Determinants of registered nurses' career choices

Studies from Norwegian health care organizations

by

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Summary

This thesis consists of three papers that aim to increase our knowledge of the determinants of registered nurses' career choices in the health care sector. In order to deliver services of high quality, health care organizations are dependent on a well-trained workforce of adequate size. The shortage of registered nurses will increase during the next decades, causing growing concern about recruitment and retention. In Norway, there are identified challenges related to management, recruitment, mobilization, retention and competence within health care organizations. Based on practical challenges experienced by health care organizations, this thesis aims to contribute with knowledge on determinants associated with registered nurses' aspiration to become managers, intention to leave and career choices in-home care services.

Traditionally, the choice of occupation was associated with a linear career path within one organization. Nowadays, careers are increasingly dynamic, and employees are not bound to their initial occupation or organization. Career choices are a recurring issue throughout employees' careers, and they need to choose what type of organization to work in, type of employment, form of employment and the continuity of employment. Careers have primarily focused on people's agency and ability to shape their careers, bringing organizations more to the background. Although registered nurses own their careers, careers imply context, and organizations play an important role in employees' careers through policies and practices.

Managers have an important impact on nurses' work environment, job satisfaction and careers. Previous studies suggest that registered nurses enter management positions due to feelings of pressure from significant others, and intrinsic factors such as autonomy, new challenges and making a difference. However, there is limited knowledge of registered nurses' motivation for entering a management position and a call for

more studies to expand the knowledge of drivers and barriers in the recruitment and development of nurse managers.

Health care organizations experience a high turnover of registered nurses, which is a risk to patient safety and costly from an economic perspective. The number of nurses who leave their organization or profession concerns health care managers and politicians, as accessible health care of high quality requires a sufficient workforce of registered nurses. Although numerous studies have tried to explain registered nurses' intention to leave, there are still gaps in the literature and a need for more research.

The demand for registered nurses in health care is highly dependent on the ageing of the population. In the years to come, there is expected to be a significant increase in older people and people receiving nursing care in their homes. In Norway, municipalities are responsible for providing home care services; however, they experience recruitment challenges and need registered nurses with sufficient competence. There are few empirical studies on registered nurses' career choices in-home care services, and this thesis aim to add to this knowledge.

My overall research aim of this thesis is to contribute with knowledge of determinants associated with registered nurses' aspiration to become managers, intention to leave and career choices in home care services. The three papers of this thesis address the following research aim: 1) To examine determinants (job demands and job resources) that influence registered nurses' aspirations to become a manager. 2) To examine the association between supervisor support and ethical dilemmas on registered nurses' intention to leave, and the mediating role of meaning of work. 3) To explore how contextual and individual factors influence registered nurses career choices in home care services.

The first paper is titled "Making a Career in Hospitals: Determinants of registered nurses' Aspirations to Become a Manager." It analyses gender, age, social support of an immediate supervisor, competence development, autonomy, workload, and institutional stress influencing

registered nurses' aspiration to become a manager. Papers 1 and 2 use data from a cross-sectional survey distributed to all employees in one of four regional health authorities in Norway. This paper advances knowledge by showing that the aspiration to take on a managerial role depends on demographic factors and nurses' experience with work characteristics in their current position.

Paper 2 is titled "The Association of supervisor support and ethical dilemmas on Nurses' Intention to Leave: the mediating role of the Meaning of Work." High levels of prosocial motivation often characterize nurses and are considered a reason why they chose the profession. The anticipated increase in demands for nursing care and increased shortage of nurses may cause an increase in nurses' experience of ethical dilemmas and affect their meaning of work. So far, there is relatively little research conducted on the role of ethical dilemmas and the meaning of work for registered nurses' intention to leave. As the title indicates, this paper contributes with knowledge on the association of supervisor support and ethical dilemmas on nurses' intention to leave specialist health care and the mediating role of the meaning of work. The paper contributes to nursing management research by providing knowledge and implications for retaining registered nurses.

