level key performance indicator data, including RN retention and medication adverse events over a 12-month period. Data were integrated using a triangulation approach to support interpretive depth and methodological rigour.

Results: Findings indicated that conscientiousness and emotional stability were the personality traits most strongly associated with positive leadership outcomes. CNMs demonstrating higher levels of these traits were associated with more positive RN experiences, higher retention rates and lower medication adverse event rates. Qualitative findings highlighted psychological safety, emotional regulation and leadership consistency as key mechanisms linking personality and leadership behaviour to outcomes. Leadership effectiveness emerged as a developmental process shaped by personality foundations, experiential growth, and leadership role transition.

Conclusion: This study contributes to nursing leadership literature by linking CNM personality traits to both staff and patient outcomes and by proposing a Roadmap to Health Leadership framework that conceptualises leadership effectiveness as an evolving, context-dependent trajectory. The findings support leadership development approaches that are reflective, evidence-informed, and sensitive to the complexity of ward-based healthcare environments.

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Contribution

I, the researcher undertook all aspects of this study under the direct guidance of my supervisors. This entailed selecting the appropriate research design, the data collection and analysis and the publishing of the findings in this thesis.

Dedication

This work is dedicated to my partner and children, whose constant support and encouragement made it possible for me to undertake and complete this research.

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Chapter I: Introduction

"Leadership is the capacity to translate vision into reality."

Warren Bennis, 1985

Leadership is often described as vision, alignment and motivation, which is tidy and aspirational but also incomplete in healthcare, where leadership also includes workflow, accountability and decisions that must be made fast and correctly (Kotter, 1990). Hospitals are high-reliability environments where coordination failures can cause harm. When the pressure is high, teams default to culture and systems, not posters about values. Leadership is one of the primary mechanisms through which culture becomes practical, shaping communication norms, escalation behaviour and whether staff feel safe to speak up. In healthcare, the gap between 'policy' and 'practice' is where harm lives. Leaders are the people who either close that gap or widen it through inconsistency.

In the literature, leadership has been conceptualised through multiple lenses, including trait-based theories, behavioural theories and situational frameworks (Bass, 1990; Yukl, 2013). Trait-based theories originally assumed leaders possess stable characteristics that predispose them to leadership and to success in leadership. Those early approaches were criticised because leadership effectiveness varies by context and by what the situation demands (Stogdill, 1948; Stogdill, 1974). Yet trait approaches did not disappear, because practitioners and researchers kept noticing that personal characteristics still matter. Instead, trait research evolved to include better measurement and more realistic assumptions about how traits interact with context (Zaccaro, 2007; Day & Zaccaro, 2007). In healthcare, this matters because wards are not identical environments. A leader who thrives in a stable, well-resourced unit may struggle in an understaffed unit with high turnover. Context shapes outcomes, but leadership shapes how teams respond to context.

Leadership in hospitals is also complicated by hierarchy mixed with interdependence. Decision-making authority is not always aligned with where the work happens. Clinical

risk is often managed by those closest to the bedside, yet organisational structures can constrain flexibility, staffing and resources. This means ward leaders must do two things at once: maintain operational control and build relational trust. That combination is difficult, especially when the system incentives are often misaligned. If KPIs are applied without adequate context, leaders can be pushed towards superficial compliance rather than meaningful improvement (Lilford et al., 2004; Bevan & Hood, 2006). This is why leadership quality is not a soft issue. It determines whether measurement supports learning or drives gaming and burnout.

The Charge Nurse Manager (CNM) role sits at the intersection of clinical care, operational delivery and professional nursing leadership. In Health New Zealand's (HNZ) framing, CNMs manage systems and resources, lead nursing practice, provide clinical leadership to multidisciplinary teams and use ward-level data to monitor staff and patient safety (HNZ, 2024). They are responsible for service delivery in a defined area, which typically means a ward with a substantial staffing group. That staffing group is not just a number. It is a set of human relationships, skills, stress levels and informal norms that influence whether standards are followed when it is busy. CNMs are also responsible for creating a professional environment and maintaining effective communication (HNZ, 2024). That sounds polite and harmless until you remember communication failures are a leading contributor to adverse events in hospitals. Wards do not become safe through wishing. They become safe when staff can raise concerns, clarify medication orders, report near misses and escalate deterioration without fear of blame (Edmondson, 1999; Vogus & Sutcliffe, 2007). CNMs play a central role in setting these expectations and modelling these behaviours. Even when an organisation has formal policies for safety and reporting, day-to-day leadership shapes whether staff believe the policies are real.

As CNMs influence both staff performance and patient outcomes, their leadership is reflected through two interconnected sets of indicators. Patient KPIs include measures such as adverse events, safety incidents and patient experience. Staff KPIs include retention, engagement and burnout, all of which directly influence patient care quality (Aiken et al., 2002; West & Dawson, 2012). The linkage matters because a ward cannot deliver consistent safe care if it cannot retain experienced staff. Workforce instability

increases workload for remaining staff, erodes informal mentoring and increases the probability of errors under pressure. Leadership can worsen that cycle or interrupt it.

Leadership is behaviour, but behaviour is not random. A substantial body of research suggests personality traits influence how leaders communicate, handle conflict, make decisions and respond to stress (Costa & McCrae, 1992; McCrae & Costa, 2008). Trait-based leadership research regained credibility with improved psychometrics and the development of the Five-Factor Model, commonly described as the 'Big Five' (Costa & McCrae, 1992). Meta-analytic evidence links certain traits to leadership emergence and effectiveness, particularly extraversion, conscientiousness and emotional stability, with context shaping how these traits translate into outcomes (Judge et al., 2002; Lord, De Vader, & Alliger, 1986).

In a hospital ward, these traits are not abstract categories. Extraversion can support communication, visibility and influence, but can become dominance that shuts down staff voice when unchecked (Grant, Gino, & Hofmann, 2011). Conscientiousness supports order, reliability and standards, but can become micromanagement or rigidity when under stress (Roberts et al., 2009). Emotional stability supports calm decision-making in high-pressure situations, but if interpreted as detachment can limit responsiveness to staff needs (DeRue et al., 2011; Roberts et al., 2009). Agreeableness supports trust and cooperation but can become conflict avoidance that undermines accountability. Openness supports innovation and adaptability but can become inconsistency if not grounded in practical judgment (George & Zhou, 2001; Roberts et al., 2009). Healthcare leadership requires balance, because patient safety depends on both standards and adaptive problem-solving.

Beyond the 'Big Five', emotional intelligence (EI) has been proposed as an essential complement to personality traits, capturing emotional awareness, regulation and interpersonal sensitivity relevant to leadership (Goleman, 1995; Goleman, 1998; Mayer et al., 2008). EI has been associated with transformational leadership, team functioning and occupational wellbeing, particularly in high-stress contexts (Barling, Slater, & Kelloway, 2000; Harms & Credé, 2010; Côté, 2014). In ward leadership, EI relates to how leaders support staff under pressure, manage conflict and maintain

psychological safety. These are not optional extras in healthcare; they are conditions for safe performance.

The literature also recognises that not all personality characteristics are protective. Dark traits such as narcissism, Machiavellianism and psychopathy, while sometimes associated with leadership emergence or short-term performance, are linked to long-term harm through toxic culture and erosion of trust (Paulhus & Williams, 2002; Hogan & Kaiser, 2005; Babiak & Hare, 2006). In healthcare, the risk associated with these traits is amplified because decisions and behaviours have direct consequences for patient wellbeing. A leader who discourages speaking up, punishes reporting or prioritises appearance over learning increases the likelihood that errors are repeated. This line of work highlights the importance of studying not just leadership skills, but leadership dispositions that shape how power is used.

The movement towards key performance indicators (KPI) driven healthcare management has increased the demand for visible proof of quality and performance. Patient KPIs commonly include mortality and morbidity indicators, readmission rates, patient safety indicators such as infections and medication errors, satisfaction measures and efficiency metrics such as length of stay and waiting times (Arah et al., 2006; Institute of Medicine, 2001). These measures have real value when used for learning and improvement. They help identify trends, prioritise interventions and monitor whether changes are working. They also create risks when they become targets divorced from clinical reality. The danger is that performance becomes about improving the number rather than improving the system that produces the number (Bevan & Hood, 2006; Lilford et al., 2004).

The modern patient safety movement was strongly influenced by the landmark report 'To Err is Human', which highlighted the prevalence of preventable harm and the need for systematic approaches to safety (Donaldson, Corrigan, and Kohn 2000). This shifted attention from individual blame toward system design, safety culture and learning from incidents. In hospitals, medication errors remain a critical safety concern, because medication processes involve multiple handoffs, complex dosing and high cognitive load. Wards with stronger safety cultures and supportive leadership are more

likely to report, learn and improve, while punitive cultures promote under-reporting and repeated harm (Vogus & Sutcliffe, 2007). These patterns link leadership directly to a measurable patient KPI.

Staff KPIs, including retention and turnover, satisfaction, engagement and burnout, have become equally important because staff experience is inseparable from patient safety and quality (Aiken et al., 2002; West & Dawson, 2012). Turnover is costly, destabilising and associated with poorer continuity and higher risk. Burnout is linked to errors, reduced compassion and attrition. If staff KPIs deteriorate, patient KPIs often follow. CNMs influence these outcomes through how they allocate work, respond to mistakes, advocate for resources and create an environment where staff can function effectively.

This study focuses on two outcomes that sit at the intersection of staff wellbeing and patient safety: registered nurse retention and medication adverse events. Retention captures whether the ward can sustain a stable, skilled workforce over time. It reflects leadership, culture, workload and the extent to which staff feel valued, supported and able to provide safe care. The literature consistently links leadership style to staff turnover intention and retention, with transformational leadership associated with improved retention and disengaged or authoritarian leadership linked to turnover (Hayes et al., 2006; Cowden, Cummings, & Profetto-McGrath, 2011; Cummings et al., 2018). Retention is therefore not simply an HR metric. It is an indicator of ward functioning and sustainability.

Medication errors represent a critical patient safety KPI because the harm can be immediate and severe, yet the pathways to prevention are often known and manageable. Medication safety is influenced by staffing levels, workload, communication quality and whether staff feel safe to clarify orders and report mistakes. Leadership shapes these mechanisms through culture and expectations, particularly the creation of psychological safety and a non-punitive approach to learning (Edmondson, 1999; Vogus & Sutcliffe, 2007). Leadership also influences practical conditions, including how standards are monitored, whether training is prioritised and whether staff are supported when the ward is under pressure.

The CNM sits in a uniquely influential position relative to both outcomes. CNMs influence retention through daily interactions, fairness, support for development and how they manage conflict and workload. They influence medication safety through standards, feedback, team communication and reporting culture. Both outcomes are therefore suitable for examining how leadership qualities translate into measurable performance indicators within a ward environment.

Despite extensive leadership research, the literature reviewed indicates a persistent gap in directly linking specific CNM personality traits to defined healthcare KPIs. Many studies discuss leadership styles, emotional intelligence and broad organisational outcomes, but fewer studies operationalise personality traits and test their relationship with ward-level performance indicators such as retention and medication adverse events. This creates a practical problem. Without clearer evidence of trait to KPI relationships, it is difficult to design leadership development that is targeted rather than generic. It is also difficult to inform recruitment and succession planning in ways that move beyond intuition.

A further issue is that organisational psychology and health services research often run in parallel rather than together. Organisational psychology provides constructs and tools for measuring personality and leadership behaviour. Health services research emphasises outcome metrics such as safety incidents and staff turnover. Without integrating these approaches, the field struggles to explain the mechanisms that connect leadership characteristics to measurable outcomes. The literature suggests leadership can mediate relationships between staff competencies and KPIs, yet personality background is not consistently examined in these models (Ibrahim, Abdul-Rahaman et al., 2025; Sreedharan, 2024). This leaves a gap that is both theoretical and practical.

This study is positioned to contribute evidence that connects CNM leadership style and personality traits, measured through a 'Big Five' approach, with ward outcomes that matter to both staff and patients. By focusing on retention and medication adverse events, the study addresses outcomes that are measurable, meaningful and plausibly

influenced by ward-level leadership. It also responds to the broader demand in healthcare for improvement strategies that are evidence-informed rather than personality-by-vibes. This mixed methods study aims to explore the relationship between Ward CNM leadership style and characteristics and the experience of registered nurses (RN) working within the service. More specifically, the research seeks to address the following research questions:

1. What is the relationship between the leadership style of Charge Nurse Managers and the experience of registered nurses within their ward?
2. What is the relationship between the personality type, as assessed by the 'Big Five' personality traits survey, of Charge Nurse Managers and registered nurse retention rates within the ward?
3. What is the relationship between the personality type, as assessed by the 'Big Five' personality survey, of Charge Nurse Managers and the quality key performance indicator medication adverse events within the ward over a twelve-month period?

This study therefore sits at the junction of leadership theory, personality science and ward performance measurement. It narrows from the broad challenge of healthcare performance to the specific, testable question of whether CNM personality and leadership qualities are associated with measurable staff and patient outcomes. By doing so, it aims to contribute evidence that is relevant to leadership development, workforce stability and patient safety within hospital wards.

Chapter II: Literature review

"Leadership defines what the future should look like, aligns people with that vision, and inspires them to make it happen"

John P. Kotter, 1990

2.1 Introduction, literature review

A comprehensive literature review is a critical preliminary step in any research endeavour. It ensures that new investigations are informed by existing scholarship and contribute meaningfully to the expanding body of knowledge within the health sector. A literature review provides a theoretical and contextual foundation, identifies knowledge gaps, prevents duplication as well as strengthens the credibility of emerging research.

This chapter establishes the context of leadership within the contemporary health environment as the foundation for a detailed exploration of the Charge Nurse Manager (CNM) role. The review of literature is structured in three parts: Part I introduces personality traits commonly associated with effective leadership; Part II examines research concerning hospital-based patient and staff Key Performance Indicators (KPI); and Part III explores existing literature on the influence of CNM personality and leadership qualities on patient and staff outcomes, focusing particularly on staff retention and the patient quality measure of medication errors. The chapter concludes by identifying the current knowledge gap regarding the extent to which the personality of a CNM may influence their leadership performance and associated outcomes.

2.1.1 Definition of terms

Prior to exploring the literature, it is important to define the common terms employed throughout this study. *Registered Nurse:* The Nursing Council New Zealand (NCNZ) requires that to become a registered nurse (RN) one needs to either obtain a: (i) Bachelor's degree from an approved tertiary institution; (ii) Equivalent postgraduate qualification in nursing from an approved tertiary institution; or (iii) Have an overseas qualification that is directly comparable or comparable with further study or

assessment. RNs may practice in a variety of clinical settings, using their knowledge and nursing judgement to assess health needs and provide care. *Charge Nurse Manager:* Health New Zealand (Te Whatu Ora) Charge Nurse Managers (CNM) (Health NZ, 2024) position description describes the primary expectations of this role as the following: (i) To manage the systems, process and resources that enable staff to meet the needs of the patient / consumer /tangata whaiora in an efficient and effective manner; (ii) Management of people, system and resources within a defined area to ensure that service delivery is of a high standard; (iii) Responsible for one or more defined areas; (iv) To provide clinical leadership to the multidisciplinary team; (v) To provide professional leadership to the nursing team, developing the nursing services and monitoring quality, including standards of practice and service standards; (vi) Contributes to the achievement of strategic direction for defined care area; (vii) Will foster a professional environment effective communication and contribute to an environment of mutual respect; and (viii) Will utilise data at a ward level to monitor quality outcomes for staff safety and patient safety. *A hospital ward:* A typical ward within the research hospital site is made up of 24 to 32 patient bed spaces. Staffing matrixes are based on a care capacity and demand management tool; however, an individual CNM is typically responsible for a staff of 50 to 64, made up of RNs, Enrolled Nurses (EN) and Health Care Assistants (HCA).

Personality trait: A personality trait is a characteristic or quality that defines an individual's consistent patterns of thoughts, feelings and behaviours. Traits can influence how people respond to different situations and how they interact with others (McCrae & Costa, 2008).

Key Performance Indicator: KPIs are measurable values that demonstrates how effectively individuals, team or organisations are achieving specific objectives (Marr, 2015). *Patient outcome*: This refers to the result or impact of healthcare services on a patient's health status. It measures the effectiveness of treatments, interventions, or healthcare processes (Porter, 2010).

2.1.2 Literature search

To meet the objectives of this study, a comprehensive database search of CINAHL Plus, Medline (OvidSP), Goggle Scholar and PubMed was undertaken. Library services at the University of Waikato and Health New Zealand (HNZ) were accessed to perform the literature review. The search strategy comprised of the following key phrases: leadership, charge nurse, ward sister, personality traits, 'Big Five', key performance indicators., data analysis, thematic analysis, medication errors, staff turnover, dark traits, EI, trait theory, trait analysis, healthcare, Some other relevant articles were acquired when a grey literature search was conducted to ensure a robust review of all currently available knowledge. The results were limited to articles published within the last 15 years to keep discussions relevant; however, there were several other works outside this timeframe which have been included as they remained applicable to the discussion. Exclusions were made for articles that were not published in English. The selected articles provided a comprehensive body of literature to be critically reviewed; however, this is not intended to be an exhaustive compilation of all relevant literature.

Figure 1 illustrates the selection process for articles included in this review.

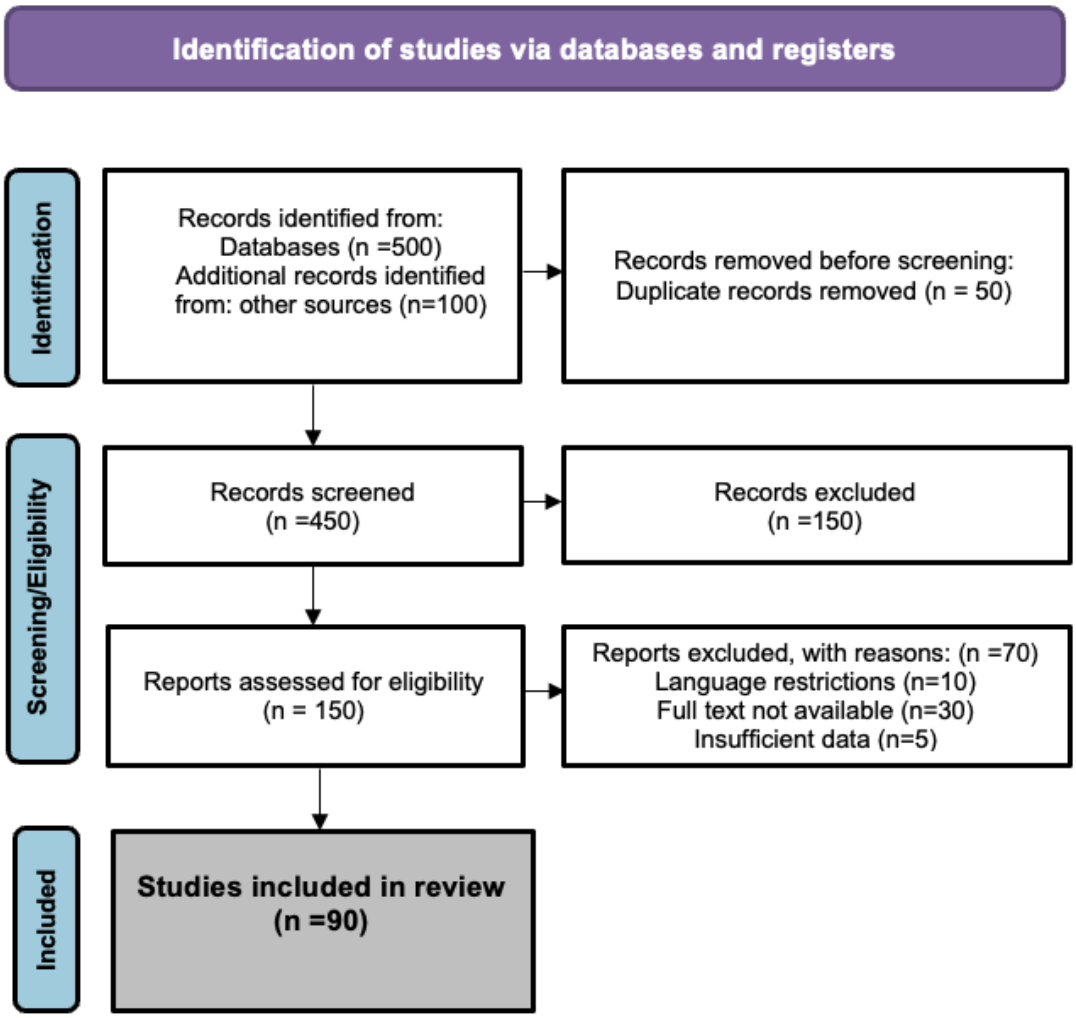

Figure 1: Article selection

Part I: Personality traits of successful leaders

Leadership has long been a subject of professional and academic interest, with researchers attempting to identify the qualities that distinguish effective leaders from their less successful peers. From early trait theories that emphasised qualities of 'great men' to modern psychological approaches grounded in academic evidence, the role of personality has remained central in discussions of leadership effectiveness. In academic literature, the study of leadership personality traits intersects with psychology, management and organisational behaviour and continues to evolve. (Liden et al 2025).

2.2 Trait-based theories of leadership

Early leadership studies focused heavily on trait-based approaches, with the assumption that certain qualities predispose individuals to leadership roles or positions. Whilst early models were criticised for lack of rigor, the resurgence of personality psychology and the evolution of the 'Big Five' framework re-established interest in how traits influence leadership outcomes (Judge et al., 2002; Zaccaro, 2007). The 'Big Five' framework was agreed by most psychologists as the most comprehensive supported model of personality theory (Costa & McCrae, 1992).

Trait-based theories of leadership represent one of the earliest systematic attempts to explain why certain individuals gravitate towards leadership roles and succeed in them. In the early twentieth century, such theories were heavily influenced by the assumption that leadership was primarily a function of people who had, stable characteristics. Researchers such as Galton (1869) and later Stogdill (1948) argued that effective leaders possessed specific qualities such as intelligence, confidence, determination and sociability, which differentiated them from non-leaders. These early conceptualisations formed the basis of what became known as the 'trait approach' to leadership.

Following initial enthusiasm for trait theories, this diminished in the mid-twentieth century, largely due to criticisms of the methods utilised. Stogdill's (1948, 1974) influential reviews highlighted that no single set of traits could universally predict leadership effectiveness across all situations. This suggested that traits alone could not

account for the complexity of leadership, leading many scholars to shift towards situational and behavioural theories in the 1950s and 1960s (Bass, 1990). Nonetheless, the seed planted by trait theories endured as the recognition that personal attributes matter in leadership never fully disappeared. Instead, the field evolved to consider traits as contextually dependent predictors of leadership outcomes.

The revival of trait-based perspectives in the late twentieth century was facilitated by advances in psychometrics, particularly the development of the 'Five-factor model of personality'. Researchers such as McCrae (1987) and Costa (1992) demonstrated that personality could be reliably measured across cultures and contexts, re-establishing the credibility of dispositional approaches. Judge, Bono, Ilies and Gerhardt's (2002) meta-analysis was especially key, as it provided further evidence that traits such as extraversion, conscientiousness and openness to experience were consistently related to leadership effectiveness. This represented a shift from earlier questions, confirming that while traits alone do not determine leadership, they form part of the bigger picture.

An important distinction in trait-based leadership research concerns the intricacies between leadership emergence and leadership effectiveness. Leadership emergence refers to the likelihood that an individual will be recognised as a leader, whereas effectiveness relates to performance once in a leadership role. Traits such as extraversion and intelligence are particularly strong predictors of emergence, while conscientiousness and emotional stability tend to correlate more strongly with effectiveness (Lord, De Vader, & Alliger, 1986; Judge et al., 2002). This distinction highlights the complexity of leadership, where the qualities that help individuals rise to leadership positions are not always identical to those that sustain long-term success and meet the agreed key performance indicators.

Cultural and contextual factors further complicate the picture. For example, House et al.'s (2004) Global Leadership and Organisational Behaviour Effectiveness (GLOBE) study demonstrated that the desirability of certain traits varies across cultures. While assertiveness and independence may be highly valued in Western contexts, collectivist cultures often emphasise humility and relational harmony. These findings challenge the universality of trait-based theories, suggesting that cultural context significantly

moderates the impact of personality on leadership outcomes. This is especially relevant in the Aotearoa New Zealand (Aotearoa-NZ) health context, where many healthcare workers are internationally qualified.

In healthcare, trait-based perspectives have gained renewed attention because of the unique demands of the sector. Charge Nurse Managers (CNM) and other healthcare leaders operate in high-stress environments where decisiveness, empathy and resilience are considered critical (Louwen, Reidlinger et al. 2023). Studies suggest that personality traits such as conscientiousness and emotional stability (Aiken, Clarke et alal. 2002) are particularly important, as they influence patient safety, staff coordination and overall organisational culture (Cummings et al., 2018). Thus, whilst early critics of trait theories argued that the approach was overly simplistic, contemporary applications in fields like healthcare demonstrate their enduring relevance when integrated with contextual considerations. Despite the criticisms, trait-based theories have undergone a significant transformation; from early assumptions to more empirically grounded perspectives, the study of traits has evolved to emphasise interaction between personal dispositions and situational demands.

2.3 The 'Big Five' personality traits and leadership

The 'Big Five' framework has been particularly influential in linking personality to leadership success. The five traits: 'Extraversion', 'Conscientiousness'; 'Openness to experience; along with 'Agreeableness'; and 'emotional stability' have been demonstrated through meta-analyses to be strongly associated with leadership (Colbert & Witt, 2009; Judge, Bono, Ilies, & Gerhardt, 2002). The first three being strong positively correlated with successful leadership and the latter two, more context dependent.

2.3.1 Extraversion

Extraversion has consistently emerged as one of the strongest and most reliable predictors of leadership across diverse contexts. Defined by traits such as sociability, assertiveness, energy and positive emotionality; extraversion is closely associated with individual's ability to engage with others, communicate persuasively and inspire

collective action (Costa & McCrae, 1992). Judge et al.'s (2002) seminal piece found extraversion to be the most significant of the 'Big Five' traits in predicting both leadership emergence and effectiveness: with correlations particularly strong in contexts requiring high levels of interpersonal interaction. The link between extraversion and leadership emergence is especially noteworthy. Individuals who are outgoing and assertive are more likely to be perceived as leaders by their peers, even in the absence of formal authority. This phenomenon reflects the social confidence that extraverted individual's project, which often leads to early opportunities for leadership roles (Lord, De Vader, & Alliger, 1986). Beyond perception, extraverts are also more likely to actively seek leadership responsibilities, reflecting their preference for environments that offer stimulation and social engagement (Bono & Judge, 2004). From the perspective of leadership effectiveness, extraversion contributes to critical functions such as motivating teams, articulating vision and fostering a positive organisational climate. Extraverted leaders tend to excel in charismatic and transformational leadership styles, where enthusiasm and emotional expression help to mobilise followers (Bono & Judge, 2004; DeRue et al., 2011). This capacity to influence and inspire is particularly valuable in dynamic or uncertain contexts, where clear expectations, reassurance and direction are required by team members.

However, the role of extraversion is not always positive. While high levels of sociability and assertiveness can facilitate engagement, excessive extraversion may manifest as being overly dominant and lacking attentiveness to others' input. Scholars such as Grant, Gino and Hofmann (2011) have argued that extraverted leaders may inadvertently shut down team proactivity, as their assertive tendencies can overshadow contributions from their staff. This suggests that the effectiveness of extraversion may be dependent on the context and the nature of the team being led. Cultural variations also shape the impact of extraversion on leadership. In individualistic societies, assertiveness and outgoing behaviour are often rewarded in leaders, while in collectivist cultures, restraint and humility may be valued more highly (House et al., 2004). Consequently, extraversion may not universally predict leadership success, highlighting the need for culturally sensitive interpretations of personality–leadership links.

In healthcare settings, extraversion has unique implications for both staff and patient outcomes. Leaders in hospitals and clinical environments often face the dual challenge of managing multidisciplinary teams and maintaining effective communication with patients and families. Extraverted CNMs, for example, are often well-positioned to foster team cohesion through open communication and visible presence on the ward (Cummings et al., 2018). Their sociability facilitates collaboration across professional boundaries, while their assertiveness supports decision-making situations that are time critical or impact on the wellbeing of patients. Overall, extraverted healthcare leaders may enhance patient satisfaction by creating a ward culture characterised by approachability and empathy. Patients and families often perceive extraverted leaders as reassuring, which can positively influence perceptions of the quality of the care delivered. However, the potential downsides of extraversion, such as overconfidence or reduced receptivity to feedback remain relevant in healthcare, where the consequences of poor decisions can cause temporary permanent harm.

Extraversion represents a double-edged sword in leadership. Its positive associations with charisma, communication and influence make it a powerful predictor of leadership emergence and effectiveness. Yet, its context-dependent limitations underscore the importance of balance, self-awareness and adaptability. In healthcare, the benefits of extraversion appear particularly salient, but effective leadership requires that it be tempered by attentiveness to staff input, patient needs and situational demands.

2.3.2 Conscientiousness

Conscientious, defined by traits such as dependability, organisation, diligence and self-discipline, has been widely recognised as a cornerstone of effective leadership. Within the 'Big Five' framework, conscientiousness reflects an individual's capacity for goal-directed behaviour, perseverance and reliability (Costa & McCrae, 1992). Such characteristics directly support leaders' ability to set clear expectations, ensure accountability and maintain performance standards. Judge et al. (2002) identified conscientiousness as one of the most consistent predictors of leadership effectiveness, particularly in organisational contexts where task structure and goal achievement are paramount.

The relationship between conscientiousness and leadership effectiveness is grounded in the role in which conscientious leaders play in establishing order and stability. Such leaders are typically characterised by their strong work ethic, careful planning and attention to detail, which in turn fosters trust and reliability among team members (Barrick & Mount, 1991). The emphasis on structure is particularly valuable in environments where precision and consistency are critical to success. Furthermore, conscientious leaders are often more persistent in overcoming obstacles, ensuring that goals are achieved despite challenges. Unlike extraversion, which primarily predicts leadership emergence; conscientiousness has been found to be more closely aligned with leadership effectiveness (Bono & Judge, 2004). While conscientious individuals may not always stand out in group settings or naturally seek leadership roles, once in positions of authority they are likely to thrive through reliability and performance. This distinction highlights the complementary nature of the 'Big Five' traits, with extraversion aiding recognition as a leader and conscientiousness sustaining success over time.

Conscientiousness is particularly relevant in industries, such as healthcare, where leadership decisions have direct consequences for human well-being. In hospital settings, conscientious CNMs demonstrate heightened vigilance in patient safety protocols, adherence to guidelines and careful management of ward resources (Wong & Cummings, 2007). Their commitment to structure and accountability enhances not only the quality of patient care but also the reliability of staff performance. Such leaders are also more likely to engage in evidence-based decision-making, which is essential in healthcare environments characterised by complexity and risk. Research also suggests that conscientious leaders positively influence organisational culture by modelling standards of professionalism and integrity. These behaviours, in turn, promote climates of accountability and performance orientation, which are associated with improved staff morale and reduced turnover (Hogan & Kaiser, 2005). Staff working under conscientious leaders often report higher levels of satisfaction and organisational commitment, as they perceive fairness, consistency and dependability in their leaders' actions.

Nonetheless, conscientiousness is not without potential drawbacks. Excessive conscientiousness may manifest as rigidity, perfectionism or micromanagement, which can stifle innovation and reduce team flexibility (Roberts et al., 2009). In rapidly changing environments, leaders who are overly focused on detail may struggle to adapt quickly to emerging challenges. Cultural perspectives also play a role in shaping the perception of conscientiousness in leadership. In cultures that value hierarchy and formality, conscientious leaders may be particularly well-regarded for their reliability and rule-abiding behaviour. In contrast, in more flexible or innovative organisational cultures, excessive conscientiousness may be interpreted as inflexibility. These cross-cultural differences highlight the importance of situational context in determining how conscientiousness contributes to leadership effectiveness (House et al., 2004).

In the context of healthcare, conscientious leadership aligns closely with key performance indicators (KPI) such as reduced medical errors, adherence to treatment protocols and efficiency in resource utilisation (Cummings et al., 2018). CNMs who demonstrate high conscientiousness are often at the forefront of improving patient safety outcomes, reducing adverse events and encouraging a ward culture where staff adhere to evidenced based best practices. These contributions underscore the critical importance of conscientiousness as a leadership trait in hospital settings. Conscientiousness represents a foundational personality trait that sustains leadership effectiveness through diligence, accountability and structured performance. Its value is particularly pronounced in healthcare, where patient safety and staff coordination depend on leaders who are disciplined, reliable and committed to professional standards.

2.3.3 Openness

Openness to experience, characterised by intellectual curiosity, creativity and a preference for novelty, plays a role in leadership; particularly in contexts that require adaptability and innovation. Within the 'Big Five' framework, openness reflects a tendency toward imaginative thinking, receptiveness to new ideas and a willingness to challenge established practices (Costa & McCrae, 1992). For leaders, these qualities translate into greater capacity to envision change, encourage innovation and adapt to evolving organisational environments.

Research has consistently linked openness to transformational leadership, a style defined by the ability to inspire followers through vision, creativity and intellectual stimulation (Bass, 1990; Bono & Judge, 2004). Leaders who are high in openness are more likely to promote experimentation and encourage their teams to think critically about conventional approaches, thereby fostering a ward culture that supports innovation (Eagly et al., 2003). In this respect, openness complements conscientiousness, in that whilst conscientious leaders ensure stability and accountability, open leaders push the boundaries of what is possible, facilitating long-term ward growth.

In terms of leadership emergence, openness has shown more modest effects compared to extraversion or conscientiousness. While creative and visionary qualities are often admired, they do not always translate into immediate recognition as a leader, particularly in structured or hierarchical environments where conformity may be valued (Judge et al., 2002). Nonetheless, once in leadership roles, openness strongly predicts effectiveness in dynamic and complex contexts, where flexibility and innovation are essential to success. Healthcare leadership provides a domain in which the value of openness becomes more evident. Hospitals and healthcare systems are constantly evolving in response to technological advances, policy updates based on new information and changing patient demographics, especially complexity. Leaders who are high in openness are more likely to embrace evidence-based innovations, such as new clinical protocols, adopting digital health technologies, or interdisciplinary models of care (Cummings et al., 2018). This adaptability is crucial in ensuring that healthcare organisations remain resilient and capable of delivering high-quality patient care in the face of ongoing change.

At the ward level, CNMs with high openness may eagerly encourage staff to adopt innovative practices and engage in continuous learning. By fostering a climate of intellectual curiosity and openness to feedback, such leaders can enhance both staff development and patient outcomes. For example, encouraging staff to explore new patient safety initiatives or trial innovative care models reflects the application of openness in everyday leadership practice (Wong & Cummings, 2007). Moreover, open

leaders are more likely to value and integrate diverse perspectives, which is essential in multi-disciplinary healthcare teams where collaboration across professional boundaries is critical. Despite the advantages of a leader with strong openness traits, openness also carries potential risks. Leaders who are excessively open may be perceived as unpredictable or indecisive, particularly if their preference for novelty undermines consistency and stability. In highly regulated environments, a balance must be reached and understood between innovation and adherence to standards of safety and accountability. Roberts et al. (2009) caution that while openness fosters creativity, it must be grounded in practical judgment to avoid unnecessary risks. Culture also influences how openness is perceived in leaders by their staff. In societies that prize tradition and stability, openness may be viewed negatively, as leaders who challenge norms can be seen as disruptors. In contrast, cultures that value individualism and innovation are more likely to reward leaders who demonstrate openness to new experiences (House et al., 2004). Reinforcing the importance of context in evaluating the contribution of openness to leadership success.

Overall, openness to experience emerges as a vital leadership trait in contexts that require creativity, adaptability and forward-thinking vision. In healthcare, where leaders must balance the dual imperatives of safety and innovation, openness supports the adoption of new technologies and practices while fostering staff engagement and professional growth. However, its effectiveness depends on moderation and the professional context, ensuring that innovation is pursued without compromising ward stability.

2.3.4 Agreeableness

Agreeableness is associated with the traits of compassion, cooperation and interpersonal sensitivity. Leaders who are high in agreeableness are often described as warm, empathetic and trustworthy; qualities that promote harmony within teams and foster collaborative relationships (Costa & McCrae, 1992). Such characteristics are particularly valuable in roles that require conflict resolution, negotiation and the management of interpersonal dynamics. Research evidence on the link between agreeableness and leadership effectiveness is more mixed compared to traits like extraversion and conscientiousness. Judge et al. (2002) found modest correlations

between agreeableness and leadership, suggesting that while agreeable individuals contribute positively to team dynamics, they may lack the assertiveness sometimes necessary for decisive leadership that's sets and manages clear expectations. This duality reflects the fact that agreeableness encompasses both strengths, such as empathy and cooperation and potential limitations, such as conflict avoidance and reluctance to make unpopular decisions (Judge & Bono, 2002). In leadership emergence, agreeableness tends not to be a strong predictor. Individuals who are highly agreeable may be less inclined to seek leadership positions, as their preference for harmony can conflict with the assertive behaviours often required with leadership and managerial positions (Bono & Judge, 2004). However, once in leadership roles, agreeable individuals often excel in building trust, managing staff relationships and fostering environments of psychological safety, which can support long-term team quality performance (Edmondson, 1999).

The relevance of agreeableness to healthcare leadership is particularly notable. CNMs who demonstrate empathy and interpersonal sensitivity are often more effective in supporting staff morale and reducing workplace conflict. Their capacity to listen to concerns, validate experiences and provide emotional support fosters an environment in which staff feel valued and respected (Cummings et al., 2018). Agreeable leaders can also contribute to more patient-cantered care through modelling compassion and empathy in interactions with patients and families. Leaders who display warmth and sensitivity set the tone for staff behaviour, reinforcing patient-focused values within healthcare teams, crucial to reduce staff burnout and turnover. Such an orientation aligns closely with healthcare KPIs related to patient satisfaction, quality of communication and trust in providers (Wong & Cummings, 2007).

However, leaders who are overly agreeable may struggle to enforce rules, hold staff accountable, or make tough decisions in high-stakes situations. In hospital environments, where adherence to safety protocols and decisive action are often critical, excessive agreeableness can undermine authority and create risks for both staff and patients (Roberts et al., 2009). For this reason, successful leaders must balance agreeableness with assertiveness and a willingness to make difficult choices. Cultural perspectives also shape how agreeableness is valued in leadership. In collectivist

cultures, where harmony and interpersonal relationships are highly prized, agreeableness may be seen as an essential quality. In contrast, in highly competitive or individualistic cultures, agreeableness may be perceived as weakness, (House et al., 2004). These cross-cultural findings underscore the importance of context in assessing the role of agreeableness in leadership.

Overall, agreeableness plays an important albeit complex role in leadership. Its contribution to empathy, cooperation and trust-building makes it an asset in healthcare, where relational leadership strongly influences staff well-being and patient satisfaction. However, the risks of conflict avoidance and over-accommodation highlight the need for balance, ensuring that agreeable leaders maintain authority and uphold critical standards of care.

2.3.5 Emotional stability

Emotional stability is often seen as the inverse of neuroticism within the 'Big Five' and reflects an individual's ability to remain calm, resilient and composed under stress. Leaders who are high in emotional stability are less prone to negative affect, anxiety and mood fluctuations, which allows them to make balanced decisions and maintain effective interpersonal relationships even in challenging circumstances (Costa & McCrae, 1992). In contrast, leaders who score high on neuroticism may display emotional volatility, poor stress management and difficulty coping with uncertainty; all of which can undermine leadership effectiveness.

Empirical studies consistently identify emotional stability as a key predictor of leadership effectiveness, particularly in high-pressure contexts. Judge et al. (2002) found that emotionally stable leaders tend to perform better overall, as their calm demeanour fosters confidence among subordinates and enhances organisational stability. In leadership emergence, emotional stability is somewhat less predictive compared to traits like extraversion, but its role in sustaining leadership effectiveness is robust, especially over the long term (Bono & Judge, 2004). The importance of emotional stability becomes especially clear in crisis situations. Leaders who remain calm and composed in the face of uncertainty are better able to provide reassurance, make rational decisions and coordinate team efforts. Conversely, leaders high in

neuroticism may display anxiety and stress to their teams, reducing morale and having a negative impact on performance. DeRue et al. (2011) highlight that a leader's emotional regulation is critical not only for task outcomes but also for maintaining psychological safety within teams.

In healthcare, emotional stability is arguably one of the most vital leadership traits. CNMs operate in high-stakes environments where emergencies, staff shortages and complex patient needs are common. Leaders with high emotional stability are better able to manage these stressors without compromising decision-making quality or interpersonal relationships (Cummings et al., 2018). Their resilience under pressure reassures both staff and patients, contributing to smoother ward functioning and improved patient outcomes. Emotional stability also intersects with other leadership traits in important ways. For example, while conscientiousness promotes diligence and accountability, it may, in the absence of emotional stability, lead to perfectionism or stress when standards are not met. Similarly, extraversion without stability may result in erratic or impulsive leadership. Thus, emotional stability provides a regulatory foundation that enables other traits to manifest productively.

Nevertheless, low levels of neuroticism are not universally advantageous. Leaders who are extremely emotionally stable may be perceived as detached overly stoic or unresponsive to the emotional needs of others, which then fails to connect with staff or patients (Roberts et al., 2009). Cultural perspectives on emotional stability suggest that while calmness and composure are widely valued in leaders, the expression of emotion may carry different connotations across contexts. In some cultures, overt displays of emotion are seen as signs of authenticity and passion, while in others, they may be perceived as weakness (House et al., 2004).

Emotional stability represents a foundational trait for sustaining effective leadership. Its importance is particularly pronounced in healthcare, where the ability to manage stress, maintain composure and support staff under pressure directly influences both patient and staff outcomes. Emotional stability not only enhances individual leaders' capacity to function effectively but also amplifies the positive effects of other traits, ensuring a balanced and adaptive leadership profile.

Although the 'Big Five' dominate much discussion and research in relation to leadership, other traits or characteristics are equally supported by extant research and require consideration. In the late 1990s Goleman (1998), started to discuss in literature emotional intelligence. The 'Big Five' framework model offers a strong structural foundation (John & Srivastava, 1999), scholars have repeatedly noted that leadership outcomes cannot be understood solely through broad traits (Yukl, 2013). Researchers in psychology and social cognition have identified other constructs that may predict leadership effectiveness beyond the 'Big Five', including emotional regulation, interpersonal sensitivity, and specific affective tendencies (Antonakis et al., 2009; Judge et al., 2009). This recognition reflects a broader shift in leadership research: from viewing leaders through singular personality traits to appreciating the dynamic, situational, and relational processes that influence leader performance (Day & Zaccaro, 2007). Consequently, incorporating traits outside traditional personality models is considered necessary to capture the versatile nature of effective leadership.

2.4 Emotional intelligence

It was within an evolving research landscape that Goleman (1995, 1998) introduced Emotional Intelligence (EI) as a central component of leadership effectiveness. EI conceptualised as self-awareness, self-regulation, motivation, empathy and social skills, offers a framework for understanding the affective and interpersonal dimensions of leadership not adequately captured by the 'Big Five' (Mayer et al., 2008). Subsequent research has demonstrated strong associations between EI and transformational leadership, team functioning, and occupational well-being (Barling et al., 2000; Harms & Credé, 2010). Moreover, EI has been linked to enhanced communication, and stronger relationships between the staff and their manager, adding a link to personality – based models of leadership (Côté, 2014). Thus, integrating EI alongside traditional personality traits reflects a more comprehensive understanding of leadership competencies (Louwen, Reidlinger et al. 2023). EI in leadership research captures dimensions of emotional awareness, regulation and interpersonal sensitivity that extend beyond traditional personality frameworks. EI refers to the capacity to recognise, understand and manage one's own emotions and those of others. Mayer, Salovey and Caruso (2008) conceptualise EI as encompassing four abilities: (i)

Perceiving emotions; (ii) Facilitating thought through emotion; (iii) Understanding emotional information; and (iv) Managing emotions adaptively. The relationship between EI and leadership effectiveness has been widely documented. Leaders who are high in EI are perceived to be better able to foster trust, resolve conflicts and motivate teams (Côté, 2014). Transformational leadership is closely linked to EI, as the ability to connect with followers emotionally is thought to enhance charisma and communicate vision more effectively (Barling, Slater, & Kelloway, 2000). EI has also been associated with improved decision-making, as emotionally intelligent leaders can regulate stress and avoid impulsive responses in high-pressure contexts (Singh, Prakash et al. 2024). EI measured by EQ-i, can be conceptually considered as a Trait EI. Furthermore, men are more capable to cope with negative events and to control impulses, while women are more able to distinguish, recognise, and comprehend others' emotions (Tommasi, Sergi et al. 2023).

The nursing profession has historically been, and continues to be, dominated by women, a trend that strongly influences the gender composition of nursing leadership. Female leaders in nursing frequently emerge from a workforce in which women constitute the majority, shaping leadership norms, communication styles, and organisational cultures within the profession. Research indicates that women continue to hold most formal leadership roles in nursing such as nurse managers, directors, and chief nurse, reflecting both the profession's demographic makeup and the long-standing association of nursing with traditionally feminine traits such as empathy, relational practice, and caregiving (Dahlke et al., 2020; McKinsey & Company, 2022). Overall, the predominance of women in nursing leadership both reflects and reinforces the gendered history of the profession.

EI has frequently been associated with gender differences, reflecting both biological and sociocultural factors that influence emotional awareness and regulation. Research consistently shows that women tend to score higher on measures of empathy, emotional awareness and interpersonal sensitivity, whilst men often demonstrate greater emotional self-confidence and stress tolerance (Joseph & Newman, 2010; Mandell & Pherwani, 2003). Such differences have been attributed in part to socialisation processes that encourage women to express and interpret emotions, and

men to suppress them in favour of problem-focused coping strategies (Brackett et al., 2006; Fischer, 2010). Neurobiological studies also suggest subtle structural and functional differences in brain regions associated with emotional processing, such as the amygdala and prefrontal cortex, which may underpin variations in emotional responsiveness between genders (McRae et al., 2008). However, more recent scholarship argues that such differences are shaped less by innate ability and more by contextual expectations and occupational roles, meaning that apparent gender disparities in EI may be learned rather than inherent (Rosette, & Ciarrochi, 2005; Petrides, 2011). These patterns have been linked to both gender socialisation and professional expectations within nursing, which historically emphasise caring, emotional self-awareness and relational labour (Boyatzis, 2018; Jack & Smith, 2007). Male nurse leaders, while often equally capable, may display EI through self-regulation, decisiveness, or stress management rather than overt empathy (Powell et al., 2018). The interaction between gender and EI in healthcare leadership thus appears to reflect both personal disposition and organisational culture. Understanding these distinctions is vital in examining how personality and emotional competencies influence leadership performance and ultimately, patient and staff outcomes.

Healthcare provides a powerful setting in which to examine the influence of EI. CNM often navigate emotionally charged environments, balancing the needs of patients, families and staff. Leaders with high EI are considered more effective in managing these competing demands, as they can demonstrate empathy, provide emotional support and foster a culture of psychological safety (Cummings et al., 2018). Research suggests that EI among healthcare leaders correlates with lower staff burnout, higher job satisfaction and improved patient satisfaction (Wong & Cummings, 2007).

Despite its popularity, some scholars argue that EI overlaps significantly with established constructs such as extraversion and agreeableness, raising concerns about how it is distinguished from other concepts (Landy, 2005). Other researchers highlight the methodological challenges of measuring EI, particularly given the proliferation of different assessment tools with varying reliability and validity (Mayer et al., 2008). Notwithstanding such criticism, evidence supports the incremental validity of EI in predicting leadership effectiveness beyond the 'Big Five' (O'Boyle et al., 2011). In

conclusion, EI represents a critical complement to personality traits in leadership research. By capturing the ability to manage emotions adaptively, EI highlights the interpersonal and relational dimensions of effective leadership. In healthcare contexts, EI offers a particular value in that it shapes staff experiences, patient outcomes and overall ward climate.

While much of leadership research emphasises positive traits and emotional competencies, a parallel line of inquiry has explored the impact of so-called 'dark traits.' These include narcissism, Machiavellianism and psychopathy traits often grouped under the 'Dark Triad' (Paulhus & Williams, 2002). Although typically associated with negative outcomes, these traits can, under certain conditions, contribute to leadership emergence and even short-term effectiveness.

2.5 The 'dark triad'

Narcissism is characterised by grandiosity, entitlement and a need for admiration and is frequently observed in leaders. Narcissistic leaders may project confidence and charisma, enabling them to inspire followers and pursue bold visions (Rosenthal & Pittinsky, 2006). However, over time, narcissism often undermines trust and fosters toxic ward climates due to self-centred decision-making and lack of empathy. Yetiavellianism, defined by strategic manipulation, cynicism and a pragmatic focus on self-interest, may enable leaders to navigate political landscapes and achieve goals through shrewd tactics (Christie & Geis, 1970). Yet, such approaches risk eroding trust and damaging long-term ward culture. Psychopathy, meanwhile, is associated with impulsivity, callousness and antisocial behaviour. Although psychopathic leaders may display boldness in crisis, their deficits in empathy and morality typically result in destructive outcomes (Babiak & Hare, 2006). In healthcare, the risks associated with dark traits are particularly acute. Narcissistic or Machiavellian CNMs may prioritise personal ambition over patient care, undermining staff morale and patient safety. Psychopathic tendencies, though rare, could manifest as callousness toward staff or patients, with devastating consequences. The challenge lies in distinguishing between adaptive confidence and destructive arrogance.

Contemporary leadership research emphasises the importance of balance and self-awareness in mitigating the negative effects of dark traits. Hogan and Kaiser (2005) argue that dark traits often represent the 'flip side' of strengths for example, confidence shading into arrogance, or pragmatism into manipulation. While dark traits may contribute to leadership emergence or crisis performance, their long-term implications are largely negative, particularly in sensitive sectors like healthcare. Understanding the role of these traits provides a more complete picture of leadership, reminding scholars and practitioners that the same qualities that elevate individuals to leadership can also precipitate failure if left unchecked.

2.6 Personality trait configurations and emergent typologies

While the Five-Factor Model (FFM) conceptualises personality as five relatively independent dimensions openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism an increasing body of research emphasises the importance of examining configurations or combinations of traits rather than isolated dimensions (Asendorpf, 2015; Costa & McCrae, 1992). This person-centred approach recognises that individuals typically exhibit patterned groupings of traits that interact to shape behaviour, motivation, and performance in complex environments such as in professional settings like healthcare.

2.6.1 Person-centred approaches to the 'Big Five' traits

Traditional variable-centred approaches focus on the predictive power of single traits across populations; however, such methods may cloud meaningful variety among individuals who share similar trait scores on one dimension but differ substantially on others (Bergman & Magnusson, 1997). In response, person-centred methodologies such as cluster analysis and latent profile analysis have been increasingly applied to 'Big Five' data to identify trait profiles or personality types (Asendorpf et al., 2001; Meyer et al., 2013). These approaches align with interactionist perspectives in personality psychology, which argue that behaviour and performance emerge from dynamic interactions among multiple traits rather than additive effects of single dimensions (Magnusson, 2001). Empirical evidence suggests that trait configurations often

demonstrate stronger associations with outcomes such as teamwork effectiveness, creativity, academic achievement, and job performance than individual traits alone (J Hu, 2017).

2.6.2 Emergent 'Big Five' based typologies

Building on this literature, the present framework conceptualises four emergent personality types derived from distinct 'Big Five' trait combinations: steady collaborators, high-performing conscientious individuals, quiet analysts, and creative thinkers. These types are consistent with prior typological findings while offering a context-specific refinement relevant to collaborative and performance-oriented environments. Steady collaborators are characterised by high agreeableness and emotional stability, often accompanied by moderate extraversion. Individuals with this profile tend to prioritise interpersonal harmony, demonstrate strong cooperative behaviours, and contribute to group cohesion. Research indicates that such configurations are positively associated with teamwork satisfaction, conflict resolution, and collective efficacy (Graziano & Tobin, 2017; Peeters et al., 2006). The high-performing conscientious type is marked by elevated conscientiousness, frequently paired with low neuroticism and moderate to high extraversion. This configuration aligns with extensive evidence identifying conscientiousness as the most robust personality predictor of performance across academic and occupational domains (Barrick & Mount, 1991; Poropat, 2009). When combined with emotional stability, conscientious individuals exhibit sustained motivation, goal persistence, and resilience under pressure, enhancing individual and team-level outcomes.

Quiet analysts typically exhibit high conscientiousness and emotional stability alongside low extraversion. Although less socially dominant, these individuals often excel in analytical reasoning, independent task execution, and structured problem-solving. Prior studies suggest that introverted, yet conscientious profiles are particularly effective in roles requiring concentration, accuracy, and reflective decision-making (Grant et al., 2011; Wilt & Revelle, 2019). Their contributions may be undervalued in highly interactive contexts despite their substantial cognitive and task-oriented strengths.

Finally, creative thinkers are defined by high openness to experience, often coupled with lower conscientiousness or moderate extraversion. Openness has been consistently linked to creativity, intellectual curiosity, and adaptability (Feist, 2019; McCrae, 1987). Whilst such individuals may deviate from conventional structures, their trait configuration supports divergent thinking, innovation, and the generation of novel ideas particularly valuable in exploratory or ideation-focused tasks (George & Zhou, 2001).

2.6.3 Implications for research and practice

Conceptualising personality through these four trait-based types advances the literature by bridging dimensional and typological perspectives. Rather than reducing personality to singular predictors, this approach captures the synergistic effects of trait combinations, offering a more nuanced understanding of individual differences in collaborative and performance-driven contexts. Moreover, recognising these types has practical implications for team composition, instructional design, leadership development, and individualised support strategies (Hogan & Sherman, 2020).

2.7 A summary of the association between traits and leadership

In considering the literature on personality traits and leadership, it becomes clear that no single trait guarantees leadership success. Instead, effectiveness arises from a constellation of traits, moderated by context and complemented by emotional competencies. The 'Big Five' provide a robust framework for understanding leadership, with extraversion, conscientiousness and openness particularly relevant, while agreeableness and emotional stability add important relational and regulatory dimensions. Emotional intelligence further enriches this picture by emphasising the adaptive management of emotions, while dark traits serve as a cautionary reminder of the risks associated with unchecked dispositions. For healthcare leadership, the effects are substantial and run deep. Traits such as conscientiousness and emotional stability align closely with patient safety and staff coordination, while extraversion and agreeableness support communication and empathy. Openness facilitates innovation, essential for adapting to the evolving demands of healthcare systems. Yet, these traits

cannot be understood in isolation: their impact depends on ward culture, service demands and the interpersonal dynamics of the wider team.

Critically, the limitations of trait-based approaches must also be acknowledged. Traits provide only part of the explanation for leadership effectiveness, as situational, relational and developmental factors also play roles. Integrative models that consider both dispositions and contexts offer the most promising avenue for advancing leadership research and practice. Leadership has long been a subject of both practical and academic inquiry, with the study of personality traits offering one of the most enduring perspectives in this domain. Across psychology, management and organisational studies, scholars have attempted to identify the enduring qualities that make leaders successful in mobilising people, shaping workplace culture and achieving strategic objectives. Although leadership has been conceptualised in multiple ways; ranging from functional and situational approaches to transformational and servant leadership models; the idea that personality exerts a lasting influence on leadership effectiveness continues to shape contemporary debates (Judge et al., 2002; Zaccaro, 2007).