Paper 3 is a qualitative study titled "Understanding registered nurses' career choices: a qualitative study on Nurses' Career in home care services." This article explores what influences registered nurses' career choices in-home care services, such as starting or leaving home care services, changing work hours, taking a specialization, working part-time or full-time, or becoming a resource nurse. The paper uses individual semi-structured interviews with 20 home care nurses from a medium-sized municipality in Norway. Compared to the two first papers, this paper contributes with a more detailed understanding of how individual needs and contextual demands are dynamic and how registered nurses make changes over time to improve person-environment fit.

All three papers emphasize the importance of the social support of an immediate supervisor for the studied career choices. The immediate

supervisor is crucial in how workers consider their work environment, as they can control politics, goals, rewards and perceived fairness. Paper 3 shows how line managers can positively and negatively affect nurses' career choices by being supportive, inspiring, encouraging, or causing frustration and exhaustion. Many nurses enter management positions with little training, and managers in the health care sector generally have a high span of control. The findings suggest that health care organizations should implement practices that support managers, such as mentoring, training and development programs emphasizing supportive leadership. Further, health care organizations should ensure that front-line managers have conditions to exercise supportive leadership.

Further, the findings highlight the importance of the meaning of work, high workload, and ethical dilemmas for nurses' career choices. Contrary to what we hypothesized, nurses who experienced institutional stress reported an aspiration to become a manager, suggesting that this demand may be a challenging demand. Nurses may proactively want to become managers to change the operation of departments and the hospital's policies and practices. Job resources and demands seem to act as push or pull factors for nurses' career choices. Some career transitions are made out of intrinsic motivation towards a new position that provides a better opportunity for satisfying basic psychological needs. Health care organizations should be especially aware of creating a work environment that prevents those career choices that could be an 'escape' from work characteristics such as undesirable ethical dilemmas, time pressure, and heavy workload. Considering the anticipated growth in the number of older people and the shortage of nurses, the demands will likely not decrease in the future. Health care organizations should therefore find ways to support nurses in handling high demands at work, such as enabling voice, encouraging staff involvement and training. Further, aligning work with nurses' interests, values, and strengths can support the meaning of work.

At last, the results illustrate the importance of multiple stakeholders, unexpected events and personal and contextual factors for nurses' career choices over time. Gender and age relate to career choices, such as the

desire to specialize or become a manager. There is a majority of women in the nursing profession, and the results demonstrate how female nurses adjust their work situation to balance family and work, especially in some stages of life. Another important finding is the role of unexpected events caused by factors outside nurses' control, such as the offer of a job or place of clinical practice. These findings support the view of careers as unpredictable and complex and supporting theories bringing the context and unexpected events back into the study of careers.

Table of Contents

List of Tables

Part I

1   Introduction

1.1   The Norwegian health care context

The context of the studies in this thesis is Norway. Data were collected from public health enterprises and a pharmacy trust in one of four regional health authorities in Norway, and registered nurses in home care services in a medium-sized municipality. The overarching aim of this thesis is to contribute with knowledge of determinants associated with registered nurses' aspiration to become managers, intention to leave and career choices in home care services.

The Norwegian health care system scores well on health indicators and offers a range of high-quality public health care services (Sperre Saunes et al., 2020). However, the concerns about recruitment and retention of nursing staff are growing. In 2022 there was a registered shortage of 5 900 nurses and 600 specialized nurses in Norway (Myklathun, 2022). The shortage of Registered Nurses (RNs) will increase during the next 10 years (WHO, 2020). Statistics Norway has presented forecasts for the supply and demand of health care personnel since the mid-1990s. The number of registered nurses in the health care sector is expected to rise from about 81 000 man-years in 2019 to 103 000 in 2040 (Jia et al., 2023). The demand for nurses in 2040 is projected to reach around 133 000 man-years in health and care services, which gives a shortage of 30 000 man-years unless the educational capacity increases or the government succeed in increasing the supply of nurses in other ways (Jia et al., 2023). The demographic changes put the health care sector in a difficult situation in securing enough registered nurses. The government has presented several health care reforms and policies to solve these challenges (Kirchhoff et al., 2019), such as the Coordination Reform (Meld.St.47, 2008-2009), Regulation on Management and Quality Improvement in the health services (Helsedirektoratet, 2017), Action plan for Patient Safety and Quality Improvement 2019-2023

(Helsedirektoratet, 2019), "Competence Plan 2025" (K2025, 2022), National Health and Hospital Plan 2020-2023 (Meld.St.7, 2019-2020) and Commission of Health personnel (NOU, 2023).

Norway has a nationalized health care system founded on the principle of universal access to services for all inhabitants, regardless of people's age, race, gender, geographical location and economic status (Meld.St.7, 2019-2020). National and municipal taxes mainly finance the health care system in Norway. The national government has the overall managerial and financial responsibility for specialist care, which is delivered through four regional health authorities (RHAs). Specialized health care is responsible for the provision of both somatic and mental health care, specialized drug treatment, ambulant services, and other specialized medical services (Sperre Saunes et al., 2020). The health trusts and RHAs are independent legal entities. However, they receive budgets and annual instruction on aims and priorities from the Ministry of Health and Care Services. The municipalities have the organizational and financial responsibility for primary health care services. Similarly to other Nordic countries, Norwegian municipalities are responsible for providing primary health care services, which include home care services, nursing homes, municipal emergency care units, intermediate care, the provision of GPs and preventive services (Sperre Saunes et al., 2020). The local authorities have the autonomy to decide the organization of community services but shall provide care in accordance with quality requirements set by the Director of Health.

In 2017, the Regulation on Management and Quality Improvement was introduced in the Norwegian health care sector (Helsedirektoratet, 2017). The reform focuses on continuously developing the capacity of health care organizations to improve quality and safety. This includes that the health care organizations must ensure that they have health care personnel with the necessary competence through strategic planning, recruitment of competence, and ensuring that all employees receive sufficient training and education during their careers (Helsedirektoratet,

2019). In 2019, the Office of the Auditor General's investigated recruitment challenges within the health enterprises (Riksrevisionen, 2019). According to their assessments, 1) the health care institutions have major challenges in recruiting, mobilizing and retaining nurses, midwives and specialist nurses. 2) Staffing challenges affect how employees perceive the quality of patient care. 3) The health institutions do not make good enough arrangements to mobilize and retain nurses, midwives and specialist nurses. 4) The regional health organizations do not facilitate well enough to ensure the recruitment of nurses, midwives and specialist nurses. Similarly, within primary health care services, it has been identified challenges related to management, recruitment, competency and responsibilities assigned to various professional groups (Meld.St.26, 2014-2015). This means that health care organizations have the potential for improvements in influencing registered nurses' attitudes and behaviour.

In 2021-2022 the external turnover for registered nurses was 13,9 % in municipalities, which is a slight increase from previous years (KS, 2023). In 2019, external turnover for registered nurses in the specialist health care sector was 8%; however, external turnover at hospital wards was 12% (Riksrevisionen, 2019). Ten years after graduating with a bachelor's degree, one in five nurses has left health care services in Norway (Skjøstad et al., 2017). A high number of nurses in the health care sector work part-time and retire early, which is often associated with the physical and psychological strain of the occupation (K2025, 2022; Riksrevisionen, 2019). This is a concern for politicians and healthcare managers, as accessible health care requires a sustainable workforce of nurses that work full-time until a later age.