Historically, early leadership research was dominated by the 'Great Man' theory, which assumed that leaders are born with inherent traits that predispose them to success. This deterministic perspective fell out of favour in the mid-twentieth century due to criticisms of methodological weakness and its inability to account for situational influences (Bass, 1990). Nevertheless, the resurgence of personality psychology in the late twentieth century, aided by more reliable psychometric tools, reinvigorated scholarly interest in traits as predictors of leadership. The development of the Five-Factor Model, or 'Big Five' provided a robust framework for linking stable personality dimensions with leadership outcomes (Goldberg, 2023; Costa & McCrae, 1992).

The relevance of personality traits in leadership research is not only theoretical but also practical. Organisations often use personality assessments in recruitment, succession planning and leadership development programmes, suggesting that personality is seen as a key determinant of managerial potential and performance (Hogan & Kaiser, 2005). In healthcare contexts, the stakes are particularly high, as effective leadership can

directly influence ward efficiency and effectiveness, which both ultimately and critically impacts patient outcomes. As such, understanding the personality foundations of the CNM is essential for addressing real-world challenges.

However, the personality approach to leadership is not without its critics. Scholars have argued that an exclusive focus on traits risks neglecting the role of situational and relational factors in shaping leader behaviour (Day & Zaccaro, 2007). Moreover, the universality of certain traits has been questioned, with evidence suggesting that cultural, gender and contextual variations moderate the relationship between traits and leadership outcomes (House et al., 2004). These limitations have prompted integrative approaches that consider both individual dispositions and the contextual in which the leader works within. Part II will go onto examine the personality traits associated with successful leadership by tracing theoretical developments, examining evidence and considering critical perspectives.

Part II: Hospital patients and staff performance

This part of the literature review will examine hospital KPIs in depth, focusing first on indicators related to patients and then on those related to staff. The patient-focused discussion will consider outcomes such as safety, satisfaction and efficiency, while the staff-focused section will analyse metrics including retention, burnout and job satisfaction. Together, these discussions will illuminate the complex interplay between patient and staff outcomes in inpatient wards.

2.8 Key performance indicators

The assessment of hospital performance increasingly relies on the systematic use of targets or KPIs, which provide quantifiable measures of organisational effectiveness, efficiency and quality of care. In healthcare contexts, KPIs serve as benchmarks for evaluating both patient outcomes and staff well-being, reflecting the dual responsibility of hospitals to deliver safe, effective care whilst maintaining a supportive and productive workforce (Arah et al., 2006). The concept of KPIs derives from performance management traditions in business, whereby indicators have long been used to measure progress against strategic goals or finance targets. Their application in healthcare; however, carries unique implications, given the complexity and diversity of clinical work and the consequences associated with patient health.

Historically, the adoption of KPIs in hospitals has been shaped by movements toward accountability and quality improvement. In the latter part of the twentieth century, health systems worldwide began emphasising transparency and evidence-based management as strategies for enhancing public trust and improving outcomes (Donabedian, 1988). The development of healthcare quality frameworks, such as those established by the Institute of Medicine in the United States and the National Health Service (NHS) in the United Kingdom, further strengthened the use of indicators to monitor performance. These initiatives emphasised dimensions such as patient safety, clinical effectiveness and patient-centred care as cornerstones of quality care (Institute of Medicine, 2001).

In contemporary hospital management, KPIs encompass a broad array of metrics that capture both clinical and organisational indicators. For patients, indicators may include survival rates, rates of hospital-acquired infections and measures of patient satisfaction. For staff, KPIs often track retention, job satisfaction and burnout levels, when it is recognised that workforce well-being is inseparable from the quality of care delivered. By bringing together patient and staff metrics, healthcare organisations can form an understanding of performance that moves beyond just financial measures to include people-based outcomes (Kaplan & Norton, 1996; Cummings et al., 2018).

The value of KPIs lies not only in measurement but also in their ability to drive improvement. Wards within hospital often employ KPI data to identify weaknesses, guide resource allocation and monitor the effectiveness of interventions. For example, rising readmission rates may prompt reviews of discharge planning processes, while high staff turnover may indicate the need for leadership development or culture change. In this way, KPIs provide actionable insights that can inform both strategic and operational decision-making (Arah et al., 2006).

However, the use of KPIs in healthcare is not without controversy. Critics argue that an excessive focus on measurable outcomes may incentivise organisations to prioritise performance on specific indicators at the expense of broader quality considerations (Bevan & Hood, 2006). Others highlight the challenges of collecting valid and reliable data in complex clinical environments, as well as the risk that indicators may be interpreted without sufficient attention to the context (Lilford et al., 2004). These critiques highlight the importance of using KPIs judiciously, balancing the need for accountability with recognition of the limitations of quantitative measures.

2.8.1 Patient key performance indicators

The measurement of patient outcomes through KPIs represents a cornerstone of modern hospital performance assessment. These indicators capture the effectiveness, safety and patient-centeredness of care, providing benchmarks that inform both clinical practice and ward strategy. Among the most widely used patient KPIs are measures of mortality and morbidity, hospital readmission rates, patient safety indicators, satisfaction metrics and efficiency measures such as length-of-stay and

waiting times. Each of these indicators reflects different aspects of hospital performance, while collectively they provide a wider picture of the quality of care delivered.

Mortality and morbidity rates are among the most fundamental KPIs for clinical staff, offering direct measures of clinical outcomes. Mortality indicators, such as 28- or 30-day mortality following myocardial infarction or surgical procedures, serve as critical benchmarks of quality (Lilford et al., 2004). Adjusted mortality rates, which account for case-mix and patient risk factors, allow hospitals to compare performance across institutions and identify potential deficiencies in care delivery. Similarly, morbidity indicators, which capture complications, hospital-acquired conditions and functional outcomes, provide insight into the broader impact of healthcare interventions (Arah et al., 2006). While mortality remains the most definitive outcome measure, morbidity metrics are essential for understanding the quality of survival and the burden of treatment, especially in a system that has limited resource

Hospital readmission rates have gained prominence as a KPI, particularly in health systems focused on value-based care. High readmission rates are often interpreted as indicators of poor discharge planning, inadequate follow-up care, or deficiencies in chronic disease management (Jencks, Williams, & Coleman, 2009). Policies such as the U.S. Hospital Readmissions Reduction Program have linked financial penalties to excessive readmissions, incentivising hospitals to improve continuity of care. While this has driven progress in some areas, critics argue that readmission rates can be influenced by social determinants of health beyond the hospitals or health services control, highlighting the need for cautious interpretation (Joynt & Jha, 2013).

Patient safety indicators form another critical category of KPIs. These include measures such as rates of hospital-acquired infections, medication errors, falls and surgical complications. The patient safety movement, galvanised by the Institute of Medicine's landmark report "To Err is Human" (Donaldson, Corrigan, and Kohn 2000)., emphasised the prevalence of preventable harm in healthcare and the need for systematic monitoring. Since then, hospitals worldwide have implemented many different variations of safety dashboards to track adverse events and monitor

compliance with safety protocols. Evidence suggests that a ward culture that focuses on safety KPIs is associated with reduced morbidity, improved patient trust and enhanced organisational reputation (Pronovost et al., 2006). However, challenges remain in ensuring accurate reporting and avoiding under-reporting due to fear of blame among staff.

Patient satisfaction and experience have emerged as increasingly important KPIs, reflecting the shift toward patient-centred care. Instruments such as the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey in the United States capture patients' perspectives on communication, responsiveness and respect. High levels of satisfaction are linked to improved adherence to treatment plans, reduced complaints and enhanced public trust in healthcare institutions (Doyle, Lennox, & Bell, 2013). Yet, the reliance on satisfaction as a KPI has been criticised for potentially lifting consumer expectations beyond what can be reasonably delivered clinically. For instance, satisfaction may be influenced by non-clinical factors such as amenities or patient expectations, raising questions about its validity as a performance measure (Manary et al., 2013).

Efficiency metrics such as length-of-stay, waiting times and bed occupancy rates provide further insights into hospital performance. Shorter hospital stays are often viewed as indicators of efficiency, provided they are not associated with higher readmission rates. Long waiting times, on the other hand, may signal capacity constraints or inefficiencies in patient flow (Arah et al., 2006). Policymakers and hospital managers often use these indicators to assess resource utilisation and identify blocks in care delivery and patient flow. However, the pursuit of efficiency must be carefully balanced with quality, as overly aggressive targets for reducing length of stay or waiting times may compromise patient safety.

Critiques of patient KPIs show the limitations of relying solely on quantitative measures to capture complex clinical realities. Bevan and Hood (2006) argue that excessive focus on indicators may see the evolution of 'gaming' behaviours, where hospitals manipulate data or prioritise performance on reported measures at the expense of unmeasured aspects of care. Furthermore, differences in data quality and

reporting practices across institutions complicate comparisons. Lilford et al. (2004) caution that performance indicators must be interpreted in context, as variations may reflect case mix, resource availability, or broader systemic factors rather than hospital performance per se.

In summary, patient KPIs provide tools for monitoring hospital and ward performance, but they must be applied with care and contextual awareness. Mortality, morbidity, readmissions, safety, satisfaction and efficiency indicators each offer unique insights into patient outcomes, yet none fully captures the complexity of healthcare delivery on its own.

2.8.2 Staff key performance indicators

Alongside patient measures, KPIs that assess the experiences, performance and well-being of healthcare staff provide insights into ward and hospital functioning. Healthcare organisations depend on a motivated, skilled and resilient workforce to deliver high-quality care and staff KPIs offer benchmarks for understanding a diverse workforce. Among the most widely used staff KPIs are indicators of retention and turnover, job satisfaction, engagement, burnout, well-being and productivity. Given the strong interdependence between staff experiences and care quality these indicators not only reflect the conditions of healthcare work but also serve as predictors of patient outcomes (Aiken et al., 2002).

Retention and turnover rates are amongst the most frequently tracked staff KPIs, reflecting the stability of the healthcare workforce. High turnover rates among nurses (Maloney et al, 2018) and allied health professionals are associated with increased recruitment costs, reduced continuity of care and lower staff morale (Hayes et al., 2006). In contrast, high retention rates suggest stability and staff satisfaction. Research indicates that leadership style, ward culture and working conditions are major determinants of retention (Cummings et al., 2018). In hospitals, reducing turnover among charge nurse managers is important, as these leaders play central roles in maintaining staff cohesion and patient safety.

Job satisfaction and engagement represent another category of staff KPIs. Satisfaction encompasses perceptions of workload, support, recognition and opportunities for professional development, while engagement reflects staff's emotional investment in their work (Schaufeli & Bakker, 2004). High levels of satisfaction and engagement are associated with improved performance, lower absenteeism and better patient experiences (West & Dawson, 2012). Conversely, low satisfaction contributes to burnout, errors and attrition, creating a negative cycle that undermines hospital performance. Measurement tools such as staff surveys and engagement indices provide valuable data for organisational development and leadership strategies.

Burnout, physical and mental well-being have emerged as particularly topical staff KPIs in recent years, given the increasing pressures on healthcare workers especially following the pandemic. Burnout, conceptualised by Maslach and Jackson (1981) as comprising emotional exhaustion, depersonalisation and reduced personal accomplishment, is highly prevalent among nurses and other healthcare professionals. High levels of burnout are linked to increased medical errors, lower patient satisfaction and higher turnover (Shanafelt et al., 2015). Monitoring burnout through validated scales enables hospitals to identify areas of concern and implement interventions such as workload management, wellness programmes and leadership training. Beyond burnout, broader measures of well-being including mental health, work-life balance and resilience, are increasingly being recognised as key to sustaining a healthy workforce.

Staff productivity metrics provide additional insights into workforce performance. Productivity indicators may include measures of patient-to-staff ratios, task completion rates, or time spent on direct versus indirect care. Teamwork metrics assess collaboration, communication and coordination among healthcare professionals. Research consistently shows that effective teamwork reduces errors, enhances patient safety and improves efficiency (Salas et al., 2008). CNMs play a pivotal role in facilitating teamwork by setting expectations, clarifying roles, resolving conflicts and fostering a supportive ward culture. Consequently, staff KPIs in these domains provide valuable indicators of leadership effectiveness at the ward level.

The relationship between staff KPIs and patient outcomes has been widely documented. Aiken et al. (2002) demonstrated that hospitals with better nurse staffing levels and work environments had lower mortality and higher patient satisfaction. Similarly, West and Dawson (2012) found that staff engagement was strongly correlated with quality of care in the NHS. These findings underscore the fact that patient and staff KPIs are not independent of each other but linked, with improvements in one domain often driving gains in the other.

Nonetheless, challenges persist in the measurement and interpretation of staff KPIs. Surveys of satisfaction and engagement may be influenced by transient factors, such as workload spikes or political changes, raising questions about their reliability. Productivity metrics can also risk reductionism, focusing narrowly on output rather than the quality or complexity of work. Moreover, an excessive focus on staff KPIs without addressing systemic issues such as chronic understaffing or inadequate resources, may lead to superficial solutions that fail to address root causes (Shanafelt et al., 2015). For these reasons, staff KPIs must be interpreted in conjunction with the wider context and qualitative insights.

Staff KPIs provide a measure of workforce stability, satisfaction, well-being and productivity. They offer insights into the conditions under which healthcare professionals work and, by extension, the quality of care that patients receive. Yet, as with patient KPIs, they must be applied judiciously, with attention to context and potential limitations. Together, patient and staff KPIs can form a comprehensive framework for assessing hospital performance, highlighting the interdependence of outcomes across these domains. Reviewing the impact of hospital KPIs reveals their role in shaping how healthcare organisations define, monitor and improve performance. By focusing on both patient and staff outcomes, KPIs can provide a balanced framework for evaluating the effectiveness of healthcare. Patient KPIs, encompassing mortality, morbidity, readmissions, safety, satisfaction and efficiency, offer critical insights into clinical outcomes and the quality of care. Staff KPIs, including retention, job satisfaction, burnout and productivity, highlight the essential role of the workforce in sustaining organisational performance. Together, these indicators underscore the interdependence of patient and staff well-being,

demonstrating that the quality of hospital care cannot be divorced from the conditions of healthcare work.

The synthesis of patient and staff KPIs underscores a key insight in that improvements in workforce outcomes are closely linked to improvements in patient outcomes. Hospitals with engaged, satisfied and resilient staff consistently report lower mortality, fewer adverse events and higher levels of patient satisfaction (Aiken et al., 2002; West & Dawson, 2012). Conversely, wards where there is high staff turnover and disengagement often struggle with obtaining quality metrics. This interrelationship challenges the notion that patient-focused metrics alone are sufficient for assessing hospital performance. Rather, it calls for an integrated approach that recognises the reciprocal relationship between staff well-being and patient outcomes.

At the same time, the application of KPIs in healthcare must be approached critically. The strengths of KPIs lie in their ability to provide measurable, comparable benchmarks that support accountability and guide improvement efforts. Yet, their limitations are equally clear. Over-reliance on narrow indicators risks incentivising 'teaching to the test,' where organisations focus disproportionately on reported measures while neglecting broader aspects of quality (Bevan & Hood, 2006). Additionally, differences in data collection, case mix and systemic factors complicate interpretation, making it essential that KPIs be contextualised rather than treated as absolute measures of performance (Lilford et al., 2004). For staff-focused KPIs, challenges arise from the difficulty of capturing subjective experiences such as engagement and well-being through standardised surveys, which may fluctuate with temporary pressures or organisational changes.

Despite these limitations, the role of KPIs as tools for professional learning and improvement remains vital. Hospitals that use KPIs constructively and integrate them into quality improvement programmes, leadership development and resource allocation, are better positioned to identify weaknesses, implement solutions and sustain progress than organisations who have no measures. Examples include using patient safety dashboards to reduce infection rates or tracking staff engagement to design leadership training programmes that foster supportive work environments.

These applications highlight the potential of KPIs to serve as levers for systemic change when used thoughtfully and in conjunction with qualitative insights.

A further dimension of the KPI debate concerns the tension between efficiency and compassion in healthcare. Patient KPIs such as length-of-stay and waiting times often reflect efficiency targets, while staff KPIs such as satisfaction capture the human costs of obtaining such targets. Acquiring the right balance requires careful leadership, ensuring that efficiency gains do not compromise safety, compassion, or staff well-being. CNMs and their organisations that neglect this balance risk achieving short-term performance improvements at the expense of long-term sustainability and improvements. The integration of patient and staff KPIs also underscores the importance of leadership. Leaders at all levels, but particularly frontline leaders such as CNMs have a pivotal role in shaping the conditions and ward culture that drive KPI performance. Their ability to manage teams, support staff and foster a staff focus on safety directly influences both staff and patient outcomes. Leadership styles that are strongly empathetic, accountable and collaborative are consistently associated with better KPI performance across both domains (Cummings et al., 2018). Conversely, toxic or disengaged leadership can erode trust, demotivate staff and undermine the very indicators hospitals seek to improve. Patient and staff KPIs offer complementary perspectives on hospital performance, together providing a comprehensive framework for evaluating quality, safety and sustainability. While patient KPIs highlight the outcomes of clinical care, staff KPIs reveal the conditions that make such outcomes possible. Both categories of indicators must be interpreted critically, with awareness of their limitations and potential unintended consequences. Most importantly, their integration highlights the interdependence of patient and staff well-being, underscoring the need for leadership that supports both domains.

By connecting individual leadership characteristics to measurable organisational outcomes, the next part will illuminate the mechanisms through which leadership exerts its influence in hospital contexts, offering insights into the role of personality in shaping the quality and sustainability of healthcare delivery.

Part III: The influence of personality and leadership qualities

Frontline leadership within hospital wards is shaped not only by organisational structures and clinical demands but also by the personal dispositions and behavioural tendencies of those in charge. CNMs bring their own personality traits, interpersonal styles and leadership approaches to their roles, and these characteristics can significantly influence how teams' function and how patients experience care. This part of the review explores the mechanisms through which personality and leadership qualities shape staff behaviours, organisational culture and patient outcomes. By examining both staff-related and patient-related KPIs, the section demonstrates how personality traits and leadership styles influence patient outcomes, with particular attention to patient safety and the incidence of medication errors.

2.9 The significance of the Charge Nurse Manager leadership role

To understand how personality and leadership qualities influence outcomes, it is essential to first consider the scope and significance of the CNM role itself. CNMs occupy a key role in hospital organisations, serving as frontline leaders who bridge the gap between strategic management and day-to-day clinical care. Their responsibilities encompass both clinical and managerial domains, requiring them to oversee patient care, coordinate multidisciplinary teams, ensure adherence to protocols and support the professional development of staff (Sherman, 2005). As such, their influence extends not only to the experiences of patients but also to the working conditions and performance of healthcare staff. Leadership in these roles is therefore strongly linked to the performance of hospitals.

The personality traits and leadership qualities of CNMs are central to the way in which they influence hospital outcomes. Traits such as conscientiousness, emotional stability and agreeableness show in their approach to decision-making, communication and conflict resolution. At the same time, leadership styles, whether transformational, transactional, or laissez-faire, affect how these traits are expressed in practice

(Cummings et al., 2018). For example, a conscientious leader may demonstrate diligence in enforcing policy and protocols, while an emotionally intelligent leader may excel in motivating staff and managing stress. These qualities directly impact both staff KPIs, such as job satisfaction and turnover and patient KPIs, such as medication errors and adverse events.

The importance of leadership among CNMs is exacerbated by the unique pressures of healthcare. Unlike many managerial roles, leadership in hospitals involves high-stakes decision-making in complex evolving environments, where patient outcomes may hinge on effective coordination and timely interventions. Moreover, the hierarchical yet highly collaborative nature of healthcare organisations places ward leaders in a delicate position, requiring them to balance directive authority with interpersonal sensitivity (Wong & Cummings, 2007). Their effectiveness therefore depends not only on technical competence but also on personality-driven leadership behaviours that foster trust, collaboration and resilience.

Research often demonstrates that leadership at the ward level influences staff outcomes such as motivation, engagement and retention. High staff turnover, for instance, is often linked to poor leadership, as disengaged or unsupportive leaders fail to create conditions conducive to professional satisfaction and growth (Hayes et al., 2006). Conversely, transformational leadership styles that emphasise vision, support and empowerment are associated with lower turnover and higher staff morale. Similarly, patient outcomes are strongly influenced by leadership, particularly in relation to safety culture. Medication errors, a persistent challenge in hospitals, are less frequent in environments where leaders model accountability, encourage open communication and ensure adequate staffing levels (Cummings et al., 2018). These findings highlight the dual impact of ward leadership on both staff and patients.

The significance of personality and leadership qualities in this context cannot be overstated. Staff and patient KPIs provide tangible measures of hospital performance, but they are shaped by the less visible dynamics of leadership at the unit level. CNMs who demonstrate resilience, empathy and adaptability create environments where staff feel supported and patients receive safer, more compassionate care. In contrast,

leaders who lack emotional intelligence or who exhibit negative traits such as authoritarianism or detachment can undermine performance across both domains.

2.9.1 The association between leadership qualities and staff outcomes

Building on the understanding of the CNM role, the following section examines how specific leadership qualities translate into tangible effects on staff morale, behaviour and well-being. The leadership qualities of CNMs and their ability to balance clinical responsibilities with managerial tasks requires both technical expertise and interpersonal acumen, making personality traits and leadership styles critical determinants of staff outcomes (Wong & Cummings, 2007). Job satisfaction is clearly linked to leadership; leaders who demonstrate empathy, fairness and supportiveness create environments where staff feel valued and respected. Transformational leadership styles, characterised by vision, inspiration and individualised consideration, have been consistently associated with higher staff satisfaction (Bass, 1990; Cummings et al., 2018). CNMs who take time to recognise staff contributions, provide constructive feedback and encourage professional development foster a sense of belonging that enhances morale and reduces absenteeism. Conversely, authoritarian or 'laissez-faire' leadership styles are often correlated with dissatisfaction, resentment and disengagement.

Motivation and engagement are also shaped by leadership qualities. Leaders who communicate a clear vision and align staff roles with organisational goals enhance intrinsic motivation, encouraging staff to go beyond minimal requirements. Emotional intelligence plays a crucial role here, as leaders who are attuned to the needs and emotions of their staff can adapt their approach to sustain motivation even under stressful conditions (Goleman, 1998). Studies suggest that engaged staff demonstrate greater resilience, higher productivity and stronger commitment to patient care, highlighting the importance of leadership qualities in driving engagement (West & Dawson, 2012).

Teamwork and psychological safety are further influenced by ward-level leadership. Effective leaders foster collaborative cultures where staff feel safe to speak up, share

concerns and admit mistakes without fear of punitive action (Edmondson, 1999). A climate of psychological safety is essential in healthcare, where open communication can prevent errors and enhance patient outcomes. Charge nurse managers who encourage team-based problem solving, mediate conflicts and model respectful communication strengthen teamwork and reduce hierarchical barriers that might otherwise prevent proactive communication. By contrast, leaders who dismiss concerns or cultivate blame cultures undermine collaboration and increase staff stress.

Burnout represents one of the most pressing staff KPIs influenced by leadership. Defined by emotional exhaustion, depersonalisation and reduced personal accomplishment (Maslach & Jackson, 1981), burnout is highly prevalent in nursing and has been strongly linked to leadership failures. Leaders who overload staff, fail to provide appropriate support, or ignore signs of stress contribute to burnout, with consequences including reduced quality of care and increased turnover (Shanafelt et al., 2015). Conversely, leaders who demonstrate empathy, manage workloads fairly and provide emotional support can buffer staff from the negative effects of high job demands. Personality traits such as emotional stability and agreeableness are especially important in this context, as they enable leaders to maintain composure under stress and respond sensitively to staff needs.

2.9.2 The influence of the Charge Nurse Manager on staff turnover

As staff outcomes such as satisfaction and engagement directly shape workforce stability, it is important to examine leadership influences on turnover as a key staff KPI High turnover among nurses and other staff disrupts continuity of care, increases recruitment costs and undermines morale. Research consistently identifies poor leadership as a leading cause of turnover, with authoritarian or unsupportive leaders driving staff to seek alternative employment (Hayes et al., 2006). Conversely, transformational leadership is strongly associated with retention, as staff who feel supported, inspired and empowered are more likely to remain with their organisation (Cowden, Cummings, & Profetto-McGrath, 2011). Leadership behaviours such as recognising staff achievements, providing opportunities for growth and addressing workplace conflict are particularly influential in reducing turnover. Importantly,

personality traits such as conscientiousness and agreeableness enhance leaders' ability to retain staff by fostering climates of trust and fairness.

The impact of leadership on turnover is compounded by broader systemic challenges, such as understaffing, missed meal breaks and requests to constantly complete overtime. While these structural factors are not directly under the control of ward leaders, their ability to buffer staff from stress and advocate for resources can make a significant difference in whether staff choose to stay or leave. For example, leaders who actively address rostering concerns or advocate for safe staffing ratios demonstrate commitment to staff well-being, which strengthens loyalty and reduces turnover intention. In this way, leadership qualities amplify or mitigate the effects of structural pressures on workforce stability.

Leadership qualities among charge nurse managers profoundly shape staff outcomes, from job satisfaction and engagement to burnout and turnover. Transformational and emotionally intelligent leadership styles are consistently linked to positive outcomes, while authoritarian or disengaged leadership erodes morale and drives attrition. Personality traits such as conscientiousness, agreeableness and emotional stability underpin these leadership behaviours, highlighting the interplay between individual dispositions and leadership effectiveness. Staff outcomes are not only important but also serve as predictors of patient outcomes, underscoring the interconnectedness of these domains.

2.10 The association between leadership qualities and patient outcomes

Just as leadership qualities shape the experiences and performance of staff, they exert equally significant effects on patients, both through direct interactions and indirect organisational pathways. Patient safety is one of the most widely studied outcomes associated with nursing leadership. Research consistently demonstrates that effective leadership correlates with lower rates of adverse events, including hospital-acquired infections, falls and complications (Wong & Cummings, 2007). Leaders who promote a safety culture, model accountability and encourage open reporting of errors foster

environments where staff prioritise vigilance and proactive risk management. Transformational leadership, which emphasises vision and inspiration, has been shown to increase compliance with safety protocols and reduce preventable harm (Clarke, 2013). By contrast, disengaged or authoritarian leaders may create climates of fear or complacency, discouraging staff from reporting near misses or raising concerns.

2.10.1 Medication errors

Among the patient-related KPIs influenced by leadership, medication safety provides one of the clearest illustrations of how a CNM shape can clinical outcomes. Medication errors represent a particularly critical KPI that can easily have profound negative impact on patient outcomes. These errors, which may involve incorrect dosages, wrong medications, or failures in administration, pose significant risks to patient safety and are often preventable. CNMs are required to monitor medication practices, ensuring adherence to protocols and fostering communication among their staff. Leaders who rate highly in conscientiousness and emotional stability are especially effective in this domain, as they combine vigilance with calm oversight. Research indicates that wards with supportive, communicative leaders report fewer medication errors, as staff feel empowered to double-check, clarify orders and raise concerns without fear of blame (Vogus & Sutcliffe, 2007). Conversely, environments characterised by punitive leadership often see underreporting of errors, which undermines opportunities for learning and prevention.

2.10.2 Patient satisfaction

Beyond safety-focused outcomes, leadership also strongly shapes patients' perceptions of care and their trust in the healthcare team. Patient satisfaction and trust are strongly influenced by ward culture. Leaders who demonstrate empathy, accessibility and effective communication set the tone for patient-centred care. CNMs serve as a visible representative of how behaviour directly shapes how patients and families perceive the compassion and professionalism of the organisation. Studies suggest that transformational leadership correlates with higher patient satisfaction, as leaders inspire staff to provide care that is not only clinically competent but also emotionally supportive (Wong & Cummings, 2007). Moreover, emotionally intelligent leaders

enhance patient trust by ensuring that staff respond promptly, respectfully and empathetically to patient needs.