Demands for nurses in health care are highly dependent on the ageing of the population (Jia et al., 2023), and Norway has among the highest life expectancy in Europe (Sperre Saunes et al., 2020). Population projections show that from 2022 to 2060, the number of people over 70 years is expected to almost double in Norway (Thomas & Tømmerås,

2022). A significant increase in people receiving nursing care in their own homes is expected in the years to come (Jia et al., 2023). The municipalities have received increased responsibility for meeting the growth in demand for health services from an ageing population (Meld.St.47, 2008-2009) and the National Health and Hospital Plan 2020-2023 directs increased focus on patients receiving more specialist health services in their own homes. Research supports this development and finds that registered nurses in home care services provide care to sicker patients with more complicated diagnoses (Fjørtoft et al., 2020; Melby et al., 2018). There is however identified a lack of registered nurses with sufficient competence in primary health care services (Vatnøy et al., 2020) and increased recruitment challenges of registered nurses (KS, 2023).

Since 2015 there have been introduced several long-term action plans to ensure a sufficient number of workers with the right health care expertise. "Competence Plan 2025" is the third action plan for skill development, recruitment and professional development in primary health care services (K2025, 2022). The plan includes around seventy measures, such as funding of National management training for primary health care services, financial support for further education of employees and funding of a project for increased recruitment of men in the health and care services. In the National Health and Hospital Plan 2020-2023 health care organizations shall prioritize nurses in the work to ensure sufficient personnel with the necessary and correct competence (Meld.St.7, 2019-2020). This reflects the need for more knowledge of the determinants of registered nurses' career choices.

1.2 Background

This thesis consists of three papers that aim to contribute with knowledge of determinants associated with registered nurses' aspiration to become managers, intention to leave and career choices in home care services. The three career choices studied in this thesis have been chosen on the

basis of practical challenges experienced by health care organizations. Expanding knowledge about registered nurses' career choices is important for several reasons. First, recruitment challenges are experienced in attracting clinical employees to a management position (Helsedirektoratet, 2021; Spehar, 2015). Previous research has identified the critical role of nurse managers' influence on the work environment, turnover rates and patient outcomes (Lavoie-Tremblay et al., 2016; Morsiani et al., 2017; Titzer et al., 2014; Townsend et al., 2015), something that highlights the importance of a greater understanding on driver and barriers in the recruitment of nurse managers.

Second, high turnover among nurses who leave their profession or occupation is a potential risk to patient safety (Halter et al., 2017), and from an economic perspective, high turnover among nurses who leave their clinical jobs or profession is costly as it is expensive to educate and replace experienced nurses (Duffield et al., 2014; Halter et al., 2017). This challenges the health care system in terms of sustainability, as health care requires a well-trained and well-motivated nurse workforce of adequate size.

Third, in response to the abovementioned context of the health care sector, there will be considerable pressure on health care organizations to secure a qualified workforce of registered nurses in the years to come. Especially primary health care services experience challenges with the recruitment of registered nurses and securing the right competence among employees (K2025, 2022; KS, 2023; Vatnøy et al., 2020). This highlights the importance of extended knowledge of factors influencing registered nurses' career choices in home care services to increase the knowledge on how to recruit, develop and retain them in health care.

Fourth, the recruitment challenges within health care, and the pressing demographic challenges highlight the importance of health care organizations working strategically to secure a qualified workforce of registered nurses. This questions how health care organizations can

5

manage their human resources to provide high-quality services to all inhabitants. How health care organizations manage registered nurses in terms of human resource management (HRM) is crucial in the work to attract, develop, motivate and retain them. Human resource management (HRM) includes "anything and everything associated with the management of employment relations in the firm" (Boxall & Purcell, 2000, p. 184). Health care organizations need to have a clear understanding of what factors aspire and influence registered nurses' career choices to initiate and stimulate such actions.

The word career comes from the Latin carraria, which means a road or carriage-road (Gunz & Peiperl, 2007). Many definitions of a career exist in the literature, and career definitions have evolved throughout time (Sullivan & Baruch, 2009). An established definition of career is "the evolving sequence of person's work experiences over time" (Arthur et al., 1989, p. 8). Research on careers and factors shaping careers takes place in several disciplines, such as psychology, management, economics, sociology and organizational studies (Anderson et al., 2020; Gunz et al., 2020). A large number of constructs, theories and mechanisms are used to describe internal and external factors shaping careers (Anderson et al., 2020; Heslin & Latzke, 2020). Examples are such as gender, age, personality, needs, values, personal goals, career capital, self-efficacy, outcomes expectations, family, colleagues, leisure, occupational norms, and market forces (Wang & Wanberg, 2017). Although careers are studied by different disciplines, three themes seem to be central for careers; a career actor, context and time (Gunz et al., 2020).

Societal changes like increased cross-national mobility, increased workforce diversity and rapid technological advancements have changed the traditional organizational structures and the employer-employee relationship (Sullivan & Baruch, 2009). Traditionally, the choice of an occupation was associated with a linear career path within one organization (Sullivan & Baruch, 2009). Until the 1980s, research on

career management focused on predictors and outcomes of career choice and career interests and matching people's career interests with the right vocational choice (Wang & Wanberg, 2017). Nowadays, careers are increasingly dynamic, and employees are not bound to their initial occupation or organization (Lawrence et al., 2015). Employees can make several career choices over time and adjust to external influences (De Vos & Van der Heijden, 2015). Careers choices are not just the choice of an occupation but are considered a recurring issue throughout employees' careers where they need to make choices such as what type of organization to work in, type of employment, the form of employment and the continuity of employment (De Vos et al., 2019).

In the Norwegian labour market today, there is a high percentage of women (NOU, 2023), and many female nurses choose to work part-time in order to balance family and work (Abrahamsen et al., 2012; Haugland & Reime, 2020; Ingstad & Hedlund, 2017). Due to the shortage of registered nurses, there is a growing trend in employing temporary travel nurses (Berg Jansson & Engström, 2017) and health care personnel with foreign education or immigration backgrounds make an important contribution to Norwegian health and care services (NOU, 2023). Within the nursing profession, most newly graduated nurses prefer to work in specialist health care services (Skjøstad et al., 2019) instead of primary health care (Fredheim, 2018; Kloster et al., 2007). However, the likelihood of working within municipal health and care services increases with time (Abrahamsen, 2019; Larsen et al., 2012), illustrating how registered nurses change organizations along their life course and that careers have become more boundaryless.

Several new career models have addressed changes in the world of work. The protean careers (Hall, 1996) suggest that individuals should manage their careers guided by personal values rather than making career decisions based on organizational values or demands (Sullivan & Baruch, 2009). Individuals can achieve subjective career success through self-directed and value-driven career management (Briscoe et al., 2006),

7

and shape their careers and remain employable through adaptability and agency (Clarke, 2013; Hall et al., 2018). Similarly to protean careers, boundaryless careers emphasize people's agency (Arthur, 1994; Arthur & Rousseau, 1996). Boundaryless careers are less stable, not orderly sequenced, and employees are independent and can move between jobs and organizations (Arthur, 1994; Arthur & Rousseau, 1996). A person with a boundaryless mind-set seeks opportunities and resources outside their employer, such as external professional networks. Psychological mobility and physical mobility are central attitudes and refer to a desire for variety and working with people across one own organization and an attitude to move between employers, jobs, occupations and locations (Sullivan & Arthur, 2006). The Kaleidoscope career model (Mainiero & Sullivan, 2005) emphasizes how personal interests and values change over time and how individuals search for the best fit between work and non-work demands (Mainiero & Sullivan, 2005).

All these career frameworks emphasize personal agency, and the responsibility for managing one's career has shifted from the organization to the employees (De Vos et al., 2009). Individuals should make career choices based on their own values, needs, and interests. This has brought the organization more to the background (De Vos et al., 2020). However, careers require a context, and the organization plays a central role (Clarke, 2013; Gunz et al., 2020). In recent years, the organizational and societal context has been brought back into the career literature (Akkermans & Kubasch, 2017; Callanan et al., 2019; De Vos et al., 2020). By only focusing on the individual actor, one risks not recognizing employees' careers as an organizational concern and the strategic function employees have for organizations (Anderson et al., 2020). Registered nurses' career choices, like working part-time, leaving health care or pursuing a career in management, have important consequences for health care organization's ability to provide quality care. At the same time, health care organizations affect the careers of registered nurses through training and development practices, work-life

balance support and performance appraisal. In health care, HRM practices have been associated with registered nurses' work engagement (Jose et al., 2022; Sheehan et al., 2023), quality of care and safety (Shantz et al., 2016), commitment (Renkema et al., 2021; Ruiller & Van Der Heijden, 2016), sickness absence (Vermeeren et al., 2014) and intention to leave (Guest & de Lange, 2020).