Leadership qualities also influence outcomes indirectly through their effects on staff behaviour. For example, leaders who foster teamwork and psychological safety reduce communication breakdowns, a leading cause of medical errors (Salas et al., 2008). Similarly, leaders who prevent burnout among staff indirectly protect patients, as fatigued or disengaged staff are more prone to mistakes and less likely to provide high-quality interactions. This indirect pathway highlights the interdependence of staff and patient outcomes, emphasising that patient safety and satisfaction cannot be separated from the conditions of healthcare work.

Mortality and morbidity outcomes also reflect the influence of leadership, albeit in more complex ways. While these outcomes are shaped by numerous clinical and systemic factors, evidence suggests that strong nursing leadership is associated with lower mortality rates and improved functional recovery among patients (Aiken et al., 2014). Leaders who ensure adequate staffing, promote adherence to evidence-based guidelines and intervene proactively in deteriorating situations contribute to these positive outcomes. By contrast, wards characterised by weak or inconsistent leadership often struggle with resource allocation and communication breakdowns, which can exacerbate risks for vulnerable patients.

Leadership qualities among charge nurse managers exert a direct and measurable influence on patient outcomes. Through their impact on safety culture, communication, teamwork and staff well-being, these leaders shape the conditions under which care is delivered. Medication errors, as a particularly salient KPI, highlight the importance of leadership in fostering vigilance, accountability and non-punitive approaches to error reporting. Patient satisfaction, trust and clinical outcomes further underscore the central role of ward-level leadership in determining the quality of hospital care.

The review of personality traits and leadership qualities among CNMs highlights their critical role in shaping both staff and patient outcomes within hospital environments.

These frontline leaders serve as the linchpin between organisational strategy and bedside care, translating institutional values and policies into daily practices that directly affect workforce stability and patient safety. Their influence is multi-dimensional, encompassing motivational, relational and managerial aspects of leadership, all of which are underpinned by individual personality traits and emotional competencies.

The evidence underscores that staff outcomes such as job satisfaction, engagement, psychological safety and retention are profoundly shaped by leadership at the ward level. Transformational leadership qualities, emphasising vision, support and individualised consideration, consistently foster positive staff experiences, reducing burnout and turnover while enhancing motivation and teamwork. Conversely, authoritarian or disengaged leadership styles contribute to toxic work environments, high attrition and reduced morale. Personality traits such as conscientiousness, agreeableness and emotional stability provide the foundation for these effective leadership behaviours, equipping leaders with the capacity to manage stress, empathise with staff and ensure accountability. Staff turnover emerges as a key KPI linked to leadership effectiveness, reflecting the degree to which leaders create supportive, sustainable work climates.

Patient outcomes, too, are deeply influenced by ward-level leadership. Leaders who model accountability, encourage open communication and prioritise safety are associated with reduced adverse events, lower rates of hospital-acquired infections and fewer medication errors. Medication safety represents a particularly salient domain, where leaders' qualities of conscientiousness, vigilance and emotional intelligence foster error prevention through clear protocols and supportive team dynamics. Patient satisfaction and trust are also enhanced by leaders who demonstrate empathy, responsiveness and a commitment to patient-centred care. These outcomes highlight the direct and indirect pathways through which leadership shapes patient experiences and clinical results.

Importantly, staff and patient outcomes cannot be considered in isolation. The evidence demonstrates a reciprocal relationship whereby staff well-being directly

influences patient safety and satisfaction. Leaders who prevent burnout, support professional development and reduce turnover create conditions that enhance the quality and consistency of patient care. Conversely, environments characterised by staff dissatisfaction and attrition are more prone to errors, inefficiencies and negative patient experiences. This interdependence underscores the integrative role of leadership in shaping hospital performance across both domains simultaneously.

The review also highlights the limitations of focusing solely on personality traits or leadership styles in explaining outcomes. While traits such as conscientiousness and emotional stability provide valuable predictors of leadership effectiveness, context and organisational culture moderate their impact. A leader who thrives in one environment may struggle in another if systemic challenges such as chronic understaffing, resource constraints, or hierarchical barriers are not addressed. Effective leadership development, therefore, requires not only the cultivation of desirable traits and skills but also systemic reforms that empower leaders to act effectively. Taken together, the evidence across staff- and patient-focused outcomes underscores the multidimensional influence of CNM leadership within hospital environments.

2.11 An apparent gap in the literature

What is notably missing in the literature is evidence linking specific CNM personality traits to defined healthcare KPIs. While leadership qualities such as emotional intelligence, transformational capacity, and conscientiousness are frequently discussed, few studies have operationalised these constructs to measure their effectiveness on patient outcomes or workforce performance indicators. This gap signals the need for research that connects organisational psychology with health service evaluation.

Under-explored is the mechanism by which distinct personality traits in CNMs translate into operational performance within healthcare settings. While constructs such as emotional intelligence, transformational leadership, and conscientiousness are frequently described as predictors of leadership effectiveness, the literature seldom articulates how these traits map to defined healthcare KPIs for example, patient-safety incident rates, staff turnover, patient satisfaction scores or length of stay. For instance,

although two recent studies found that nurses' patient-safety competencies significantly predicted KPIs (Sreedharan 2024, Ibrahim, Abdul-Rahaman et alal. 2025), leadership only served as a mediator, with limited exploration of the personality background. (Ibrahim, Abdul-Rahaman et alal. 2025) Without a granular investigation of trait KPI linkages, it is difficult to develop interventions that select or develop CNMs based on validated personality profiles.

Moreover, the existing research tends to silo organisational psychology frameworks from service delivery metrics, resulting in a theoretical practical divide. Organisational psychology gives us rich constructs of personality, leadership style and team dynamics, yet health services research emphasises outcome metrics, such as length of stay, mortality or readmission rates. For example, a recent review of healthcare KPIs identified mortality, length of stay and absenteeism as common metrics however, did not link these to leadership personality variables. (Devasahay 2021) Although leadership styles (such as servant leadership or transformational leadership) have been shown to influence workforce engagement and patient-centred outcomes, the role of personality profiles (e.g., high conscientiousness + high openness vs. low extraversion) remains unexplored in relation to KPI performance. (Ibrahim, Abdul-Rahaman et alal. 2025). Bridging this divide requires frameworks that unify personality measurement, leadership processes and quantifiable healthcare quality performance metrics.

The absence of longitudinal, qualitative and quantitative studies in this area means that these dynamics are poorly understood. Much of the literature is cross-sectional or qualitative, making it difficult to determine whether the CNMs personality profile caused improved KPIs over time or simply correlate with high-performing organisations. The call for leadership development programmes in healthcare is substantial, yet few studies measure how individual CNM personality traits evolve, how training modifies these traits or leadership behaviours, and how these changes in turn influence health KPIs. (Ramdas, Bhowmik et alal. 2024) By designing longitudinal interventions that assess pre and post educational and employment measures of CNM personality traits, leadership behaviours and KPI outcomes, future research can deliver

actionable evidence to inform recruitment, training and performance management in healthcare.

Additionally, extending personality research to include patients' traits introduces a complementary dimension to healthcare outcomes. Patients' conscientiousness, openness, or neuroticism can influence adherence to treatment and satisfaction with care (Bogg & Roberts, 2004; Lahey, 2009). The interaction between CNM traits and patient personalities how leadership behaviours might adapt to patient engagement styles remains a neglected but potentially transformative area of inquiry. Understanding these dual personality dynamics could enhance person-centred care models and inform professional development programs for nurse leaders.

2.12 Research aims and questions

This mixed methods study aims to explore the relationship between Ward CNM leadership style and characteristics and the experience of registered nurses working within the service. More specifically, the research seeks to address the following research questions:

1. What is the relationship between the leadership style of Charge Nurse Managers and the experience of registered nurses within their ward?

2. What is the relationship between the personality type (as assessed by the 'Big Five' personality traits survey) of Charge Nurse Managers and registered nurse retention rates within the ward?

3. What is the relationship between the personality type (as assessed by the 'Big Five' personality survey) of Charge Nurse Managers the quality key performance indicator medication adverse events within the ward over a 12-month period?

2.13 Summary, literature review

This literature review has examined the dynamic between personality traits, leadership qualities and organisational outcomes in healthcare, with a particular focus on the role of CNMs. Structured across three parts, the analysis has mapped how leadership effectiveness emerges from dispositional characteristics (Part I), how hospital performance is captured through patient and staff KPIs (Part II) and how ward-level leadership connects these traits and indicators in practice (Part III). The final construction highlights the complexity of leadership in healthcare, emphasising that effective leadership cannot be reduced to a single trait, style, or metric, but rather reflects an integration of personal, interpersonal and systemic factors.

Recurring across all three parts is the theme emerged: leadership in healthcare is both trait-dependent and context-dependent. While traits such as conscientiousness and emotional stability provide valuable indicators of leadership potential, their expression and effectiveness are moderated by situational factors such as staffing levels, organisational culture and systemic pressures. Leaders who thrive in supportive environments may struggle in resource-constrained ones and vice versa. Similarly, the same personality traits that enable leaders to succeed can, in different contexts, manifest as liabilities for instance, excessive conscientiousness as perfectionism, or high openness as inconsistency. This underscores the need for flexible, context-sensitive approaches to leadership development.

The exploration of personality within nursing leadership, particularly among CNMs, reveals an evolving but underdeveloped research area. Existing studies establish that personality traits significantly influence leadership style, team dynamics, and ultimately the achievement of KPIs within healthcare settings (Barrick & Mount, 1991; Judge et al., 2002). Yet, while research has mapped generalised leadership traits to outcomes in organisational culture, few studies specifically examine the connection between CNM personality trait profiles and measurable healthcare performance outcomes such as patient safety, staff retention, and care quality (Boamah et al., 2018). This absence demonstrates a gap in understanding how personality driven leadership impacts health service delivery including staff KPIs and positive patient outcomes.

The research is placed within a broader conversation about the human dimensions of healthcare performance. CNMs represent a pivotal leadership level: they bridge frontline clinical staff with senior and executive operational and professional leadership and therefore are essential in the operational vitality of healthcare organisations. Their ability to motivate teams, communicate across hierarchies, and maintain morale under pressure links directly to institutional KPIs. However, nursing leadership development has historically been conducted in isolation from contemporary behavioural science and retains traces of its military origins emphasising hierarchical control and procedural discipline rather than adaptive, personality informed leadership (Cummings et al., 2018). This legacy has limited or slowed the evolution of leadership frameworks that integrate modern psychological insights, including the 'Big Five' model (openness, conscientiousness, extraversion, agreeableness, and neuroticism), which provides a robust basis for understanding potential leadership growth (McCrae & Costa, 2008).

Ultimately, the CNM spirit defined as sustained energy, resilience, and engagement is critical to healthcare system sustainability and success. Integrating personality-based frameworks into leadership development could strengthen vitality by aligning individuals' intrinsic dispositions with the relational and cognitive demands of hospital ward management. By reframing nursing leadership through a psychological lens, future research could move beyond the static, hierarchical models inherited from military structures toward a dynamic, evidence-based approach rooted in personality science and adaptive human factors.

Chapter III: Methodology

"Leaders who transform their followers are those who raise their level of motivation and morality."

Bernard M. Bass, 1985

3.1 Introduction, methodology

Research methodology refers to the systematic processes researchers use to design, conduct, and analyse a study. It ensures that data collection and interpretation are rigorous, transparent, and aligned with the study's aims (Creswell & Creswell, 2018). Core components typically include the research design, data collection strategies, analytical techniques, and ethical considerations.

A mixed methods approach to research studies combines qualitative and quantitative techniques within a single study to provide a comprehensive understanding of a research problem (Creswell & Plano Clark, 2018). Quantitative data offer measurable, generalised insights, while qualitative data provide depth and contextual explanation. Combining these forms of evidence strengthens the overall robustness and validity of the research findings.

3.2 Research paradigm

A research paradigm reflects the underlying philosophical assumptions that guide the research process, including ontological beliefs about the nature of reality and epistemological views on how knowledge is generated (Guba & Lincoln, 1994). Two common paradigms, which emphasis objectivity and scientific method (or positivism) and the interpretive (or constructivist) paradigm, which focuses on understanding subjective meanings and social contexts. Researchers chose a paradigm based on the nature of their research questions and the underlying philosophical stance that aligns with their study.

This study employs elements of both positivist and constructivist paradigms. The positivist paradigm supports the examination of measurable variables such as

leadership personality traits and quantifiable health outcomes. Positivism aligns well with health research, which often relies on systematic observation, standardised instruments, and empirical verification (Polit & Beck, 2021). Positivist researchers aim to uncover regularities and patterns in the natural and social worlds, often relying on quantitative methods to gather data. Positivism is prevalent in disciplines like natural sciences and certain branches of social sciences, where the goal is to discover objective truths through systematic observation and experimentation.

In contrast, the constructivist paradigm acknowledges the importance of subjective experiences, meanings, and social interactions. Its inclusion in this study enables exploration of how Charge Nurse Manager (CNM) behaviours are perceived by nursing staff and stakeholders. Both paradigms are key to understanding how CNM personality affects quality outcomes and how this is interpreted by and impacts on the registered nursing workforce they lead and other key stakeholders in providing ward level care.

3.3 Qualitative research

Qualitative research seeks to explore and understand human experiences, behaviours, and social processes through non-numerical data (Merriam & Tisdell, 2016). It relies on non-numerical; data, such as interviews, focus groups and observations, to uncover insights and patterns. This approach is valuable for studying complex social phenomena and generating rich, context-specific information. This approach is particularly suited to investigating perceptions and meanings within healthcare settings, where organisational culture and interpersonal dynamics shape professional practice

3.4 Quantitative research

Quantitative research involves the collection and statistical analysis of numerical data to identify patterns, relationships, and trends (Creswell & Creswell, 2018). This method relies on structured instruments like surveys, experiments, or statistical analysis of exiting data. This method provides a robust foundation for evaluating measurable constructs such as leadership characteristics and health service outcomes.

3.5 Mixed methods

Mixed methods research integrates both qualitative and quantitative approaches within a single study to capitalise on the strengths of both (Creswell & Plano Clark, 2018). Researchers use this method to gain a comprehensive understanding of a research problem by integrating the strengths of both qualitative and quantitative data. Quantitative data provides breadth and measurable evidence, while qualitative data offers depth and contextual understanding. Combining these approaches enhances methodological rigour and increasing the credibility and comprehensiveness of the findings.

3.6 Reliability and validity

Ensuring the credibility, trustworthiness, reliability, and validity of research findings is fundamental to methodology. In qualitative research, trustworthiness is established through techniques such as triangulation, peer review, and transparent documentation of procedures (Lincoln & Guba, 1985). In quantitative research, reliability and validity are strengthened using standardised instruments, replication, and robust statistical analysis (Polit & Beck, 2021). Applying these principles contributes to a methodologically sound and trustworthy study.

3.7 Researcher background

I am a registered comprehensive nurse with over 30 years of clinical and leadership experience in the public health sector, the majority in neonatal care. Qualifications include a Postgraduate Certificate in Health Leadership from the University of Auckland and a Postgraduate Diploma of Health Science from the University of Waikato. I am currently employed as Interim Nurse Director for the Women's and Children's directorate at Health New Zealand (HNZ) Te Whatu Ora Waikato. Previous senior nursing roles at HNZ include CNM and Nurse Manager Positions.

I have also been as Principal Investigator on a randomised controlled trial investigating strategies for neonatal CPAP weaning and have over many years supervised research nurses, nurse practitioners in children's health and adult neurology research projects. Additional experience includes collaborative work with local New Zealand health

industry partners, such as Fisher & Paykel Healthcare, on neonatal product development. This professional background provides relevant expertise and contextual understanding that inform the study.

3.4 Summary, methodology

This chapter provides an overview of the methodological approach utilised in the study, including the philosophical paradigms, mixed methods design, and strategies used to ensure rigour. Research methodology provides a structured approach for selecting a research design, collecting and analysing data, and drawing valid conclusions (Creswell & Creswell, 2018). The integration of positivist and interpretive paradigms, combined with mixed methods, enables a comprehensive exploration of how CNM personality traits influence quality outcomes in healthcare practice.

Chapter IV: Methods

"Leadership is not about who you are; it is about what you do."

Kouzes & Posner, 2007

4.1 Introduction, methods

Research methods provide a structured and systematic approach through which researchers investigate phenomena, collect data and generate evidence to address research questions. The selection of appropriate methods is guided by the study's aims, theoretical positioning, and epistemological assumptions (Creswell & Creswell, 2018; Polit & Beck, 2021).

This chapter outlines the methodological approach adopted for the study, including population and sampling framework, the research design, study setting, data collection procedures, analytical strategies and ethical considerations. A sequential mixed-methods design was employed to explore the relationship between Charge Nurse Manager (CNM) personality traits, leadership experiences and organisational quality outcomes. Through the integration of qualitative and quantitative approaches, the study sought to capture both the subjective experiences of CNMs and objective measures of performance and quality, thereby providing a comprehensive understanding of the research problem.

4.2 Population

4.2.1 Sampling Framework

The research was specifically focussed on CNMs and the impact they have on their local environment, specifically the ward that they are responsible for. Participants were drawn from a range of service groups, including older persons' health, rural services, children's health, surgical services, cancer and chronic care, and acute medicine. Women's health services were excluded due to the leadership structure being midwifery-based, and mental health services were excluded because different quality

indicators were used within that service. CNMs who had been in their role for less than 12 months were also excluded to ensure participants had sufficient experience within their leadership position.

The research intended to recruit up to 15 CNMs, which would account for almost three quarters of eligible CNMs within the Health New Zealand / Te Whatu Ora (HNZ) Waikato district.

4.2.2 Setting and data collection time period

The study was conducted across the HNZ – Waikato district hospital in Hamilton as well as rural hospitals within the Waikato district, including Morrinsville and Te Awamutu. Phase I and Phase II data collection occurred between December 2024 and March 2025. Phase III data collection and analysis commenced in May 2025.

4.3 Research design

Research design refers to the plan or structure guiding a research project, encompassing decisions about the type of study, data collection methods, and analytical techniques. This study adopted a sequential explanatory mixed-methods design, integrating qualitative and quantitative phases to enhance depth, breadth, and triangulation of findings (Creswell & Plano Clark, 2018). The design comprised three interconnected phases. Phase I involved qualitative semi-structured interviews to explore CNM perceptions around leadership, personality and professional roles. Phase II utilised a validated psychometric instrument to quantitatively assess CNM personality traits. Phase III involved analysis of routinely collected organisational quality indicator data to examine potential associations between personality traits and leadership outcomes. This sequencing allowed qualitative insights to contextualise and inform interpretation of quantitative findings, consistent with best practices in mixed-methods research (Creswell & Plano Clark, 2023). Figure 2 illustrates the inter-connected nature of the three phases.

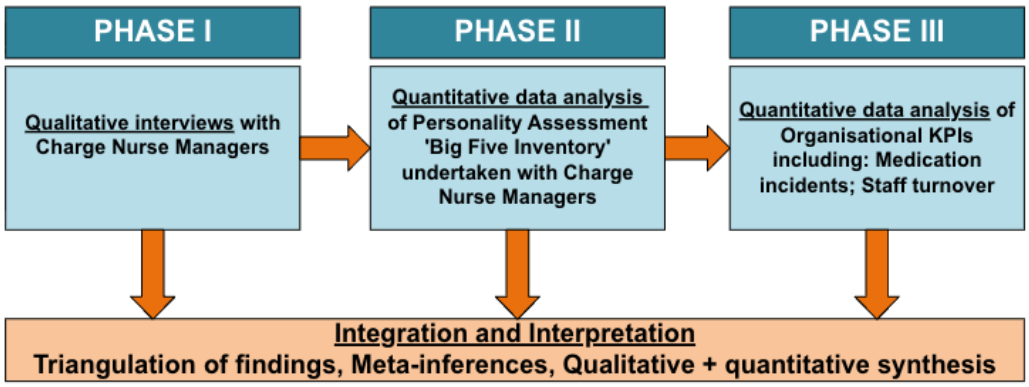

Figure 2: Research design

Mixed-methods approaches are particularly well suited to health leadership research, where both lived experiences and measurable organisational outcomes contribute to understanding complex leadership phenomena (Merriam & Tisdell, 2016; Polit & Beck, 2021).

4.3.1 Phase I qualitative interviews

Phase I comprised individual semi-structured interviews with up to 15 CNMs, each lasting up to 40 minutes. Interviews were audio-recorded with participant consent and transcribed verbatim. Participants were recruited via email by an administrator independent of the research team. Those who expressed interest met with the researcher to receive detailed study information and to provide written informed consent. Interviews followed a semi-structured guide consisting of six open-ended questions (Appendix 3). These explored participants' relationships with staff, understanding of the CNM role, self-perceived personality characteristics, leadership approaches, strategies for supporting staff, perceptions of a positive ward environment, challenges associated with the role and suggestions for future professional development. This approach facilitated the collection of rich, in-depth data while ensuring consistency across interviews (Braun & Clarke, 2021; Kallio et al., 2016).

4.3.2 Phase II 'Big Five' personality testing

Phase II involved completion of the 'Big Five' personality questionnaire by the same CNMs who participated in Phase I. The 'Big Five' framework assesses five broad

personality domains: Openness to Experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism. The instrument comprised 50 statements rated on a five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Negatively worded items were reverse scored so that higher scores consistently reflected higher levels of each underlying trait (John & Soto, 2017). Questionnaire completion took approximately 15 minutes, and responses were anonymised prior to analysis. Domain scores were calculated by summing or averaging item responses associated with each trait, producing composite scores with established reliability and validity across diverse populations (Gosling et al., 2003; John et al., 2008). This phase generated a quantitative profile of CNM personality characteristics and provided an integrative link between the qualitative findings of Phase I and the organisational data analysed in Phase III.

4.3.3 Phase III analysis of quality key performance indicator data

Phase III involved analysis of routinely collected organisational data obtained from HNZ - Waikato. Data included medication incidents recorded in the Datix incident reporting system and staff turnover data extracted from the payroll system. These indicators were selected as objective measures of patient safety and workforce stability, both of which are widely associated with nursing leadership effectiveness. Data were provided by administrative support services and anonymised prior to analysis. Each CNM was assigned a unique ward-level code to prevent identification of individual participants or wards. The dataset covered the 2024 calendar year from 1 January to 31 December 2024 and aligned directly with the wards represented in Phases I and II.

4.4 Data collection

Data collection was undertaken using a structured and sequential approach aligned with the study's mixed-methods design and research objectives (Creswell & Creswell, 2018). The study employed a sequential explanatory mixed-methods framework, incorporating qualitative, psychometric and organisational data to examine the relationships between leadership, personality and ward-level outcomes among CNMs. Each phase utilised data collection methods appropriate to its purpose, with findings from earlier phases informing the focus and interpretation of subsequent phases.

The use of multiple data sources enabled later triangulation and enhanced the overall credibility, depth and explanatory power of the study. Collectively, the three phases were designed to capture subjective leadership experiences, objectively measured personality traits and routinely collected organisational indicators, thereby addressing the research questions from complementary perspectives. Rigorous procedures were applied throughout all phases to ensure data quality, ethical integrity and alignment with the study aims.

4.4.1 Phase I: Qualitative data collection

Phase I involved the collection of qualitative data through individual semi-structured interviews with Clinical Nurse Managers. This method was selected to explore participants' perceptions of leadership, personality, professional identity and ward-level responsibilities within the context of complex healthcare environments. Semi-structured interviews provided sufficient flexibility to capture nuanced and contextually rich accounts while maintaining consistency across participants using a common interview guide (Merriam & Tisdell, 2016). Interview questions were designed to elicit reflective accounts of leadership practice, relationships with staff, perceptions of ward culture, challenges inherent in the CNM role and views on professional development. All interviews were audio-recorded with participant consent, transcribed verbatim and checked for accuracy prior to analysis. Verbatim transcription ensured that participant meanings were preserved and that the dataset was suitable for in-depth thematic analysis. This phase generated rich qualitative data that informed interpretation of subsequent quantitative findings and provided contextual grounding for the overall study.

4.4.2 Phase II: Personality assessment and quantitative scoring

Phase II comprised the collection of quantitative data through completion of a validated psychometric personality assessment by the same CNMs who participated in Phase I. The use of a standardised personality instrument enabled objective measurement of individual personality traits, supporting systematic comparison across participants and integration with organisational outcomes. Employing a validated tool enhanced methodological rigour and ensured that personality constructs were

operationalised in accordance with established theoretical frameworks (McCrae & Costa, 2010). Responses were scored using standardised procedures, including reverse scoring of negatively worded items where required. Composite scores were calculated for each personality domain, producing continuous variables suitable for statistical analysis. This phase served a critical integrative function within the study, providing quantitative representations of personality that could be examined alongside qualitative leadership narratives and organisational performance indicators. The personality assessment thus acted as a conceptual and analytical bridge between the exploratory qualitative findings of Phase I and the correlational analyses conducted in Phase III.

4.4.3 Phase III: Quantitative data collection for correlational analysis

Phase III involved the collection and analysis of routinely collected organisational data to examine statistical relationships between CNM personality traits and ward-level indicators of performance and stability. Organisational data included medication incident reports and staff turnover information, selected as objective indicators of patient safety and workforce stability respectively. These outcomes are widely recognised in the literature as being associated with leadership effectiveness in nursing contexts. Data were obtained from HNZ - Waikato administrative systems and anonymised prior to analysis. Each CNM was assigned a unique ward-level identifier to enable linkage across datasets while preventing identification of individual participants or wards. The dataset covered a defined 12-month period, ensuring temporal consistency across all organisational measures and alignment with the period during which qualitative and psychometric data were collected. By integrating organisational data with psychometric personality measures, this phase enabled examination of relationships that could not be adequately explored through qualitative inquiry alone. This approach reflects core principles of mixed-methods research, whereby quantitative data are used to complement, extend and contextualise qualitative insights, producing a more comprehensive and explanatory understanding of the phenomenon under investigation (Creswell & Plano Clark, 2021).

4.5 Analysis

Qualitative and quantitative datasets were analysed separately prior to integration at the interpretation stage, consistent with established mixed-methods analytic principles (Creswell & Plano Clark, 2018). This approach ensured that each dataset retained its methodological integrity while contributing to a coherent and theoretically informed overall analysis. Analysis of routinely collected organisational data did not require any additional activity from participants. Qualitative interview data from Phase I were analysed using a thematic approach, enabling systematic identification, organisation and interpretation of patterns within participants' accounts of leadership, personality and professional practice. Analysis was conducted iteratively, allowing themes to be refined through repeated engagement with the data and alignment with the study aims. This process generated an interpretive framework through which leadership experiences and perceptions could be understood in context.

Quantitative data analysis proceeded in two stages. First, psychometric data from the 'Big Five' personality assessment were scored using standardised procedures to produce continuous trait measures. Second, routinely collected organisational quality data were analysed to examine relationships between personality traits and ward-level outcomes. To interrogate these relationships, a series of regression models were constructed to evaluate the predictive contribution of the 'Big Five' personality dimensions to key quality indicators, including medication incidents and staff turnover. Model performance was assessed using the coefficient of determination (R^2), enabling estimation of the proportion of variance in each outcome explained by the personality predictors after adjustment for relevant covariates. Both R^2 and adjusted R^2 values were interpreted to account for model complexity and sample size and to avoid overestimation of explanatory power. Regression diagnostics, including assessment of independence, residual distributions and influence statistics, were systematically applied to evaluate model assumptions and confirm the robustness of parameter estimates.

Following completion of phase-specific analyses, qualitative and quantitative findings were integrated through a mixed-methods triangulation process. This involved systematic comparison of thematic patterns from the qualitative interviews with

statistical relationships identified in the quantitative analyses. Integration focused on identifying areas of convergence, complementarity and divergence across data sources, supporting a theoretically grounded interpretation of how personality traits and leadership experiences relate to organisational quality outcomes. This integrative analytic strategy strengthened the explanatory depth of the study and enabled development of findings that extend beyond what could be achieved using a single methodological approach.

4.5.1 Thematic analysis

Qualitative interview data were analysed using a general inductive approach to thematic analysis (Thomas, 2006). Analysis involved repeated familiarisation with transcripts, followed by line-by-line coding to identify meaningful units of text. Codes were compared and grouped into categories that reflected patterns across the dataset. These categories were then refined into overarching themes through constant comparison and reflective analysis. To enhance trustworthiness, coding and theme development were reviewed collaboratively with the research assistant and an independent analyst until consensus was achieved. This process supports credibility, dependability, and confirmability in qualitative research, consistent with the criteria outlined by Lincoln and Guba (1985).

4.5.2 Justification within Mixed-Methods Design

Quantitative data were analysed using descriptive statistics to summarise central tendencies and variability, followed by bivariate correlational analyses to examine relationships between personality traits and organisational quality indicators. Statistical analyses were reviewed by an independent statistical analyst to enhance rigour and accuracy. Integration of qualitative and quantitative findings occurred during the interpretation phase through triangulation. This process enabled the identification of convergences and divergences between the CNM perceived leadership experiences, measured personality traits, and organisational outcomes, leading to the development of meta-inferences (Fetters et al., 2013; Tashakkori & Teddlie, 2010).

4.6 Ethical concerns

Ethical approval was obtained through the HNZ - Waikato research governance process, which included consultation with Te Puna Oranga and endorsement from relevant operational and medical directors. Approval was granted following provisional approval from the University of Waikato Human Research Ethics Committee (HREC2024#04) and a formal interview with committee representatives.

All participants received a Participant Information Sheet outlining the purpose and procedures of the study and provided written informed consent prior to participation. Consent forms were stored in a locked filing cabinet in the principal investigator's office, separate from other research data. Participation was voluntary, and participants could withdraw from the study or request removal of their interview data up to one month following participation. Participants were also given the opportunity to review their interview transcripts and remove identifying information if desired. The researcher held a professional leadership role within HNZ - Waikato; however, no participants were directly or indirectly line-managed by the researcher. To minimise potential power imbalances and ensure integrity, participant recruitment and selection were undertaken by a research assistant independent of the researcher

4.7 Summary, methods

This chapter outlined the sequential mixed-methods design employed in the study, integrating qualitative interviews, psychometric personality assessment, and analysis of routinely collected organisational data. The qualitative phase provided an in-depth exploration of CNMs' leadership experiences and perceptions, while the quantitative phases enabled objective measurement of personality traits and examination of their association with quality and workforce outcomes. By combining interpretive qualitative methods with structured quantitative analyses, the study employed a complementary methodological framework capable of addressing the multifaceted nature of nursing leadership. This integrated approach enhanced methodological rigour, supported triangulation, and strengthened the validity of the findings. Together, these methods provide a coherent and robust foundation for the presentation and interpretation of results in the subsequent chapters.

Chapter V: Findings

"Leadership is not about who you are; it is about what you do."

Kouzes & Posner, 2007

5.1 Introduction, findings

Research examining Charge Nurse Manager (CNM) leadership increasingly recognises the influence of individual characteristics, including personality traits, on ward functioning and staff and patient outcomes. Findings in this field typically seek to identify patterns and relationships between leadership attributes and measurable indicators of performance, as well as the ways in which leadership is experienced by nursing staff. Presenting findings in a structured manner allows the empirical evidence to be examined independently of interpretation, ensuring that observed associations and contrasts are clearly documented before they are discussed in relation to existing literature.

The findings in this chapter are organised to support a systematic presentation of the evidence. Results are structured in relation to the research questions, with quantitative findings presented first to describe relationships between CNM personality traits and ward-level indicators, followed by qualitative findings that provide contextual insight into registered nurse experience. Where appropriate, findings are brought together to illustrate convergence and divergence across data sources. This approach prepares the reader for the integrated interpretation and discussion presented in the subsequent chapter.

5.2 Sample characteristics

A total of 15 CNMs participated in the research and their demographic and professional characteristics are presented in Table. Information on gender, age range, years in the CNM role, staff headcount and service area is provided to contextualise the leadership cohort and the organisational environments in which leadership was exercised. These characteristics offer important background for interpreting

subsequent findings related to leadership style, personality traits and ward-level outcomes.

Table 1: Sample characteristics

CNM	Gender	Age range	Experience (years)	Staff responsibilities	Service area
1	Female	51-55	3	41	Older Person Rehabilitation
2	Female	56-60	4	37	Rural
3	Female	56-60	6	53	Older Person Rehabilitation
4	Female	41-45	2.5	35	Rural
5	Female	41-45	2.5	47	Older Person Rehabilitation
6	Female	56-60	8	51	Medicine
7	Female	56-60	16	52	Medicine
8	Female	56-60	20	38	Children's
9	Female	36-40	7	26	Surgical
10	Female	36-40	5	47	Cardiac
11	Female	36-40	3	21	Cancer/Chronic
12	Female	41-45	5	55	Cancer/Chronic
13	Female	56-60	18	45	Surgical
14	Female	51-55	7	56	Cardiac
15	Female	55-56	15	36	Surgical

The data presented in Table 1 provides an overview of the leadership cohort and the organisational contexts within which CNM leadership was enacted. Descriptive information is included to situate the findings that follow and to support transparency

regarding the composition of the sample. The table summarises participant gender, age range and length of time in the CNM role, alongside the size of the staff groups for which participants were responsible. These characteristics reflect both individual leadership experience and the scale of managerial responsibility across wards. Variation across these dimensions highlights differences in leadership tenure and workforce scope within the sample. Service areas represented in the table indicate the range of clinical contexts in which participants operated, including medical, surgical, specialist and rural services. This diversity provides contextual grounding for subsequent analyses by illustrating the breadth of ward environments encompassed within the study. Together, these descriptive characteristics provide essential background for understanding the leadership settings to which the study findings relate.

5.3 Thematic analysis

Qualitative data analysis was selected due to its capacity to capture the complexity, subjectivity, and contextual nature of participant perspectives (Merriam, 2016). For the first research question a thematic analysis provided a method to organise interview responses into codes, categories and themes which can then later be linked and discussed in relation to the quantitative methods and results for the last two research questions. Thematic analysis gave rise to five key themes pertaining to leadership style of the CNM and how this may impact the registered nurse's (RN) experience working with the CNM and on the ward with other members of the multidisciplinary team: (i) Role and Accountability; (ii) Team building; (iii) Positive ward culture; (iv) Professional development; and (v) Challenges. Figure 3 illustrates the themes and associated categories and codes.

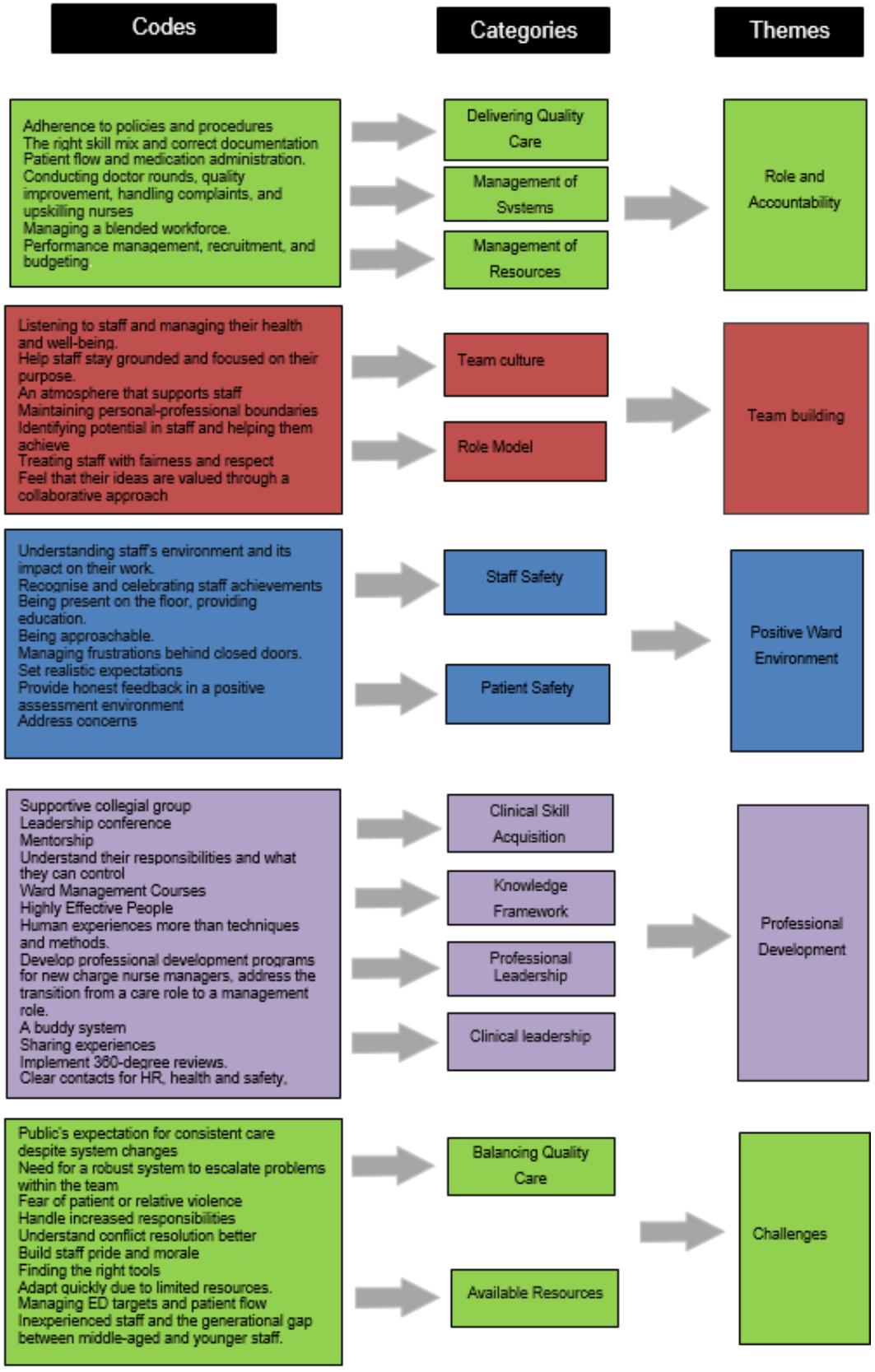

Figure 3: Theme development from CNM interviews

5.3.1 Theme 1 'Role and accountability'

The first theme that emerged from the participants was their understanding of their role. The discussions centred on the role and accountability of the CNM in delivering quality care, managing systems and resources. This theme arose from 30 codes collapsed into three categories. The commentary supports the literature which reflects that, their responsibilities encompass both clinical and managerial domains, requiring them to oversee patient care, coordinate multidisciplinary teams, ensure adherence to protocols and support the professional development of staff (Sherman, 2005)

> *"The charge nurse manager is responsible for adhering to New Zealand law, nursing standards, and DHB protocols."*
>
> CNM 4

> *"Responsibilities of a Ward Charge Manager, are staff support, patient care, and managing a blended workforce."*
>
> CNM 14

> *"We are there is ensure patient and staff safety and maintaining appropriate patient flow and medication administration."*
>
> CNM 12

> *"The need to build a bridge between the team and the organisation, understanding KPIs and roles."*
>
> CNM 8

> *"Responsibilities include HR, health and safety, performance management, recruitment, and budgeting."*
>
> CNM 13

There was understanding that their responsibilities had an impact on the care delivered and outcomes for both staff and patients. As the research consistently demonstrates that effective leadership correlates with lower rates of adverse events (Wong & Cummings, 2007).

"The role is akin to a ship's captain, ensuring the well-being of staff, patients, and families"

CNM 5

"The role of a charge nurse manager is a multifaceted position, involving leadership, social work, and nursing responsibilities"

CNM 6

"You need to balance staff, patient, and family needs"

CNM 5

" It's like being a "team mum" or a generalist with many skills, though not a master of none".

CNM 6

The participants highlighted that the leadership qualities of CNMs and their ability to balance clinical responsibilities with managerial tasks requires both technical expertise and interpersonal acumen, (Wong & Cummings, 2007).

"The role as both management and leadership, emphasising the importance of supporting and growing staff."

CNM 2

"It is key reading the political direction within the organisation and the need to see the political forecast beyond their role as a charge nurse"

CNM 15

Described by participants the relational nature of the role rather than simply procedural or transactional supports the literatures' view on the need for emotional intelligence required in leadership. Research has demonstrated strong associations between EI and transformational leadership, team functioning, and occupational well-being (Barling et al., 2000; Harms & Credé, 2010). Moreover, EI has been linked to enhanced communication, and stronger relationships between the staff and their manager, adding a link to personality-based models of leadership (Côté, 2014).

> *"Leadership being more about heart and human experiences than techniques and methods."*
>
> CNM 2

The multifaceted nature of the role not only as people managers but that of ensuring the inpatient wards had the physical resources required to function was highlighted alongside the need to have agility when problem solving.

> *" We need to ensure ward has the physical resources, such as correct and modern equipment, to support staff in their jobs"*
>
> CNM 3

> *" Hoping to be seen as a listener, problem solver, and lateral thinker".*
>
> CNM 15

Expanding on this understanding of the CNM's versatile role and its multifaceted responsibilities, the discussion moves to how these leadership expectations translate into the active development and connection of their registered nursing team.

5.3.2 Theme 2 'Team building'

The second emergent theme arising from 30 codes collapsed into two categories, the participants highlighted was the role of the CNM in team building with a particular focus on developing the team culture and being a role model. As studies suggest that transformational leadership correlates with higher patient satisfaction, as leaders inspire staff to provide care that is not only clinically competent but also emotionally supportive (Wong & Cummings, 2007). Leaders who foster teamwork and psychological safety reduce communication breakdowns, a leading cause of medical errors (Salas et al., 2008).

> *"I encourage fresh ideas and voices to keep the team engaged and motivated".*
>
> CNM 8

CNMs spoke how they play a critical role by modelling empathy, providing honest feedback, and creating opportunities for recognition and humour.

> *"The charge nurse helps staff stay grounded and focused on their purpose"*
>
> CNM 4

> *"I consider myself organised and supportive, preferring to observe and suggest rather than being the centre of attention"*
>
> CNM 2

> *"It is important the staff feel valued and have an understanding of processes and decisions".*
>
> CNM 3

Although, a key theme also recognised by the CNMs is building their team, a team of likeminded individuals who fit with their values and the team they, already have in place. Therefore, recruitment is a KPI the CNM focuses on to ensure they manage staff selection, participants raised the personality of the staff they employ as a consideration when interviewing.

> *"I would compare the selection process to that of the All Blacks, emphasising the importance of team dynamics for quality care"*
>
> CNM 9

> *"Selecting adaptive team members over those with restrictive personalities".*
>
> CNM 9

Participants raised the importance of ensuring the overall health and functionality of the ward nursing team, a lack of care for the team impacts upholding standards while ensuring the workplace was enjoyable builds a positive team culture. Research consistently shows that effective teamwork reduces errors, enhances patient safety and improves efficiency (Salas et al., 2008).

> *"Team 'hygiene' and maintaining humour and joy in the workplace is important."*
>
> CNM 8

> *"It is significant to find common ground with staff and create moments of fun and reward."*
>
> CNM 14

> *"I plant seeds for ideas and utilise the diverse team's strengths".*
>
> CNM 15

In contrast a participant acknowledged the difficulty in balancing being approachable and then dealing with staff conflict.

> *"I would describe myself as approachable but perhaps too soft and I dislike conflict."*
>
> CNM 10

While nurturing strong team dynamics is fundamental, CNMs also emphasised the wider context in which teams' function, highlighting the importance of supporting a positive ward environment that strengthens both staff well-being and patient safety.

5.3.3 Theme 3 'Positive ward environment'

Although participants observed team building as a key theme, the third theme arising from 30 codes and two categories was the importance of a positive ward environment with participants emphasising that a positive ward culture is a foundation to both staff and patient safety.

> *"Having an atmosphere where the focus is on patient journey and the need for an atmosphere that supports medical and support staff. "*
>
> CNM 5

> *"It is important the staff feel valued and have an understanding of processes and decisions."*
>
> CNM 3

Transformational leadership, which emphasises vision and inspiration, has been shown to increase compliance with safety protocols and reduce preventable harm (Clarke, 2013).

> *"Feedback and communication in maintaining a positive environment is important."*
>
> CNM 7

The CNMs commented that when staff feel valued, supported and safe, they are more likely to remain engaged and committed, the suggested that high retention rates suggest stability and staff satisfaction. Research indicates that leadership style, ward culture and working conditions are major determinants of retention (Cummings et al., 2018).

> *"The ward four years ago, had low morale and a need for "love" in the ward."*
>
> CNM 12

> *"I provide honest feedback in a positive assessment environment; I ensure a realistic assessment that addresses concerns."*
>
> CNM 15

> *"Effective communication, especially during changes like ward depletions."*
>
> CNM 11

> *"It is important to have patience and explain to staff that things will improve."*
>
> CNM 10

The strong interdependence between staff experiences and quality these indicators not only reflect the conditions of healthcare work but also serve as predictors of patient outcomes (Aiken et al., 2002).

> *"I have reflected on the lessons learned from previous experiences and the progress made in improving the ward environment."*
>
> CNM 10

> *"I expect staff to care for patients as if they were caring for their best friend."*
>
> CNM 13

CNMs spoke about practical strategies to build and sustain a ward culture include regular ward meetings, transparent communication during changes, and involving staff in quality initiatives.

> *"Focus on identifying clinical areas where people are assigned and working with individuals to understand their goals and keep them engaged."*
>
> CNM 15

> *"Monthly ward meetings and involving champions in quality reviews are key strategies."*
>
> CNM 11

It was acknowledged that addressing challenges, supporting staff through personal and professional difficulties, and planting seeds for innovation further strengthen the sense of belonging and shared purpose supported the ward environment.

> *"I regularly review and address any challenges or perceptions about the ward, and work to continuously improve the ward's culture and reputation."*
>
> CNM 3

> *"Value family first and believe in supporting staff with personal issues if it impacts their job performance."*
>
> CNM 13

> *"Having no bullying and providing skills to staff to handle such situations."*
>
> CNM 7

Upholding a positive ward environment, however, also rests on the CNM's own growth, and proficiency to identify and access professional development opportunities as an aspect in strengthening their leadership practice.

5.3.4 Theme 4 'Professional development'

The fourth theme, professional development emerged from 40 codes collapsed into four categories as a cornerstone for the CNM highlighting the support required by the CNM in their role that included clinical skill acquisition, knowledge frameworks, and professional and clinical leadership capabilities.

> *"The support I received from a mentor, which was crucial for my development.*
>
> CNM 10

Participants felt their leadership could be strengthened with greater support for organised professional development programmes. These are often discussed but not realised.

> *"Importance of personal growth and the role of professional development in enhancing leadership skills."*
>
> CNM 14

> *"The lack of a robust professional development program and the challenges of managing a blended workforce."*
>
> CNM 15

The participants wanted feedback about their leadership and suggested mechanisms to enact this is a way that provides staff, and colleagues to be part of this supporting reflective practice.

> *"Implement 360-degree reviews for charge nurse managers to provide genuine feedback from staff".*
>
> CNM 4

CNMs highlighted the disconnect between theory and practice due to a lack of real-world programmes to support the development of more practical aspects of the role.

> *"Professional development programmes lack practical examples and clear scenarios".*
>
> CNM 5

> *"There is a real need for mentorship, even for experienced staff, and suggests having a buddy system."*
>
> CNM 7

Participants spoke if the underutilisation of other senior CNMs to grow the skill set of new CNMs

> *"Senior nurses should be utilised more widely to improve nursing practices and share knowledge."*
>
> CNM 6

Participants proposed targeted training to address some of the operational challenges they face especially when new initiatives are introduced. Current acute flow and the six-hour ED target is front of mind however, CNMs have been given little support to develop skills to address this.

> *"Develop a management course on hospital-wide flow and coordination for charge nurses."*
>
> CNM 1

The role of supporting junior staff and seeing them develop highlights to the CNMs the importance of their role, in growing these staff and emphasises the need for investment in their (the CNMs) development.

> *"Seeing junior nurses grow and develop into competent nurses, finding it rewarding to see their progression."*
>
> CNM 12

Notwithstanding recognising the value of ongoing professional development, and skill acquisition, CNMs also discussed the significant challenges that aggravate their ability to carry out their roles effectively, in the face of. increasing demands from staff, patients and resource limitations.

5.3.5 Theme 5 'Challenges'

The final theme arising from 30 codes collapsed into two categories, covers the challenges raised and articulated by participants, the ability to deliver quality care with resource limitations was acknowledged as frustrating especially the impact this has on the ward staff. Leaders who overload staff, fail to provide appropriate support, or ignore signs of stress contribute to burnout, with consequences including reduced quality of care and increased turnover (Shanafelt et al., 2015).

> *"The need for a robust system to escalate problems within the team."*
>
> CNM 4

> *"Workload and resource constraints are significant challenges."*
>
> CNM 11

CNMs felt the weight of managing with what they have due to equipment not being replaced or not part of the current capital replacement plan. This was even more evident in rural facilities. Exacerbated by the changing patient demographic and staff skill set.

> *"The lack of resources and the need to adapt quickly due to limited resources."*
>
> CNM 2

> *"The difficulty of finding the right tools and guidance to make necessary changes."*
>
> CNM 5

> *"The isolation felt in the ward and the increased responsibility due to the sicker patients now compared to a few years ago."*
>
> CNM 9

A few of the participants highlighted the need to ensure staff morale was constantly being supported. Some areas had previously poor reputations which the CNMs proactively addressed.

> *"Took steps to change this perception by working on patient allocation and building staff pride and morale."*
>
> CNM 3

> *"Listening to staff and meeting their needs to build morale and self-esteem."*
>
> CNM 3

Participants discussed the increased expectations of patients and relatives and how not meet these can lead to violence against staff and even between family members.

> *"The public's expectation for consistent care despite system changes and the fear of patient or relative violence."*
>
> CNM 13

Each aspect of the role can have unexpected operational challenges that have a relatively new to the staff landscape. CNMs spoke about the international nurses often coming to Aotearoa-NZ as a couple and being employed in two different areas of the hospital. Neither CNM aware until after they start then they want complimentary or opposite rosters.

> *"The challenges of employing couples and the impact on the roster, noting that it is too hard on the roster for both to work 24/7."*
>
> CNM 1

When discussing challenges the ethical boundaries pushed or set and the impact on their professional growth reinforced especially in relation to their relationship with the registered nursing staff. Leaders who are high in emotional stability are less prone to negative affect, anxiety and mood fluctuations, which allows them to make balanced decisions and maintain effective interpersonal relationships even in challenging circumstances (Costa & McCrae, 1992).

> *"Boundaries are tested especially ethics and values weekly and it is important to set boundaries with staff."*
>
> CNM 14

"It is difficult dealing with changes but important to have the confidence with the medical team."

CNM 7

"It is important to listen to red flags and not ignore them, even if it means not placing someone in a role to grow them."

CNM 8

"Understanding one's personality and the growth achieved through individual sessions with a psychologist."

CNM 8

"There are challenges in decision-making, while maintaining high standards, and balancing personal and professional values in a demanding role."

CNM 14

5.3.6 Theme summary

The themes identified from 160 codes collapsed into 13 categories following the CNM interviews highlighted the complex nature of the CNM role and accountabilities, stressing their pivotal position in ensuring safe, effective, and patient-centred care. CNMs are not only responsible for the operational running of their wards but also for growing a team where a culture of collaboration and trust is evident. Effective team building emerged as a theme for achieving quality care, with strategies such as clear communication, shared goals, and mutual respect contributing to cohesive and resilient teams. Creating a positive ward environment was highlighted as essential for staff well-being and patient satisfaction. This involves promoting psychological safety, recognising achievements, and maintaining opportunities for feedback. Despite these efforts, CNMs face significant challenges, including resource constraints, workforce shortages, and balancing administrative duties with clinical leadership. These challenges require adaptive leadership and innovative problem-solving. Finally, professional development was underscored as both a responsibility and an opportunity for CNMs. Continuous learning, mentorship, and engagement in leadership programmes not only enhance individual capability but also strengthen the overall

nursing workforce. By embracing these principles, CNMs can navigate complexities, inspire their teams, and drive sustainable improvements in care delivery.

5.4 The 'Big Five'

The 'Big Five' personality test was completed by 15 CNMs prior to the open-ended, semi-formal interviews. The 50-question test comprise a series of empirically validated items designed to assess the five broad personality dimensions, openness, conscientiousness, extraversion, agreeableness, and neuroticism. Each dimension is measured through multiple statements rated on a Likert scale, allowing for the generation of individual personality profiles that can be compared across participants. These quantitative data provide a foundational psychological context for interpreting the subsequent qualitative findings, enabling a more nuanced understanding of how dispositional traits may shape the CNM perspective, decision-making process, and professional experience discussed during the interviews.

Table 2 presents the individual 'Big Five' personality assessment scores for each CNM. The table provides a numerical summary of participants' scores across the five personality domains of extraversion, agreeableness, conscientiousness, neuroticism and openness. These data represent the primary personality measures used within the quantitative component of the study. Scores are displayed at the individual CNM level to maintain transparency regarding the distribution and range of personality traits within the sample. Presenting individual scores allows for examination of variation across traits and between participants, without aggregation or adjustment at this stage. This approach reflects the exploratory nature of the analysis and supports subsequent examination of relationships between personality traits and ward-level outcomes. The presentation of these results provides a descriptive foundation for later analysis. Patterns, contrasts and associations across personality domains are examined in subsequent sections in relation to leadership characteristics, RN experience, retention and medication adverse events. At this point, the table serves to document the personality profile of the CNM cohort and establish the empirical basis for further analysis.

Table 2: Big 5 Personality Testing Scores

CNM	Extroversion	Agreeableness	Conscientiousness	Neuroticism	Openness
1	31	32	28	21	30
2	20	33	34	17	32
3	29	38	32	19	36
4	35	34	31	22	27
5	30	40	35	37	29
6	28	34	31	30	37
7	32	31	25	27	29
8	28	36	35	34	35
9	34	32	28	27	30
10	25	29	31	28	32
11	32	33	23	31	25
12	34	38	35	19	36
13	29	34	33	33	40
14	28	31	33	29	33
15	33	34	32	26	30
MEAN	**29.9**	**33.9**	**31.1**	**26.7**	**32.1**

Across the 15 CNMs, scores were observed across the full range of the five personality domains. Extraversion scores ranged from 20 to 35, indicating variation in levels of sociability, assertiveness and outward engagement within the cohort. Agreeableness scores were generally higher overall, ranging from 29 to 40, with most participants scoring in the low to mid-30s. Conscientiousness scores ranged from 23 to 35, suggesting differences in organisational style, task focus and goal-directed behaviour among participants. Mean scores are included to illustrate a mid-point and comparison.

Neuroticism scores showed notable variability, ranging from 17 to 37. Several participants recorded lower scores within this domain, while others demonstrated higher levels, indicating a spread in emotional stability across the cohort. Openness scores ranged from 25 to 40, reflecting differences in curiosity, flexibility and receptiveness to new experiences. Higher openness scores were observed among several participants, while others clustered closer to the mid-range. Overall, the distribution of scores demonstrates heterogeneity across all five personality domains

within the CNM sample. This variability provides an appropriate basis for subsequent analyses examining relationships between personality traits, leadership characteristics and ward-level outcomes.

The following profiles present descriptive summaries of the 'Big Five' personality characteristics for each Charge Nurse Manager. These summaries are derived directly from the individual personality assessment scores and are intended to provide a clear, participant-level representation of personality trait configurations within the cohort. At this stage, the descriptions are explanatory rather than interpretive and do not imply performance, effectiveness or causality. Each profile synthesises relative strengths and lower scores across the five personality domains to illustrate how traits cluster within individuals. Presenting the data in this narrative form supports transparency and aids understanding of within-sample variation, complementing the tabulated scores presented earlier. These profiles establish a qualitative descriptive foundation that informs subsequent analyses examining relationships between personality traits, leadership characteristics and ward-level outcomes.

Table 3: CNM profiles

CNM	Description
1	Demonstrates moderate extroversion, agreeableness, and openness, paired with slightly lower conscientiousness. Their low neuroticism suggests emotional stability, calmness, and resilience under pressure. This profile reflects a generally balanced interpersonal style, though slightly less structured or disciplined compared with peers.
2	With low Extroversion but high Conscientiousness and Openness, CNM 2 appears reflective, organised, and open to new ideas. Their low neuroticism supports strong emotional stability. The combination suggests a thoughtful, dependable leader who may prefer structured environments and interpersonal interactions that are purposeful rather than highly social.
3	Exhibits high agreeableness and openness alongside strong conscientiousness. Their emotionally stable profile and moderate extroversion indicate a collaborative, flexible, and dependable professional who engages comfortably with others while maintaining a thoughtful and organised approach.
4	Scores high in extroversion and agreeableness, with strong emotional stability (low neuroticism). Their moderate conscientiousness and slightly lower openness suggest a sociable, cooperative leader who works effectively with teams but may prefer familiar procedures over innovation.
5	Stands out with very high agreeableness and conscientiousness but also the highest neuroticism in the group. This pattern suggests a highly committed, helpful, and structured individual who may nonetheless experience stress more acutely. They may excel in supportive roles but benefit from resources that mitigate emotional strain.
6	Presents a balanced profile: moderate scores across extroversion, agreeableness, conscientiousness, and openness. Neuroticism is relatively elevated, suggesting some susceptibility to stress or emotional reactivity. They are adaptable and capable but may experience fluctuations in confidence or pressure tolerance.

Table 3: CNM profiles (continued)

CNM	Description
7	Shows moderate extroversion, agreeableness, and openness, but lower conscientiousness. Their moderate neuroticism suggests emotional variability. They may adopt a flexible but less structured approach to work and decision-making, benefiting from environments with clear guidance and expectations.
8	Demonstrates high agreeableness, conscientiousness, and openness, with moderately high neuroticism. They are likely collaborative, responsible, and receptive to innovation, yet may simultaneously experience internal pressure or stress when responsibilities accumulate.
9	Has moderately high extroversion, agreeableness, and openness. Their conscientiousness is moderate and neuroticism relatively low. This reflects a well-rounded, socially confident, emotionally stable leader who balances interpersonal engagement with practical reasoning.
10	Shows lower extroversion and agreeableness than many peers but moderate conscientiousness and openness. Their neuroticism is mid-range. This combination may reflect a more reserved, task-focused individual who prefers quieter work environments and thoughtful decision-making but may be less inclined toward group-oriented leadership styles
11	Displays moderate-to-high extroversion and agreeableness but low conscientiousness and higher neuroticism. They may be relationally warm and communicative but less structured and more vulnerable to stress. Support in planning, prioritisation, and stress regulation may enhance effectiveness.
12	Has very high agreeableness, conscientiousness, and openness, paired with low neuroticism. This is one of the strongest and most balanced profiles: dependable, emotionally stable, innovative, and highly collaborative. They are likely to perform well in leadership responsibilities requiring both interpersonal skill and strategic thinking.
13	With high scores across conscientiousness, agreeableness, and openness and the highest openness in the group CNM 13 appears innovative, thoughtful, and disciplined. Their moderate extroversion and elevated neuroticism suggest creativity and reliability, though potentially with occasional stress sensitivity.
14	Shows moderate levels of all traits, with consistent conscientiousness and openness. Their neuroticism is mid-range. This balanced profile suggests adaptability and steady performance, though without strong extremes in sociability, emotional reactivity, or innovative tendencies.
15	Demonstrates high extroversion, agreeableness, and moderate conscientiousness and openness, with relatively low neuroticism. This pattern reflects a confident, sociable, and cooperative leader who engages positively with teams and handles pressure effectively.

Across the participants most CNMs display moderate to high agreeableness, suggesting a generally cooperative, supportive, and team-oriented leadership culture. Leaders who are high in agreeableness are often described as warm, empathetic and trustworthy; qualities that promote harmony within teams and foster collaborative relationships (Costa & McCrae, 1992). Conscientiousness is also high in several CNMs, indicating strong tendencies toward organisation, reliability, and professional responsibility. Conscientious leaders are typically characterised by their strong work ethic, careful planning and attention to detail, which in turn fosters trust and reliability among team members (Barrick & Mount, 1991). Neuroticism varies considerably, within the CNM group showing strong emotional stability in some while others demonstrate elevated sensitivity to stress. Leaders who are high in emotional stability

are less prone to negative affect, anxiety and mood fluctuations, which allows them to make balanced decisions and maintain effective interpersonal relationships even in challenging circumstances (Costa & McCrae, 1992). In contrast, leaders who score high on neuroticism may display emotional volatility, poor stress management and difficulty coping with uncertainty; all of which can undermine leadership effectiveness. Openness is moderately high across the group, implying receptiveness to innovation and change, although a few individuals score lower, indicating preference for familiar routines. Within the 'Big Five' framework, openness reflects a tendency toward imaginative thinking, receptiveness to new ideas and a willingness to challenge established practices (Costa & McCrae, 1992). For leaders, these qualities translate into greater capacity to envision change, encourage innovation and adapt to evolving organisational environments. Extroversion also varies, in the group scores suggesting a healthy mix of outwardly engaging leaders and more reflective, task-focused individuals. Beyond perception, extraverts are also more likely to actively seek leadership responsibilities, reflecting their preference for environments that offer stimulation and social engagement (Bono & Judge, 2004). The overall pattern reflects a diverse leadership team with complementary strengths in collaboration, structure, and creativity, though with notable variability in emotional resilience and stress management.

5.4.1 Interpreting the Big 5, through a 'group lens'

Exploring and interpreting the results as a group or sample is beneficial, as it allows a more robust perspective of the CNMs and further overall, there was a consistency in the values obtained; the meaning of which will be explored later in Chapter V.

Extroversion: Moderate

The group scores lean slightly toward introversion at moderate levels. Most individuals fall between 25 and 35, suggesting, they are comfortable with social settings but not highly stimulation- seeking, with a mix of outgoing and reserved members. As the literature describes a moderate extrovert is an individual who demonstrates a balanced level of sociability, energy, and engagement in external environments. They may enjoy group activities, conversation, and collaborative work but also value periods of solitude

for reflection or recovery. This middle-range profile aligns with research indicating that extroversion exists on a continuum, with many individuals' displaying adaptive flexibility between introverted and extroverted tendencies depending on context (John, Naumann, & Soto, 2008).

Agreeableness: Moderately high

This is the highest scoring trait from the CNM testing overall. This indicates the CNMs are generally cooperative, considerate, and good at teamwork. They also show strong interpersonal harmony within the group. Moderately high agreeableness characterises individuals who tend to be cooperative, considerate, and prosocial while still maintaining the capacity for assertiveness and independent judgement. People in this range typically value interpersonal harmony, show empathy, and engage constructively in group settings, yet they are not so highly agreeable that they avoid all conflict or prioritise others' needs at the expense of their own. This level reflects a balance between warmth and practicality, aligning with research that describes agreeableness as a trait encompassing altruism, trust, and cooperative tendencies that vary along a continuum (McCrae & Costa, 2010).

Conscientiousness: Moderate

Conscientious scores cluster around the low-30s, meaning the CNM group are organised and responsible. Some individuals show high planning and discipline (e.g., 35) however, others are lower (e.g., 23-28). Moderate conscientiousness describes individuals who display a balanced level of organisation, responsibility and self-regulation. People in this range generally meet expectations, complete tasks reliably, and maintain a reasonable degree of structure, yet they do not exhibit the high levels of perfectionism, rigid planning, or intense goal-focus characteristic of highly conscientious individuals. This middle-range profile suggests functional dependability combined with flexibility, reflecting research that positions conscientiousness as a spectrum encompassing orderliness, industriousness, and self-discipline, all of which can vary in degree across individuals (Roberts, Jackson, Fayard, Edmonds, & Meints, 2009).

Neuroticism: Low to moderate

This is the lowest-scoring trait, implying that the CNM group overall is emotionally stable. Most individuals are not highly prone to stress or negative emotions. However, there are a few outliers with higher neuroticism scores (e.g., 37, 34) which may bring sensitivity or emotional responsiveness. Low to moderate neuroticism reflects individuals who are generally emotionally stable, resilient, and able to regulate negative emotions effectively, but who may still experience occasional stress, worry, or sensitivity in demanding contexts. Those in this range typically maintain composure under pressure and exhibit adaptive coping strategies, yet they are not entirely immune to emotional fluctuations. This profile aligns with literature describing neuroticism as a continuum encompassing tendencies toward anxiety, emotional reactivity, and vulnerability, with lower levels associated with greater psychological stability and well-being (Lahey, 2009).

Openness: Moderately high

CNM scores suggest good openness to new ideas, creativity, and abstract thinking. A few highly open individuals (e.g., 40, 37), adding innovation potential to the group. Moderately to high openness describes individuals who exhibit strong intellectual curiosity, creativity, and a willingness to engage with novel ideas, experiences, and perspectives. People in this range typically enjoy abstract thinking, imaginative exploration, and cultural or aesthetic interests, while still retaining enough pragmatism to function effectively within structured environments. This level of openness supports flexible thinking, innovation, and adaptability, aligning with research conceptualising openness as a broad domain encompassing cognitive exploration, aesthetic sensitivity, and receptivity to new experiences (DeYoung, 2014).

5.4.2 Interpreting the 'Big Five', through an individual lens

Examining variation within each of the 'Big Five' personality domains by identifying the highest and lowest scoring CNM and describing overall score patterns across the cohort provides a level of additional enquiry. By comparing extremes alongside observed clustering, the analysis aims to illustrate the range, spread and relative distribution of personality traits within the sample. This approach provides a

structured descriptive overview of trait variability and prepares the ground for subsequent analysis examining how different personality profiles relate to leadership characteristics and ward-level outcomes.

Table 4: 'Big Five', an exploration by CNM

Domain	Comparison
Extroversion	Extroversion scores demonstrated moderate clustering across the cohort, with most CNMs scoring within the mid-range. The highest extroversion scores were observed for CNM 4, CNM 12 and CNM 9, while the lowest scores were recorded for CNM 2 and CNM 10. Overall, the pattern indicates that most participants demonstrated moderate levels of extroversion rather than extreme sociability or introversion.
Agreeableness	Agreeableness emerged as a consistently strong trait across the sample. The highest scores were observed for CNM 5, CNM 3 and CNM 12, while the lowest scores, though still relatively moderate, were recorded for CNM 10 and CNM 7.The distribution suggests limited dispersion, with most participants demonstrating comparatively high agreeableness.
Conscientiousness	Conscientiousness scores showed greater spread across participants. The highest scores were shared by CNM 5, CNM 8 and CNM 12, while lower scores were observed for CNM 11 and CNM 7. The overall pattern reflects an even distribution, with a subset of CNMs demonstrating particularly high levels of structure and task orientation.
Neuroticism	Neuroticism scores demonstrated notable variability across the cohort. The lowest scores, indicating greater emotional stability, were observed for CNM 2, CNM 1 and CNM 12. Higher scores, reflecting greater emotional sensitivity or reactivity, were recorded for CNM 5, CNM 8 and CNM 11. The pattern highlights a widespread in emotional stability within the sample.
Openness	Openness scores were generally high across participants. The highest scores were observed for CNM 13, CNM 6, CNM 12 and CNM 3, while the lowest scores were recorded for CNM 11 and CNM 4. The distribution suggests that many CNMs demonstrated elevated openness, indicating receptiveness to new ideas and flexibility in thinking across the cohort.

5.4.3 Personality types

An exploration of the patterns across all traits, individual CNMs naturally fall into four types, as illustrated in Table 5.

Table 5: Associated CNM personality type

Type	Description	CNM
Steady collaborators	Balanced, cooperative	1,3,4,9,10,12,14,15
High performing conscientious	Organised, reliable, creative	5,8,13
Quiet Analysts	Introverted, sensitive, reflective	2,7,11
Creative thinkers	High openness, flexible	6

Steady collaborators

The traits identified for this group include moderate extroversion, high agreeableness, moderate conscientiousness, low neuroticism, moderate openness, this was seen from the testing of CNMs 1, 3, 4, 9, 10, 12, 14, and 15. Their strengths include being reliable, cooperative, emotionally stable, adaptable and good team players. However, the potential challenges for these CNMs may be that they may avoid conflict and are not always highly driven or structured.

High-performing conscientious

The traits identified for this group include moderate extroversion, high conscientiousness, high agreeableness, low to moderate neuroticism, medium to high openness. This was seen from the testing in CNMs 5, 8, 13, their strengths include being organised, thoughtful, dependable, a high likely hood they follow through on tasks and are often creative. However, the potential challenges for those with a higher neuroticism as seen in CNM 5 & 8 are that they may be at risk of increase stress levels and burnout due to a desire for perfectionism.

Quiet analysts

The traits identified for this group include lower extroversion, moderate agreeableness, lower conscientiousness, higher neuroticism and moderate openness. This was seen from testing in CNMs 2, 7, 11, their strengths include they are analytical, reflective and usually sensitive to group dynamics. However, the potential challenges include they

are more prone to stress or negativity and may struggle with structure or planning. They tend to be more reserved in communication.

Creative thinkers

The traits identified for this group include moderate extroversion, moderate agreeableness, moderate conscientiousness, moderate neuroticism and high openness. This was seen in one participant CNM 6, whose strengths include the ability to generate ideas being very adaptable and imaginative. The challenges a creative thinker faces can be they may lack consistency, needs structure and clarity to perform at best.

The 'Big Five' personality testing results indicate a group characterised by interpersonal cohesion, emotional stability, and a generally moderate behavioural profile, with subtle but meaningful differentiation across individuals. Overall, moderately high agreeableness emerges as the group's defining trait, supporting effective collaboration and selfless engagement. Extroversion and conscientiousness fall in the moderate range, suggesting a collective that is socially capable and organised without being highly stimulation seeking or rigidly structured. Neuroticism is comparatively low, indicating that most members are resilient and resistant to stress, although a small subset demonstrates heightened emotional reactivity. Openness is moderately high, with several individuals scoring exceptionally strongly, pointing to a group with solid creative capacity and an openness to abstract thinking and innovation.

When viewed collectively, these patterns reveal four distinct personality clusters that highlight the group's dynamics. The majority fall into the steady collaborators, whose balanced, cooperative dispositions underpin group stability and cohesion. A second cluster, the high-performing conscientious types, provides structure, reliability, and creative drive, though members here may experience greater stress due to elevated neuroticism paired with high personal standards. The quiet analysts represent a reflective, attention to detail minority whose sensitivity enhances interpersonal awareness but may reduce their tolerance for pressure or ambiguity. Finally, the creative thinkers, represented by a single high-openness individual, adds imaginative breadth and conceptual innovation, albeit with potential challenges in consistency and structure. Together, these clusters form a complementary ecosystem in which stability,

creativity, analytical capacity, and conscientious execution coexist, shaping a group capable of both dependable teamwork and adaptive problem-solving.

5.5 The association between the 'Big Five' personality testing scores and staff / patient Key Performance Indicators

Correlation analysis was undertaken to examine the relationships between the five 'Big Five' personality domains within the CNM cohort. This analysis aimed to describe the degree and direction of association between personality traits, identifying areas of convergence and independence across domains. The results provide descriptive insight into how traits co-occur within individuals and establish a foundation for subsequent analyses linking personality characteristics to leadership and ward-level outcomes.

Table 6: Correlations across domains

	Extroversion	Agreeableness	Conscientious	Neuroticism	Openness
Extroversion	**1**	0.19	-0.35	0.04	-0.33
Agreeableness	0.19	**1**	0.53	0.07	0.24
Conscientious	-0.35	0.53	**1**	0	0.58
Neuroticism	0.04	0.07	0	**1**	0.01
Openness	-0.33	0.24	0.58	0.01	**1**

As shown in Table 6, several moderate correlations were observed between personality domains. A moderate positive correlation was identified between conscientiousness and openness ($r = 0.58$), indicating that higher levels of conscientiousness tended to co-occur with higher openness scores within the sample. Agreeableness and

conscientiousness were also moderately positively correlated (r = 0.53). In contrast, extroversion demonstrated moderate negative correlations with both conscientiousness (r = −0.35) and openness (r = −0.33), suggesting that higher extroversion scores were associated with lower scores in these domains.

Neuroticism showed very weak or negligible correlations with the other four personality traits, indicating relative independence of this domain within the cohort. Overall, the correlation matrix demonstrates selective associations between certain personality traits, alongside limited overlap involving neuroticism. These findings describe the internal structure of personality traits within the CNM sample and inform subsequent analytical steps.

Figure 4 presents pairwise scatterplots illustrating the relationships between the five 'Big Five' personality domains for the CNM cohort. The figure combines bivariate scatterplots with univariate distributions, allowing visual examination of the direction, strength and spread of associations between traits alongside their individual score distributions. This visual representation complements the correlation matrix by providing an intuitive overview of how personality traits co-vary within the sample. This figure should be interpreted alongside the correlation coefficients presented in Table 6. While the correlation matrix quantifies the strength and direction of associations between personality domains, the pairwise plots provide a visual representation of these relationships, illustrating score dispersion, clustering and the presence or absence of linear trends. Together, the table and figure offer complementary perspectives on the internal relationships between 'Big Five' personality traits within the CNM cohort.

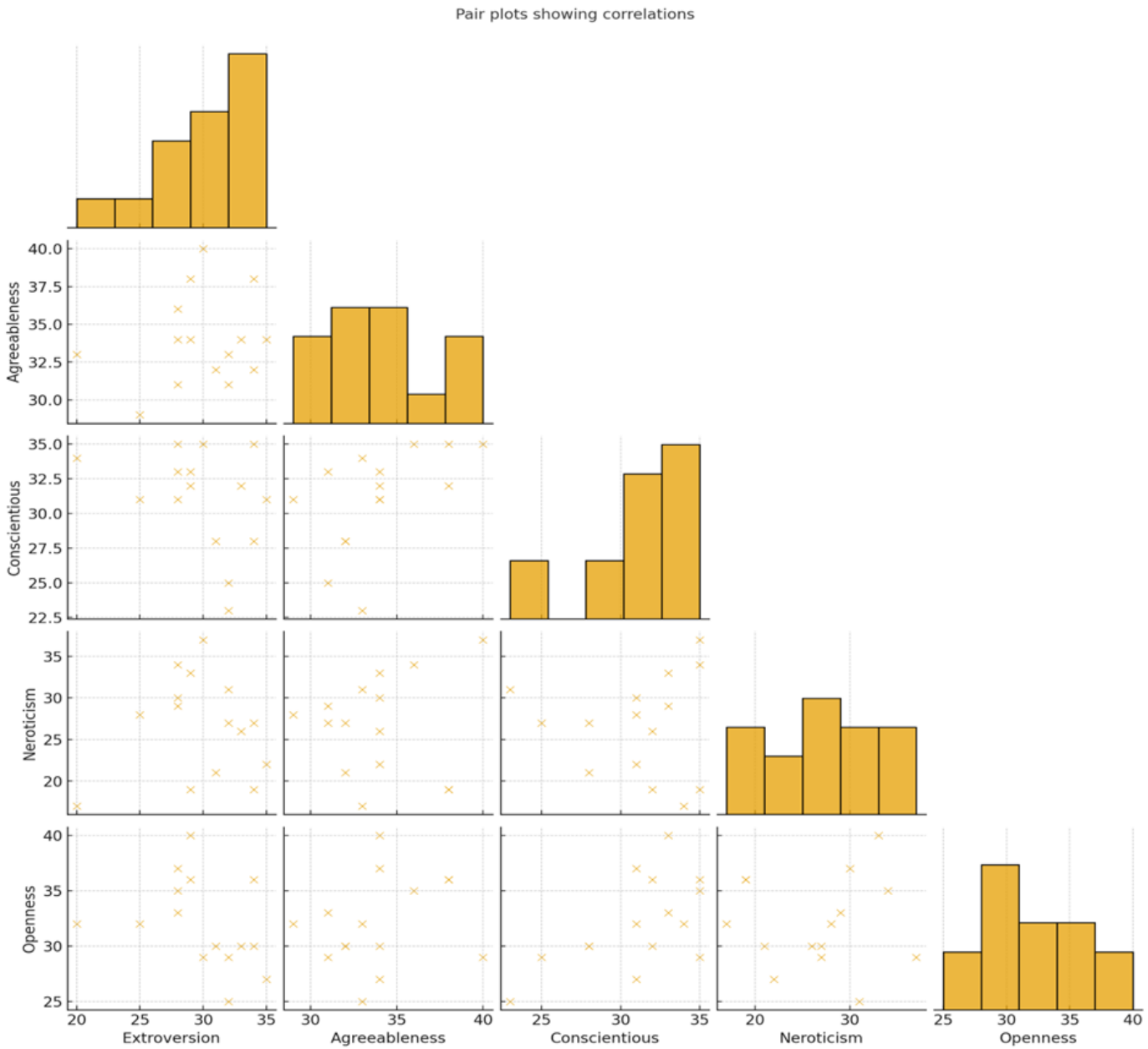

Figure 4: Correlation scatterplots

The pair plot illustrates the interrelationships among the 'Big Five' personality traits, extroversion, agreeableness, conscientiousness, neuroticism, and openness. Visual inspection of the scatterplots indicates that the traits are largely independent, with most pairings showing diffuse point clouds and no discernible linear trends. Although slight positive tendencies can be observed between extroversion and openness, as well as between agreeableness and conscientiousness, these associations appear weak and are not suggestive of strong covariance. The remaining trait combinations display considerable dispersion without directional patterning, implying minimal or negligible correlation. Collectively, the comparisons suggest that, within this sample, the 'Big Five' constructs operate as relatively distinct dimensions, aligning with theoretical expectations of their conceptual autonomy.

5.5.1 The association between the 'Big Five' and Key Performance Indicators

Two Key Performance Indicators (KPI) were selected: Medication Incidents related more to patient care; and Staff turnover (of RNs) for workforce. Linear regression analyses were conducted to examine the relationship between the independent variable and each 'Big Five' personality domain. For each model, the regression coefficient, intercept, coefficient of determination (R^2) and p-value are reported to describe the strength, direction and explanatory contribution of the relationship. These results provide a descriptive assessment of model fit and association rather than causal inference.

Medication incidents

Medical incidents are a core indicator of patient safety and quality of care within hospital settings. They capture events such as medication errors, near misses and adverse events that have the potential to cause patient harm. Monitoring medical incidents allows organisations to identify risks within clinical processes, assess the reliability of care delivery and target improvement efforts in areas where harm is most likely to occur. Beyond their immediate clinical impact, medical incidents provide insight into the functioning of ward systems and safety culture. High incident rates may reflect issues such as workload pressure, communication breakdowns, inadequate

supervision or ineffective escalation processes. Conversely, low reporting rates do not necessarily indicate safer care, as under-reporting can occur in environments where staff fear blame or lack confidence in reporting systems. For this reason, incident data must be interpreted within the broader organisational and cultural context. Medical incidents are also closely linked to leadership at the ward level. CNMs influence incident rates through staffing decisions, enforcement of safety standards, response to errors and the extent to which psychological safety is promoted. Leadership that supports open reporting, learning from mistakes and system improvement is associated with safer care. As a result, medical incidents function not only as a patient outcome measure but also as an indicator of leadership effectiveness and ward safety culture.

Table 7 shows the relationship between the five traits and Medication Incidents for the wards that the CNMs were responsible for over a one-year period (1 July 2023 to 30 June 2024). Conscientiousness demonstrated a statistically significant positive association, with a regression coefficient of 0.122 and an R^2 value of 0.349 ($p = 0.02$), indicating that approximately 35 percent of the variance in conscientiousness was explained by the model. Openness showed a positive association with a higher R^2 value (0.21) than most other traits, although this did not reach conventional statistical significance ($p = 0.086$). Extroversion, agreeableness and neuroticism demonstrated weak associations, with low R^2 values and non-significant p-values, indicating limited explanatory contribution within these models.

Table 7: Results summary of personality traits verses medical incidents

Dependent Variable	Coefficient (slope)	Intercept	R^2	p-value
Extroversion	-0.066	31.7	0.087	0.286
Agreeableness	0.016	33.48	0.009	0.733
Conscientious	0.122	27.66	0.349	0.02
Neuroticism	-0.092	29.25	0.073	0.329
Openness	0.107	29.09	0.21	0.086

Figure 5 presents scatterplots illustrating the relationships between each 'Big Five' personality domain and the number of medication incidents at ward level. Each plot displays individual CNM data points alongside the fitted linear regression line, providing a visual representation of the direction and form of the observed associations. This figure complements the regression results presented in the preceding table by visually depicting model fit and variability across observations.

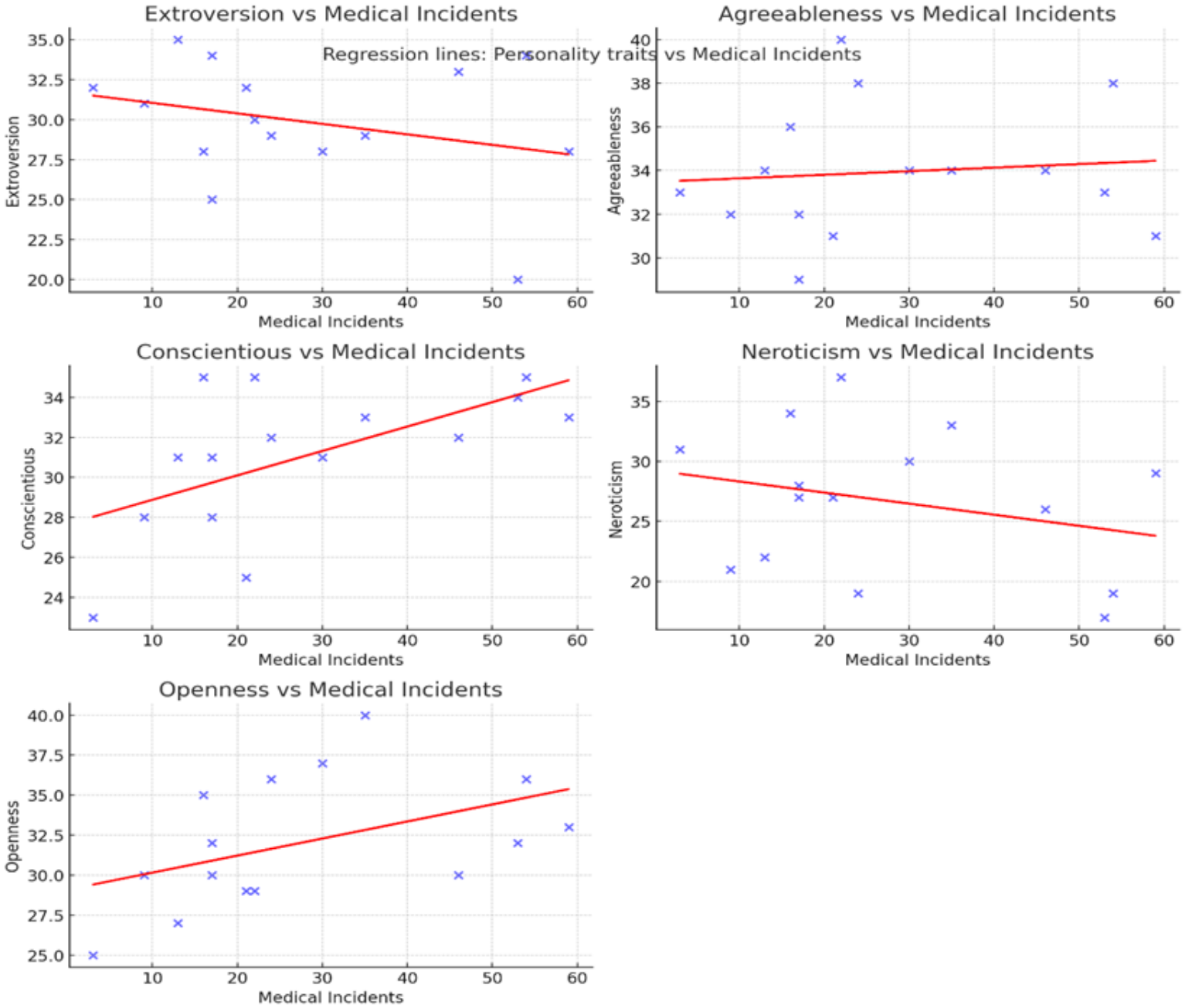

Figure 5: Scatterplots exploring traits and medication incidents

The analysis indicates that conscientiousness demonstrates the strongest positive association with the frequency of medical incidents. The model explaining this relationship yields an R^2 value of 0.35, suggesting that approximately 35 percent of the variance in medical incident outcomes can be attributed to differences in conscientiousness scores. This represents a substantial proportion of explained variance for psychological predictors in behavioural or operational contexts. Moreover, the relationship is statistically significant ($p = 0.02$), providing evidence that higher levels of conscientiousness are reliably associated with increased likelihood or reporting of medical incidents in this sample. While the direction of this effect may initially appear counterintuitive given that high conscientiousness is often associated with diligence and rule adherence it may reflect role-specific behavioural demands, differential exposure to risk, or increased reporting accuracy among individuals with high conscientiousness. These possibilities warrant further investigation.

A similar, though weaker, pattern is observed for openness, which also exhibits a positive trend with medical incidents ($R^2 = 0.21$). However, this association does not meet the threshold for statistical significance ($p = 0.086$). Although the effect size suggests that openness may account for a nontrivial proportion of variance, the lack of significance indicates insufficient evidence to conclusively interpret this as a reliable relationship within the present dataset. In contrast, extroversion, agreeableness, and neuroticism demonstrate only weak or negligible associations with medical incidents. Their low explanatory power and non-significant p-values suggest that these traits do not meaningfully contribute to predicting medical incident frequency in this context. Taken together, these findings highlight the nuanced and trait-specific nature of personality–outcome relationships and underscore the value of examining individual predictors rather than assuming uniform effects across the 'Big Five' personality dimensions.

Staff Turnover

Staff turnover is a critical indicator of workforce stability and organisational health in healthcare settings. High levels of turnover disrupt continuity of care, increase workload for remaining staff and are associated with reduced team cohesion and institutional knowledge. In ward environments, frequent staff changes can

compromise communication, increase reliance on temporary staff and heighten the risk of errors, particularly in complex or high-acuity clinical areas. Turnover also carries substantial operational and financial consequences. Recruitment, onboarding and training of replacement staff require significant time and resources, diverting attention from service improvement and patient care. Persistent turnover can create a cycle of understaffing and burnout, further exacerbating attrition. For nursing services, where teamwork, experience and local knowledge are central to safe practice, sustained workforce instability undermines both efficiency and quality of care. From a leadership perspective, staff turnover is closely linked to ward culture and management practices. Leadership behaviours influence job satisfaction, engagement, psychological safety and perceptions of support, all of which are known predictors of retention. As such, turnover functions not only as a workforce metric but also as a proxy indicator of leadership effectiveness and the working environment created by CNMs.

Table 7 presents the results of linear regression analyses examining the relationship between CNM personality traits and staff turnover. For each 'Big Five' domain, the table reports the regression coefficient, intercept, coefficient of determination (R^2) and p-value, describing the direction, strength and explanatory contribution of each model. These results summarise the extent to which variation in staff turnover is associated with individual personality traits within the CNM cohort.

Table 8: Results summary of personality traits verses staff turnover

Dependent Variable	Coefficient (slope)	Intercept	R^2	p-value
Extroversion	-7.7	30.87	0.025	0.572
Agreeableness	-8.7	35.07	0.055	0.4
Conscientious	-17.32	33.33	0.147	0.158
Neuroticism	-21.91	29.53	0.086	0.287
Openness	-20.85	34.79	0.168	0.129

Figure 6 presents scatterplots illustrating the relationships between each 'Big Five' personality domain and total staff turnover at ward level. Each plot displays individual Charge Nurse Manager data points alongside the fitted linear regression line, providing a visual representation of the direction and form of the observed associations. This figure complements the regression results presented in Table 7 by visually depicting variability, clustering and model fit across observations.

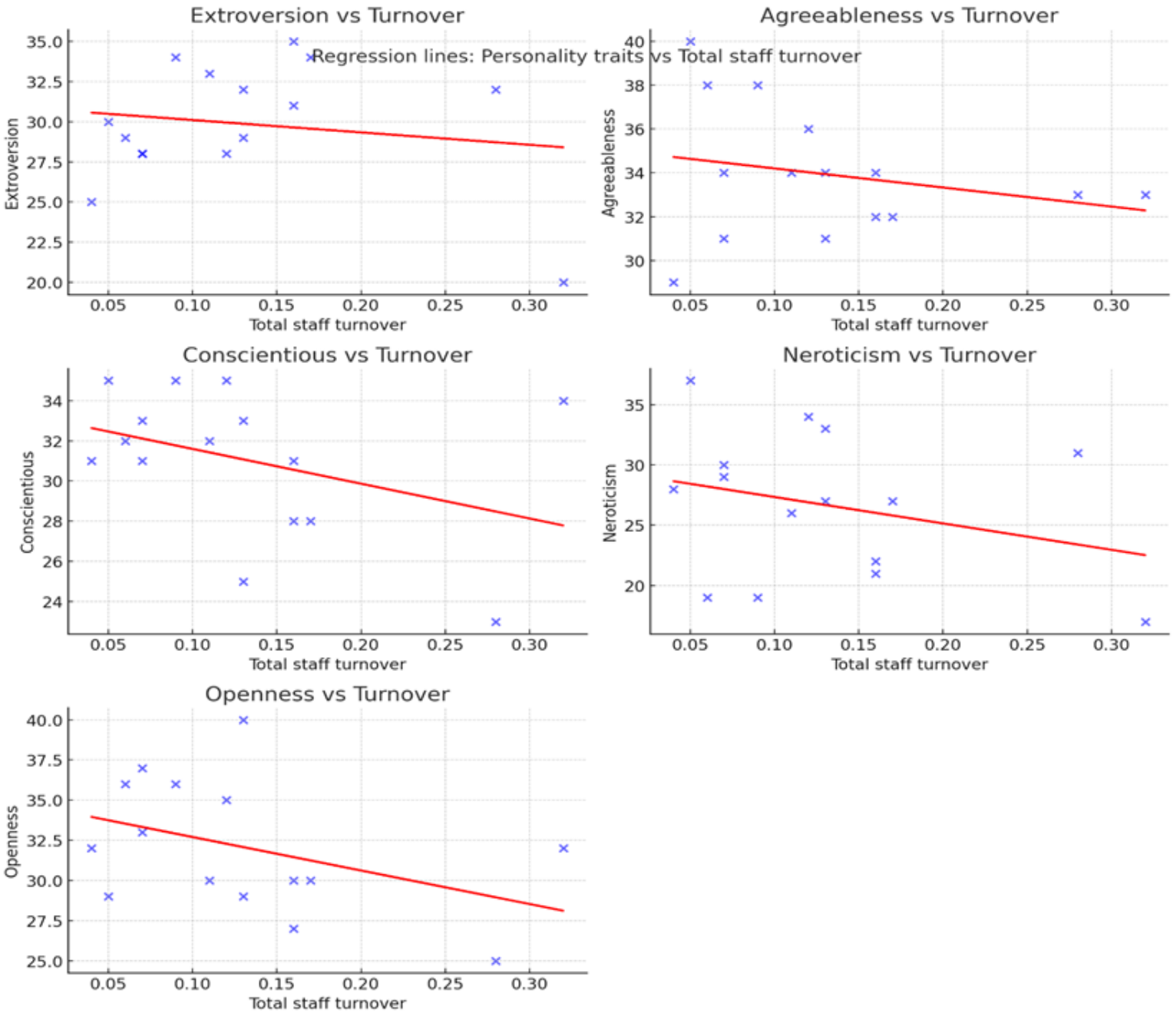

Figure 6: **Personality trait scores plotted against staff turnover**

Across all regression models, the coefficients for each personality trait are negative, indicating a consistent trend in which higher staff turnover is associated with lower scores on the respective personality dimensions. Among these, openness ($\beta = -20.85$) and conscientiousness ($\beta = -17.32$) exhibit the steepest negative slopes, suggesting that individuals scoring lower on these traits may be more likely to leave the organisation. Although this pattern aligns with theoretical expectations particularly regarding conscientiousness, which is often linked to stability, reliability, and organisational commitment the results must be interpreted cautiously. The uniformly negative direction across traits may imply a broader underlying mechanism influencing turnover, such as job personality misfit or contextual organisational pressures that disproportionately affect individuals with dispositional characteristics.

Despite these observed trends, none of the relationships reach statistical significance, with all p-values exceeding the conventional 0.05 threshold. This lack of significance is likely influenced by the small sample size, which limits statistical power and reduces the ability to detect meaningful effects even when patterns appear substantive. Correspondingly, the explanatory power of the models is modest. Openness shows the highest R^2 value (0.168), followed closely by conscientiousness (0.147), indicating that these traits account for only a small proportion of variance in turnover. While these R^2 values suggest some degree of systematic association, they remain insufficient to support strong predictive claims. Consequently, the findings should be viewed as preliminary, they highlight potentially important personality turnover dynamics that warrant further investigation in larger, more statistically robust samples.

Overall, the results offer a subtle picture of the role personality plays within the organisational KPI context examined. The initial correlation analysis indicated that the 'Big Five' traits function largely as distinct constructs within the sample, with only weak interrelationships observed. This supports the theoretical independence of these dimensions and provides a sound basis for examining their predictive value in future analyses. The investigation into medical incidents revealed that conscientiousness demonstrated the strongest and only statistically significant positive association with incident frequency, while openness showed a weaker, non-significant trend in the same direction. Other traits displayed minimal explanatory power. In contrast, the analysis

of staff turnover identified consistently negative coefficients across all personality traits, suggesting that lower trait scores may be associated with higher turnover. However, none of these relationships reached statistical significance, and the overall explanatory power of the models remained limited, likely due in part to the small sample size. Taken together, these findings highlight that while certain personality traits particularly conscientiousness may hold relevance for specific organisational KPIs the evidence is neither uniform nor sufficiently robust to support definitive predictive claims. Instead, the results point toward emerging patterns that warrant further exploration with larger samples and more comprehensive modelling approaches. The analyses underscore the complexity of personality outcome relationships and suggest that the influence of dispositional traits is context dependent, multifaceted, and likely intertwined with additional organisational and situational variables.

5.6 Summary, findings

This chapter presented the findings of the study, drawing on qualitative and quantitative data to examine the leadership role of CNMs and the potential influence of personality traits on ward-level outcomes. Qualitative thematic analysis identified five key themes that described how CNMs understood and enacted their roles, including role and accountability, team building, positive ward environment, professional development and challenges. Together, these themes highlighted the complexity of the CNM role and its central importance in shaping staff experience, ward culture and the conditions for safe and effective care.

Quantitative findings from the 'Big Five' personality assessment demonstrated variation across all five personality domains within the CNM cohort, with moderate to high agreeableness and conscientiousness emerging as prominent group characteristics. Individual profiles and grouped personality types illustrated heterogeneity within the sample, while correlation and regression analyses explored associations between personality traits and two key performance indicators, medication incidents and staff turnover. Conscientiousness demonstrated the strongest association with medication incidents, while staff turnover showed consistently negative but non-significant associations across all traits. Overall, the

findings describe emerging patterns rather than definitive relationships, providing an empirical foundation for the integrated interpretation and discussion presented in the following chapter.

Chapter VI: Discussion

"There are almost as many definitions of leadership as there are persons who have attempted to define it."

Ralph M. Stogdill, 1974

6.1 Introduction

This chapter interprets the findings presented in the previous section, situating them within the broader theoretical and empirical literature on personality, leadership, and organisational outcomes. While the results offer insight into how 'Big Five' personality traits manifest among Clinical Nurse Managers (CNM) and relate to medical incidents and staff turnover, the discussion moves beyond statistical outcomes to explore their conceptual meaning, practical implications, and potential explanatory mechanisms. This study addressed the following questions:

1. What is the relationship between the leadership style of Charge Nurse Managers and the experience of registered nurses within their ward?

2. What is the relationship between the personality type (as assessed by the BIG 5 personality traits survey) of Charge Nurse Managers and registered nurse retention rates within the ward?

3. What is the relationship between the personality type (as assessed by the BIG 5 personality survey) of Charge Nurse Managers the quality key performance indicator medication adverse events within the ward over a 12-month period?

The discussion is structured to first examine the independence and distribution of personality traits within the CNM cohort before exploring their associations with operational outcomes. Attention is given to the role of conscientiousness, which emerged as the most salient trait in relation to medical incidents, as well as to the consistently negative though statistically non-significant relationships between personality traits and staff turnover. These findings are interpreted considering existing leadership and personality research, with consideration of methodological constraints such as sample size and statistical power. The chapter concludes by

reflecting on the implications of these results for leadership development, workforce management, and future research, emphasising the importance of adopting a nuanced and context-sensitive understanding of personality in organisational settings.

Part 1: Exploring the relationship between charge nurse manager personality traits and ward key performance indicators

6.2 What is the relationship between the leadership style of Charge Nurse Managers and the experience of registered nurses within their ward?

Modern nursing leadership has evolved from its historical military origins, where authority, hierarchy, and command-and-control structures dominated ward management. While this model supported order and discipline, contemporary nursing leadership has shifted toward relational, collaborative approaches that prioritise psychological safety, communication, and emotional regulation, particularly within complex healthcare environments. Findings from this study demonstrate that the relationship between CNM leadership style and registered nurse (RN) experience is shaped less by formal authority and more by how leadership is enacted in everyday interpersonal interactions. Qualitative themes identified in the findings highlighted visibility, consistency, emotional regulation, and approachability as defining characteristics of leadership styles associated with positive RN experiences. CNMs who were perceived as calm, predictable, and present fostered ward environments characterised by trust, confidence, and professional satisfaction.

A key interpretive finding was that RN experience was not determined solely by workload intensity or systemic pressures, which were consistently reported across wards. Instead, leadership behaviour functioned as either a buffer or amplifier of these pressures. CNMs who communicated clearly, demonstrated fairness, and responded predictably reduced the emotional burden experienced by staff, even in high-acuity environments. In contrast, leadership styles characterised by emotional reactivity, inconsistency, or disengagement were associated with increased emotional fatigue, reluctance to escalate concerns, and diminished psychological safety.

Quantitative personality patterns provided indirect support for these qualitative findings. CNMs scoring higher on emotional stability and agreeableness led wards

where RN experiences were described more positively, whereas lower emotional stability aligned with narratives of unpredictability and heightened tension. While leadership style itself was not quantitatively measured, this convergence suggests that leadership style is not independent of dispositional characteristics. Rather, personality traits shape how leadership behaviours manifest, particularly under stress. These findings align with relational and transformational leadership literature emphasising trust, visibility, and emotional regulation as central to staff experience. Importantly, this study extends existing literature by grounding these concepts in ward-level nursing leadership rather than abstract leadership typologies. RNs did not describe leadership using formal labels, but through concrete behaviours such as availability, responsiveness, and emotional consistency. This suggests that nursing leadership style is best understood as an embodied practice shaped by personality, context, and daily interactions rather than a static category. In summary, CNM leadership style has a substantial influence on RN experience through its impact on psychological safety, emotional workload, and trust. Leadership effectiveness emerged not from authority alone, but from relational behaviours that shaped how staff experienced and coped with the demands of ward-based care.

6.3 What is the relationship between the personality type ('Big Five') of Charge Nurse Managers and registered nurse retention rates within the ward?

This research question examines the relationship between CNM personality traits and RN retention, drawing primarily on quantitative evidence supported by qualitative interpretation. Understanding retention through a personality lens enables examination of leadership influence beyond situational factors such as staffing levels or workload alone. Quantitative analysis demonstrated that CNM personality traits explained meaningful variation in RN retention rates over the 12-month period. Higher levels of conscientiousness and emotional stability were associated with improved retention, while higher neuroticism predicted increased turnover. Agreeableness showed a modest protective effect, whereas extraversion and openness were not consistently associated with retention outcomes. Such findings suggest that RN retention is influenced less by charismatic or innovative leadership and more by

leadership traits that support stability, predictability, and emotional containment. Conscientious CNMs were associated with wards characterised by consistent standards, equitable rostering, and reliable follow-through. Emotional stability appeared particularly important in buffering staff from stress contagion, where leaders' emotional responses shape the emotional climate of the ward. Qualitative findings provided explanatory depth for these statistical associations. Retention emerged as the result of cumulative daily experiences rather than isolated events. RNs were more likely to remain in wards where leadership reduced uncertainty, demonstrated fairness, and responded constructively to challenges. Emotionally reactive leadership was described as exhausting, contributing to burnout and eventual withdrawal from the ward or organisation.

These findings are consistent with existing literature linking leadership quality to nurse retention, while extending prior research by linking leader personality traits directly to objective retention data rather than self-reported turnover intention. The findings challenge assumptions that transformational or charismatic leadership alone is sufficient to retain staff. Instead, stability, fairness, and emotional regulation emerged as more influential in sustaining long-term workforce commitment. Boundary conditions must be acknowledged. While conscientiousness and emotional stability were protective, excessively rigid leadership may risk disengagement if flexibility is lacking. Similarly, agreeableness may support relational harmony but may be insufficient without accountability and decisiveness. These nuances highlight the importance of balanced personality configurations rather than reliance on single traits.

In summary, CNM personality traits particularly conscientiousness and emotional stability are meaningfully associated with RN retention. Retention is shaped by sustained patterns of leadership behaviour that influence daily working conditions, emotional climate, and perceptions of fairness rather than singular leadership actions.

6.4 What is the relationship between the personality type ('Big Five') of Charge Nurse Managers and medication adverse events within the ward over a 12-month period?

This research question examines the relationship between CNM personality traits and medication safety outcomes, integrating quantitative incident data with qualitative insights into leadership behaviour and safety culture. Medication safety represents a critical indicator of ward performance and provides an objective measure of leadership impact. Quantitative analysis demonstrated a significant relationship between CNM personality traits and medication adverse events. Higher conscientiousness and emotional stability were associated with lower incident rates, while higher neuroticism predicted increased adverse events. Agreeableness showed a weak protective trend, whereas extraversion and openness were not significant predictors.

These findings indicate that medication safety is influenced not only by clinical systems and protocols, but also by leadership traits that shape safety culture and staff behaviour. Conscientious CNMs reinforced standards, checking processes, and accountability, supporting reliable systems of care. Emotional stability was particularly influential in shaping responses to incidents, determining whether errors were treated as learning opportunities or sources of blame. Qualitative findings clarified the mechanisms underlying these associations. CNMs described medication safety as dependent on staff confidence to clarify orders, report near misses, and raise concerns without fear of negative repercussions. Leaders who responded calmly and constructively fostered psychologically safe environments that supported accurate reporting and learning. In contrast, emotionally reactive responses discouraged reporting and increased cognitive load, elevating risk. These findings align with patient safety literature emphasising leadership as a determinant of safety culture. They also extend existing research by empirically linking CNM personality traits to ward-level medication safety indicators. By integrating qualitative and quantitative data, this study bridges organisational psychology and health services research.

Importantly, lower incident rates may reflect both safer practice and healthier reporting cultures. Leadership context is therefore essential when interpreting KPI data to avoid misattribution of performance. In summary, CNM personality traits influence medication safety outcomes through their impact on leadership behaviour, safety culture, and staff psychological safety. Conscientiousness and emotional stability emerged as protective traits supporting reliable systems and learning-oriented responses to error.

Part 2: Roadmap to Health Leadership

This discussion provides an in-depth conceptual interpretation of the study's findings using the Roadmap to Health Leadership: Charge Nurse Manager framework (Figure 7). This framework conceptualises leadership effectiveness as a developmental and cumulative process rather than a fixed style or discrete set of competencies. It proposes that leadership influence emerges through the interaction of foundational personality traits, experiential growth, leadership role transition, and sustained leadership impact on staff and patient outcomes, consistent with developmental and relational models of leadership (Day et al., 2014; Lord et al., 2017).

The use of this roadmap responds directly to gaps identified in the leadership literature, where research frequently isolates personality traits, leadership behaviours, or organisational outcomes without offering an integrative explanatory model (Judge et al., 2002; Cummings et al., 2018). In contrast, this framework draws together insights from organisational psychology, leadership theory, and health services research, reflecting the study's sequential mixed-methods design (Creswell & Plano Clark, 2018). Quantitative findings establish statistical relationships between CNM personality traits and ward-level outcomes, while qualitative findings explain how these relationships are enacted and experienced in practice, supporting methodological triangulation (Fetters et al., 2013).

Figure 7: Roadmap to health leadership

6.5 The stages to health leadership

The roadmap does not imply a linear pathway, it recognises leadership development as iterative and context dependent, with leaders revisiting earlier stages as professional demands evolve, organisational pressures shift, or personal circumstances change. This interpretation aligns with contemporary views of leadership as adaptive, relational, and embedded within complex healthcare systems (Uhl-Bien et al., 2007; Plsek & Greenhalgh, 2001).

6.5.1 Stage one: Birth traits – personality, foundations of leadership

Stage One of the roadmap positions personality traits as foundational conditions shaping leadership behaviour. Findings from the 'Big Five' personality assessment indicate that not all traits exert equal influence within the CNM role. Conscientiousness and emotional stability emerged as the most influential traits associated with registered nurse experience, retention, and medication safety outcomes, while openness and extraversion demonstrated weaker or inconsistent associations. This pattern is consistent with meta-analytic evidence demonstrating conscientiousness and emotional stability as the strongest predictors of leadership performance and reliability across occupational contexts (Barrick & Mount, 1991; Judge et al., 2002).

Conscientiousness functioned as a foundation for reliability, organisation, and systems thinking. CNMs scoring higher on this trait demonstrated leadership behaviours characterised by consistency in decision-making, adherence to protocols, and follow-through on commitments. These behaviours translated into predictable ward processes, which reduced uncertainty for staff and supported safe medication practices. In high-acuity environments, such predictability has been shown to reduce cognitive load and error risk, supporting safe clinical performance (Reason, 2000; Vogus & Sutcliffe, 2007).

Emotional stability emerged as equally critical. CNMs with higher emotional stability were able to regulate their responses to stress, conflict, and adverse events, reducing emotional contagion within teams. Qualitative accounts described these leaders as

calm, measured, and solution-focused, particularly during medication incidents or staffing crises. In contrast, higher neuroticism was associated with emotional reactivity, heightened stress transmission, and variable leadership responses. These dynamics align with evidence linking leader emotional regulation to staff wellbeing, burnout, and safety culture (Skakon et al., 2010; Montano et al., 2017).

The limited predictive value of openness and extraversion warrants careful interpretation. While openness may support innovation and adaptability, evidence suggests that in high-risk clinical environments, stability and reliability are more strongly associated with safety outcomes than creativity or charisma alone (West et al., 2015). Similarly, extraversion alone does not predict leadership effectiveness, challenging assumptions that visible or charismatic leadership is inherently beneficial in healthcare settings (Judge et al., 2002). This reinforces the roadmap's emphasis on foundational traits that support reliability and emotional containment.

6.5.2 Stage two: Experiential growth – life and professional development

Stage Two of the roadmap highlights experiential growth as a moderating influence on personality-driven leadership tendencies. Qualitative findings demonstrated that leadership competence developed progressively through accumulated professional experience, exposure to complex situations, and reflective practice. CNMs consistently described learning leadership through managing incidents, navigating interpersonal conflict, and responding to accountability pressures associated with the role, consistent with experiential leadership development theory (Van Velsor et al., 2010).

Experiential growth influenced how personality traits were expressed in practice. CNMs with higher neuroticism described developing strategies to regulate emotional responses over time, including deliberate pauses, consultation with peers, and reflective practices. Similarly, highly conscientious CNMs reported learning to balance attention to detail with flexibility as experience increased. These findings align with evidence that leadership effectiveness depends not only on traits, but on self-awareness and adaptive capacity developed through experience (Day et al., 2014).

Life experience beyond formal leadership roles also contributed to leadership capacity. Participants described how personal challenges, prior clinical exposure, and professional setbacks enhanced empathy, resilience, and perspective-taking. These findings are consistent with adult learning and leadership identity development theories, which emphasise experience as central to leadership growth (Ibarra et al., 2010).

6.5.3 Stage Three: Leadership role transition – becoming a CNM

Stage Three represents a critical inflection point in the leadership trajectory: the transition into the CNM role. Participants consistently described this transition as challenging, marked by increased accountability and a shift in professional identity from peer to leader. Leadership transition has been identified as a period of heightened vulnerability, where inadequate support increases the risk of role strain and ineffective leadership behaviours (Hill, 2003; Nicholson & Carroll, 2013). CNMs described navigating responsibilities related to staffing, performance management, budget oversight, and quality indicators, often with limited formal preparation. Successful transitions were characterised by intentional boundary-setting, clarity of communication, and early culture-setting behaviours, consistent with evidence linking role clarity and identity integration to leadership effectiveness (Ibarra et al., 2010).

Conversely, difficulties in this transition were associated with avoidance of difficult conversations, inconsistency in decision-making, and relational strain within teams. These challenges were particularly pronounced for leaders predisposed to conflict avoidance or emotional reactivity, reinforcing the roadmap's emphasis on leadership role transition as a consolidating stage where personality traits and experiential learning intersect with formal authority.

6.5.4 Stage Four: Health leadership impact – staff and patient outcomes

Stage Four conceptualises leadership impact as observable effects on registered nurse experience, workforce stability, and patient safety outcomes. The study's findings demonstrated clear associations between CNM leadership characteristics and RN

experience, retention rates, and medication adverse events, supporting extensive evidence linking leadership behaviour to staff outcomes and safety culture (Cummings et al., 2018; Wong et al., 2013). Qualitative findings highlighted psychological safety as a central mechanism linking leadership behaviour to outcomes. Leaders who respond constructively to error foster environments where staff feel safe to speak up and report near misses, a key determinant of organisational learning and patient safety (Edmondson, 1999; Donaldson et al., 2000). Importantly, the findings caution against interpreting KPIs in isolation. Incident reporting rates may reflect reporting culture rather than true error frequency, reinforcing the need for leadership-informed interpretation of performance metrics (Vogus & Sutcliffe, 2007).

6.6 Integrative synthesis and reflection

Together, the findings support the 'Roadmap to Health Leadership' as a coherent explanatory framework integrating personality science, leadership development, and healthcare performance outcomes. By conceptualising leadership as a developmental trajectory rather than a static style, the framework aligns with contemporary leadership theory and provides a practical lens for leadership development, succession planning, and organisational support within healthcare systems (Day et al., 2014; Cummings et al., 2018).

Part 3: Limitations, conclusions and implications

6.7 Study limitations

The sample comprised 15 CNMs, representing approximately 50 percent of eligible CNMs within the HNZ - Waikato District. Whilst this proportion provides reasonable internal coverage, the absolute sample size limits statistical power and generalisability beyond the study context. Quantitative analyses were therefore interpreted conservatively, with emphasis placed on pattern consistency and triangulation with qualitative findings rather than causal inference.

Collectively, limitations related to sample size, indirect RN perspectives, reliance on a single personality framework, and exclusion of patient personality factors define the boundaries within which the findings should be interpreted. These limitations do not detract from the study's contribution but rather contextualise its conclusions.

6.7.1 Registered Nurse perspective and personality profiling

RN experience was explored indirectly through CNM accounts rather than through direct interviews or surveys. While CNMs provided rich reflections on ward climate and staff experience, the inclusion of RN perspectives would have enabled direct comparison between leadership intent and staff perception. Additionally, personality assessment was limited to the 'Big Five' framework. Although this model offers strong empirical validity, alternative instruments such as DISC profiling may capture complementary leadership-relevant dimensions.

6.7.2 Influence of patient personalities

The study did not explicitly account for patient personality characteristics, which may influence ward dynamics, emotional labour demands, and leadership complexity. Future research may benefit from incorporating patient-level relational factors to further contextualise leadership influence within clinical environments.

6.8 Conclusions

This study examined the relationship between CNM leadership style and personality traits and their association with RN experience, workforce retention, and medication safety outcomes within ward-based healthcare environments. Using a mixed-methods design, the findings demonstrated that leadership effectiveness at the ward level is not attributable to a single leadership style or behavioural competency. Rather, effective leadership emerged through the dynamic interaction of foundational personality traits, experiential development, leadership role transition, and the sustained enactment of leadership behaviours within complex organisational contexts, such as health.

Across qualitative and quantitative phases, conscientiousness and emotional stability consistently emerged as central personality traits underpinning positive leadership outcomes. CNMs demonstrating higher levels of these traits were associated with more positive RN experiences, improved workforce retention, and lower medication-related adverse event rates. However, the study also demonstrated that leadership impact was not determined by personality alone. Personality traits functioned as foundational dispositions that were shaped and moderated by professional experience, reflective capacity, emotional regulation, and organisational environment. This finding challenges interpretations of personality-based leadership models and instead supports a developmental understanding of leadership effectiveness.

The Roadmap to Health Leadership framework synthesised these findings into a coherent conceptual model that advances understanding of CNM leadership beyond static leadership style classifications. By integrating dispositional, developmental, and contextual influences, the framework offers a more nuanced explanation of how leadership effectiveness is constructed and sustained within real clinical environments. In doing so, this study contributes to nursing leadership scholarship by empirically linking CNM personality traits to measurable staff and patient outcomes while also proposing a developmental trajectory through which leadership capability evolves over time

6.9 Implications for practice

The findings underscore the importance of reflective supervision and leadership development approaches that support CNMs to develop insight into their own personality traits, emotional responses, and behavioural tendencies. Leadership effectiveness within ward environments was shown to depend not only on technical management capability, but also on emotional regulation, relational consistency, and the capacity to respond constructively under pressure. These capacities are unlikely to emerge solely through experiential exposure and instead require intentional developmental support.

Structured supervision models that incorporate reflective dialogue, multisource feedback, and facilitated self-awareness may enhance a CNM's ability to recognise how their personality traits influence leadership behaviour, individual RNs and team culture. Integrating emotional regulation strategies, resilience training, and psychologically informed leadership coaching may further strengthen leadership sustainability, particularly in high-acuity and resource-constrained environments. Importantly, supervision should be positioned not as remediation, but as a normative component of professional leadership practice that supports ongoing growth, wellbeing, and safe clinical leadership.

Embedding reflective supervision within organisational leadership structures may therefore represent a key mechanism for improving RN experience, strengthening workforce stability, and indirectly enhancing patient safety outcomes. In this way, the study's findings highlight supervision and self-understanding as foundational elements of effective contemporary nursing leadership rather than optional developmental enhancements

6.10 Policy implications

The findings suggest the potential value of incorporating personality assessment into leadership selection and development processes. Conscientiousness and emotional stability demonstrated meaningful associations with RN retention, staff experience, and medication safety outcomes, indicating that dispositional characteristics may

contribute to leadership effectiveness in measurable ways. However, the ethical and professional implications of personality testing within healthcare employment contexts require careful consideration.

Personality assessment should not function as an exclusionary screening mechanism or deterministic predictor of leadership capability. Instead, when used transparently and interpretively, personality measures may inform tailored leadership development, succession planning, and targeted professional support. Integrating personality insights into developmental conversations may enable organisations to better support emerging leaders, align leadership preparation with role demands, and proactively mitigate risk factors associated with leadership stress and burnout.

Beyond individual leadership assessment, understanding the broader personality composition of clinical teams may offer additional opportunities for strengthening workforce functioning and patient safety. Team profiling approaches can support alignment between leadership characteristics, team dynamics, and clinical context, particularly in high-acuity or emotionally demanding environments where relational functioning directly influences care delivery.

When implemented ethically and collaboratively, team personality awareness may enhance communication, reduce interpersonal conflict, and support psychologically safe team cultures. Such approaches should prioritise developmental insight rather than categorisation, ensuring that profiling tools are used to strengthen teamwork and leadership responsiveness rather than constrain professional identity. Organisational investment in psychologically informed team development may therefore represent a meaningful policy-level strategy for improving both workforce wellbeing and patient care outcomes

6.11 Future research

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This study provides insight into the relationship between CNM personality traits, leadership behaviour, RN workforce outcomes, and medication safety indicators within ward-based healthcare environments. While the findings contribute to nursing

leadership scholarship and offer a developmental conceptualisation through the Roadmap to Health Leadership framework, several avenues for future research emerge that would strengthen, refine, and extend this work.

First, replication across broader organisational and geographical contexts is required to establish generalisability. The present study was conducted within a single district health setting and involved a relatively small proportion of eligible CNMs. Although appropriate for an exploratory mixed-methods design, future research using multi-site or national samples would enable examination of whether the observed relationships between personality traits, RN retention, and medication safety outcomes are consistent across differing service configurations, workforce compositions, and organisational cultures. Comparative international research may also clarify the influence of healthcare system structure on leadership effectiveness.

Second, longitudinal research designs would provide deeper understanding of leadership development over time. The 'Roadmap to Health Leadership' framework proposes leadership effectiveness as a cumulative and developmental trajectory shaped by personality, experience, and role transition. Prospective longitudinal studies following CNMs from pre-appointment through early role consolidation and later career stages would allow examination of how leadership capability evolves, how personality traits interact with experiential learning, and which organisational supports most strongly influence sustained effectiveness and wellbeing.

Third, future research should incorporate the perspectives of registered nurses and multidisciplinary team members more directly. While RN experience and retention were examined through qualitative and quantitative indicators, deeper exploration of staff expectations, perceived leadership behaviours, and alignment between anticipated and actual leadership support would enrich understanding of workforce dynamics. Integrating RN personality characteristics or team-level psychological constructs may also clarify how leader team interactions jointly shape ward culture, resilience, and patient safety outcomes.

Fourth, methodological expansion using advanced quantitative modelling could further elucidate causal pathways. Larger datasets would enable multivariate and structural modelling approaches capable of examining mediating mechanisms such as psychological safety, burnout, workload perception, and reporting culture. Such analyses would strengthen causal inference beyond correlational relationships and support more precise identification of leverage points for leadership development and organisational intervention.

Finally, ethically grounded exploration of personality-informed leadership development warrants further investigation. While this study highlights the potential value of personality awareness in leadership preparation, future research should examine how such approaches can be implemented without reinforcing determinism, bias, or inequity. Intervention-based studies evaluating reflective supervision, coaching, and psychologically informed leadership programmes would provide critical evidence regarding the practical utility of the Roadmap to Health Leadership framework in improving both workforce and patient outcomes.

In summary, future research should move toward larger, longitudinal, multi-perspective, and intervention-focused designs that test and refine the developmental model of CNM leadership proposed in this study. Such work has the potential to advance nursing leadership theory, inform organisational policy, and ultimately strengthen the quality and safety of patient care within complex healthcare systems.

Appendices

Appendix 1: Ethics letter University of Waikato

The University of Waikato
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Roger Moltzen
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THE UNIVERSITY OF WAIKATO
Te Whare Wānanga o Waikato

15 April 2024

Christine Woolerton
DHECS
By email: cw491@students.waikato.ac.nz

Dear Christine

HREC(Health)2024#04 : Study to explore leadership styles amongst charge nurse maqnagers at Te Whatu Ora Waikato

Thank you for your responses to the Committee feedback.

We are now pleased to provide formal approval for your project.

Please contact the Committee by email (humanethics@waikato.ac.nz) if you wish to make changes to your project as it unfolds, quoting your application number with your future correspondence. Any minor changes or additions to the approved research activities can be handled outside the monthly application cycle.

We wish you all the best with your research.

Regards,

Emeritus Professor Roger Moltzen MNZM
Chairperson
University of Waikato Human Research Ethics Committee

Appendix 2: HNZ research registration

Te Whatu Ora
Health New Zealand
Waikato

Research Registration

It is a requirement that all research and audit conducted within Te Whatu Ora Health New Zealand (Waikato) be registered with the Research Office. By registering your project early on, even when it is still at the concept stage, we can assist you with advice and guidance relating to design, contracts, funding, ethics approval and much more. Once you have completed and submitted the registration form (below) you will receive copies of the relevant Waikato Approval of Research Forms. These need to be circulated for the appropriate signatures and returned to us. You will receive a fully signed copy for your project file.

Complete this form and email it to research@waikatodhb.health.nz to commence your registration to us. We endeavour to respond within 2-3 working days. If you have not had a response and you have time constraints on your project please contact us by phone on **(07) 8398899 ext 23589.**

RD024046	**Study to explore leadership styles amongst charge nurse managers at Health NZ Waikato**

Project Personnel

(PI)External PI name:	Professor Matthew Parsons
External PI organisation:	University of Waikato
Mobile phone number:	021753204
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All Waikato Co-Investigators:	Nil
Research Nurse/Co-ordinator:	
Other Waikato contacts:	

Nominate the primary contact person for this research:	Ms Christine Woolerton
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Host Waikato department	Women and Children's

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RD024046 Leadership NM Waikato (Woolerton)

Te Whatu Ora
Health New Zealand
Waikato

Research Registration

Project end date:	01/12/2025
Proposed sample size at Waikato:	Up to 210 staff
Provide a brief plain-English summary of your study including aim and method	**Background** The health system is currently under significant pressure due to a range of multifactorial issues. Pressures on the health system arise from increased demand but also reduced supply, in other words lower staffing resources. During 2021 and 2023, several wards at Waikato Hospital operated with high staff retention and no nursing vacancies, whilst others were the reverse. **Aim** This research study seeks to explore the relationship between Ward Charge Nurse Managers and staff retention as well as ward key performance indicators. This research aims to support future professional development directions using data analytics and modelling to identify optimal journeys and pathways for Charge Nurse Manager professional development. **Methods** This mixed methods study aims to explore the relationship between Ward Charge Nurse Managers leadership style and characteristics and the experience of registered nurses working within the service. More specifically, the research seeks to address the following research questions: (Question 1) What is the relationship between the leadership style of Charge Nurse Managers and the experience of registered nurses within their ward? (Question 2) What is the relationship between the personality type (as assessed by the BIG 5 personality traits survey) of Charge Nurse Managers and registered nurse retention rates within the ward? (Question 3) What is the relationship between the personality type (as assessed by the BIG 5 personality survey) of Charge Nurse Managers and key performance indicators within the ward over a 12 month period? The data collection points are;

Te Whatu Ora
Health New Zealand
Waikato

Research Registration

	• x5 CNM Interviews and testing • X1 Focus group interview • up to 200 online Staff Surveys • Five Ward KPI data sets Interviews and focus groups will last up to 60 minutes and will be semi-structured in nature. Interview and focus group schedule attached. The self-completed online survey will take up to 20 minutes to complete.
Might this study contribute to reducing inequities in health outcomes between Māori and other New Zealanders?	☐Yes ☒No Please explain why or why not: This study aims to support Ward Charge Nurse Manager professional development, with no direct correlation to reducing health inequities at this stage.
Co-design: Have stakeholders been engaged in the design or development of this project?	*Stakeholders can be institutions, communities or individuals. Conversations with Māori stakeholders are appropriate for researchers working alongside Māori participants* ☐Yes ☐No ☒Not applicable
Will your study require input from Clinical Support Services? (above normal standard of care) (select all applicable)	☐Laboratory ☐Pharmacy ☐Radiology ☐Medical Records ☒Clinical Coding / Business Analyst ☐None
Will your study involve the use of equipment, device or product that is not currently approved for purchase/ use at Waikato?	☐Yes ☒No
Enter a list of keywords:	Leadership OR personality traits OR staff retention OR psychology OR health environments OR Quality Or Conscientiousness OR Agreeableness OR Neuroticism Or Openness OR extraversion OR impulsive OR disorganised OR disciplined OR careful OR suspicious OR uncooperative OR trusting OR helpful Or calm OR confident OR anxious OR pessimistic OR practical OR imaginative OR spontaneous OR reserved OR thoughtful OR sociable OR fun-loving OR environment Or nature OR nurture Nursing -education AND Nursing –leadership OR skills AND

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Research Registration

	Professional development OR Training OR upskill AND Charge Nurse Manager

Cultural Considerations

% of Māori with condition of interest	*Please provide some information on the prevalence of the condition of interest.* N/A
What are your plans for recruiting Māori?	*Specifically, if this is an area where we may be able to reduce inequity, how will you encourage Māori participants to take part?* Currently there are no plans in place to actively recruit Maori participants. The primary focus is on developing tools that support insight into leadership behaviours that support the nursing leadership workforce, with a secondary consideration that improved staff retention will support reducing health disparities and promoting equity in healthcare outcomes
Is ethnicity a variable in your study? (Māori c.f. non-Māori)	*Researchers are asked to use the NZ Census question to collect ethnicity and to include ethnicity statistics in their research report to Waikato on completion.* ☒Yes ☐No
Will your study involve collecting tissue samples?	*Includes blood, urine and tissue samples* ☐Yes ☒No

Ethical Considerations / Privacy / Data Management

What benefits do you expect the study to provide?	Research repeatedly highlights the leadership qualities associated with successful leaders. However, up to 50 percent of nursing staff leave their employer within two years and cite sub-optimal management as a main contributing factor. Improving the quality of nursing leadership of Waikato hospital is a key requirement as it competes in a constrained market to attract and retain staff whilst maintaining quality patient outcomes. Outcomes from this study will be used to inform future professional development of Charge Nurse Managers.
What risks do you expect the study to pose and how will you minimise expected risk?	There are no risk expected at this point. All interview participants are senior health professionals and are fluent in English. The interviewer will act professionally at all times and will demonstrate successful commitment to the successful conduct of the meeting. In the unlikely event that the participant becomes distressed

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	during the interview, they will be encouraged to discuss the matter with their line manager (if appropriate) or access the Employer Assistance Programme offered through Health NZ Te Whatu Ora Waikato Human Resources. This information is included in their participant information sheet and consent
Briefly explain how your study will contribute to new knowledge and improve health outcomes?	The aim is to help inform the future direction of Charge Nurse Manager professional development. It also seeks to provide insight into key aspects of Charge Nurse Manager personality traits which supports staff retention. We invest significantly in staff when they are new to the organisation, staff retention is liked to improving health outcome through increased skill acquisition.
How will Waikato patients' clinical information be accessed?	☐Paper records already on the ward/unit (current patients) ☐Paper records requested via Medical Records department ☒Electronic data extract already within the department ☐Electronic data extract requested via Business Information (list of NHIs or full data set) ☐Other ☒No specific patient clinical information will be accessed.
Is the information identifiable to you, the researcher?	☒Yes ☐No
If identifiable, will consent be sought?	☒Yes ☐No
Will identifiable information be shared with an outside organisation?	☐Yes – who? ☒No
Where will information generated by this research project be stored?	☐ Te Whatu Ora / Health NZ servers/computers in NZ ☒University servers/computers in NZ ☐Overseas University services/computers ☐Other organisations / the cloud / overseas
What will happen to the data after the study?	*(Will it be only used for this study; used in a further study; added to a registry)*

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	The data will be stored by the supervisor (M Parsons). This will be on the university of Waikato OneDrive that is encrypted and backed up. The paper data will be scanned and the paper copies shredded. The scanned data will be given to the supervisor for safe storage in his One drive that is encrypted and backed up. This will store for a minimum period of 5 years after study completion. The data will then be destroyed as per University of Waikato policy.
Data Security : Explain all measures taken to preserve the confidentiality of the patient information.	*Describe how any collected data will be kept safe, who will have access to the data, how long he data will be stored for and who will be responsible for ensuring policies and ethical standards are met for storage, transfer, retention and destruction of data (paper/electronic files/video/audio).* This system is password protected for security and has up to date virus protection. Electronic data on personal computers will be deleted once data back up on the universities encrypted system.

Ethics, Regulatory Approval & Funding Details

What type of ethics approval will/has been sought? (delete those not applicable)	☐Health & Disability Ethics Committee (HDEC) review ☒Non-HDEC review (e.g. university ethics committee) ☐No ethics review is required ☐Not sure
Is SCOTT/Other approval being sought?	☒No ☐Yes, please list:
Is this study funded? (select those applicable)	☐Commercial Contract ☐Research Grant (HRC, WMRF etc.) ☐Collaborative ☒Funded from Waikato Health Trust Funds -HWFNZ ☐Non Funded
If the project involves fund sources external to Waikato	*Please enter name of organisation(s) providing funding* N/A
Will Waikato be a signatory for any funding contract(s)	☐Yes, there will be Waikato contracts for this project ☒No, contracts will not be signed by Waikato
Current status of this project and any other information:	• HRECA approval gained from University of Waikato HREC(Health)2024#04 • HWFNZ Funding approved for tertiary study

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	• Approval letter attached

Management and Resource Sign-offs

This study does not require HDEC review.

Locality Review – *the undersigned agree to the following statements:*

- The study protocol and methodology are ethical and scientifically sound.
- This researcher has identified that this study does not require Health & Disability Ethics Committee (HDEC) review.
- The local lead investigator is suitably qualified, experienced, registered and indemnified.
- Resources, facilities and staff are available to conduct this study, including access to interpreters if requested.
- Cultural consultations have occurred or will be undertaken as appropriate
- Appropriate confidentiality provisions have been planned for.
- Appropriate arrangements are in place to notify other relevant local health or social care staff about the study, and for making available any extra support that might be required by participants, where relevant.
- Conducting this research will have no adverse effect on the provision of publicly funded healthcare.
- There is a stated intent that the results of the study will be disseminated and where practical and appropriate the findings of the study will be translated into evidence based care.

Clinical Support Services Sign-offs

CROSS OUT/ADD SIGN-OFFS APPLICABLE TO THIS PROJECT

SIGNATORIES DECLARATION: We agree that appropriate resources are available in our service to support this project

Clinical Support Service	Name	Signature	Date signed
~~Pharmacy~~	~~Rajan Ragupathy~~		
~~Pharmacy~~	~~Julie Vickers OR Jan Goddard~~		
~~Laboratory~~	~~Kay Stockman~~		
~~Radiology~~	~~Leigh Harvey~~		

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~~Medical Records~~ ~~Denise Jon~~

Department/Service Sign-off

Dept/Service /Org	Role	Name	Signature	Date signed
As Director / Executive Director, by signing this I confirm: • All costs incurred by Waikato Unit/Service in regard to the research project are included in an approved research budget (including those costs which will be incurred by contributing units, eg laboratory). For studies involving researcher time only, the researcher has the time to undertake the study. • Research is not commenced until all required approvals have been obtained.				
Women's & Child Health	Director	Cath Anderson	Cmerson	1/05/2024
Hospital & Specialty	Group Director Operations	Michelle Sutherland	Sutherland	10/05/2024
Nursing & Midwifery	Chief Nursing & Midwifery Officer	Sue Hayward	NOEL WATSON ACTING CN&MO	09/05/24
Te Puna Oranga	Māori Research Review Ctte	Nina Scott	*See attached letter*	N/A

Please return to the Research Office (via Sarah Brodnax, Level 2 Hockin) along with required documents as identified in the checklist for final approval.

Office use only:

Quality & Patient Safety, Waikato

It is the responsibility of the Director of Quality & Patient Safety or Chief Medical Officer to ensure that the research approval process has been followed, that required internal and external approvals are evident and that the research project fits within the strategic direction of Waikato.

Signature: Margaret Fisher **Date:** 24/05/2024

Name: MARGARET FISHER **Position:** CMO

Appendix 3: CNM interview questions

PROJECT TITLE: STUDY TO EXPLORE LEADERSHIP STYLES AMONGST CHARGE NURSE MANAGERS AT TE WHATU ORA WAIKATO

Researchers: Christine Woolerton [Principal Investigator],
Professor Matthew Parsons [Supervisor and Interviewer]

THE UNIVERSITY OF WAIKATO
Te Whare Wānanga o Waikato

This research aims to support future professional development directions using data analytics and modelling to identify optimal journeys and pathways for Charge Nurse Manager professional development.

Questions for interviews with Charge Nurse Managers following BIG 5 personality testing:

REMINDER: THIS IS AN INTERVIEW WITH XXXX ON DATE BY .....

QUESTIONS	PROMPTS
Could you please tell me what your understanding is of the role of the Ward Charge Nurse Manager (CNM)?	• Ask about what they think the vision of CNM is • How does it fit in with Waikato Hospital strategic direction? • What are the outcomes that the health professional is seeking?
How would you describe your overall personality	• What adjectives would you use? • Most prominent traits?
Thinking about supporting staff, what role do you think you have in relation to this?	• What is your role? • How are your skills utilised? • How do you know? • How do you extend the knowledge and skill of staff to care for patients?
How do you as a leader contribute towards a positive ward environment that supports staff retention and quality outcomes?	• How do you handle stress? • Are there examples of when your personality traits have helped resolve conflict?
From your experience, what changes would you suggest should be included in charge nurse manager professional development programmes?	• Any improvements that you would like to be seen incorporated?
Have there been any challenges working within your ward? If so, can you tell me about them?	• Personal and professional

Appendix 4 'Big 5' questionnaire

PROJECT TITLE: **STUDY TO EXPLORE LEADERSHIP STYLES AMONGST CHARGE NURSE MANAGERS AT TE WHATU ORA WAIKATO**

Researchers: Christine Woolerton [Principal Investigator],
Professor Matthew Parsons [Supervisor and Interviewer]

THE UNIVERSITY OF WAIKATO
Te Whare Wānanga o Waikato

Rating	Test	Rating	Test
	1. Am the life of the party.		2. Feel little concern for others.
	3. Am always prepared.		4. Get stressed out easily.
	5. Have a rich vocabulary.		6. Don't talk a lot.
	7. Am interested in people.		8. Leave my belongings around.
	9. Am relaxed most of the time.		10. Have difficulty understanding abstract ideas.
	11. Feel comfortable around people.		12. Insult people.
	13. Pay attention to details.		14. Worry about things
	15. Have a vivid imagination.		16. Keep in the background.
	17. Sympathize with others' feelings.		18. Make a mess of things.
	19. Seldom feel blue		20. Am not interested in abstract ideas
	21. Start conversations.		22. Am not interested in other people's problems.
	23. Get chores done right away.		24. Am easily disturbed.
	25. Have excellent ideas		26. Have little to say.
	27. Have a soft heart.		28. Often forget to put things back in their proper place.
	29. Get upset easily.		30. Do not have a good imagination.
	31. Talk to a lot of different people at parties.		32. Am not really interested in others.
	33. Like order.		34. Change my mood a lot.
	35. Am quick to understand things.		36. Don't like to draw attention to myself.
	37. Take time out for others.		38. Shirk my duties.
	39. Have frequent mood swings.		40. Use difficult words.
	41. Don't mind being the centre of attention.		42. Feel others' emotions.
	43. Follow a schedule.		44. Get irritated easily.
	45. Spend time reflecting on things.		46. Am quiet around strangers.
	47. Make people feel at ease.		48. Am exacting in my work.
	49. Often feel blue.		50. Am full of ideas

PROJECT TITLE: **STUDY TO EXPLORE LEADERSHIP STYLES AMONGST CHARGE NURSE MANAGERS AT TE WHATU ORA WAIKATO**

Researchers: Christine Woolerton [Principal Investigator],
Professor Matthew Parsons [Supervisor and Interviewer]

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E = 20 + (1) ___ - (6) ___ + (11) ___ - (16) ___ + (21) ___ - (26) ___ + (31) ___ - (36) ___ + (41) ___ (46) ___ = _____

A = 14 - (2) ___ + (7) ___ - (12) ___ + (17) ___ - (22) ___ + (27) ___ - (32) ___ + (37) ___ + (42) ___ + (47) ___ = _____

C = 14 + (3) ___ - (8) ___ + (13) ___ - (18) ___ + (23) ___ - (28) ___ + (33) ___ - (38) ___ + (43) ___ + (48) ___ = _____

N = 38 - (4) ___ + (9) ___ - (14) ___ + (19) ___ - (24) ___ - (29) ___ - (34) ___ - (39) ___ - (44) ___ - (49) ___ = _____

O = 8 + (5) ___ - (10) ___ + (15) ___ - (20) ___ + (25) ___ - (30) ___ + (35) ___ + (40) ___ + (45) ___ + (50) ___ = _____

The scores you calculate should be between zero and forty.

Below is a description of each trait.

- **Extroversion (E)** is the personality trait of seeking fulfilment from sources outside the self or in community. High scorers tend to be very social while low scorers prefer to work on their projects alone.

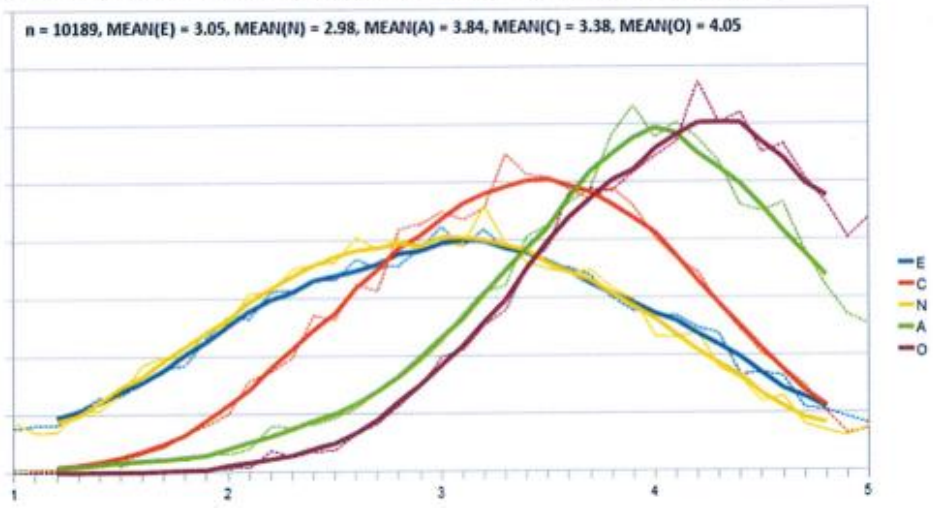
- **Agreeableness (A)** reflects much individuals adjust their behaviour to suit others. High scorers are typically polite and like people. Low scorers tend to 'tell it like it is'.

- **Conscientiousness (C)** is the personality trait of being honest and hardworking. High scorers tend to follow rules and prefer clean homes. Low scorers may be messy and cheat others.

- **Neuroticism (N)** is the personality trait of being emotional.

- **Openness to Experience (O)** is the personality trait of seeking new experience and intellectual pursuits. High scores may day dream a lot. Low scorers may be very down to earth.

Below is a graph of how other people scored when test was offered on the internet.



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