In this thesis, the Job Demand-Resource (JD-R) theory is used as a theoretical framework for understanding the consequences of registered nurses' experience of job characteristics for their career choices. The JD-R theory is a job design theory becoming a central framework for the explanation and understanding of organizational factors and their effects on employees' job performance through work engagement and burnout (Bakker & Demerouti, 2014; Bakker et al., 2023). Central to the JD-R theory is that the two work characteristics categories, job resources and job demands relate to employees' experience of motivation and strain reactions and that every occupation has its specific working characteristics (Bakker & Demerouti, 2017). Among the Norwegian working population, registered nurses are the professional group that most frequently reports high job demands and low job control (STAMI, 2021). Sickness absence among employees in home care services is almost twice as high compared to the general working population, and one of two states that the sickness absence is related to work (STAMI, 2023).

The JD-R theory has been valuable in the understanding of employees' burnout and work engagement (Bakker et al., 2023). Burnout refers to a syndrome of work-related negative experiences, including feelings of exhaustion and disengagement from work (Bakker et al., 2004, p. 84). Previous studies have linked job burnout to job-related outcomes such as absenteeism, depersonalization and turnover (Bakker et al., 2023). Work engagement is defined as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74). Previous studies have linked job

engagement to job-related outcomes such as job performance, extra role performance, job commitment and job satisfaction (Bakker et al., 2023). Although work engagement is a highly popular research topic, its association with different career related outcomes has largely been ignored (Hakanen et al., 2021). Previous reviews have related work engagement to employees' subjective career success (Ng & Feldman, 2014) and career outcomes such as career commitment, satisfaction and turnover intentions (Lee et al., 2016). In a recent longitudinal study, Hakanen et al. (2021) found that work engagement positively predicted moves in occupational ranking, future wages, and negatively predicted unemployment and disability pensions. Their results supported that work engagement has career-related consequences and contributed to the JD-R theory by illustrating the potential of broader outcomes of work engagement (Hakanen et al., 2021). To our knowledge, no study has investigated aspirations to become a manager based on the JD-R framework. This thesis theoretically contributes to the JD-R theory by expanding the potential career related outcomes of the motivational process suggested by the theory. Further, this thesis contributes to the JD-R theory by increasing the understanding of how job demands and job resources may act as push or pull factors for registered nurses' career choices.

Although the organization may be a central actor in registered nurses' career choices, other contextual factors such as private life, educational systems and clinical practice are also found to shape registered nurses' future career choices (Bloomfield et al., 2018; Calma et al., 2019; Husebø et al., 2018; Kloster et al., 2007). The JD-R theory is a job design theory which assumes that how organizations are designed and managed is important for employees' performance and well-being. Although increased research on the JD-R theory has incorporated the role of home resources and demands (Bakker et al., 2023), to fully understand what influenced registered nurses' career choices in home care services, we used insights from the sustainable career perspective that emphasizes the

importance of the person, context and time (De Vos & Van der Heijden, 2017). Sustainable careers have been defined as "sequences of career experiences reflected through a variety of patterns of continuity over time, thereby crossing several social spaces characterized by individual agency, herewith providing meaning to the individual" (De Vos & Van der Heijden, 2015, p.7). Something that is sustainable is characterized as something that can last for a long time without being depleted or destroyed, and indicators of sustainable careers are happy, healthy and productive workers (De Vos & Van der Heijden, 2015).

The sustainable career perspective elaborates on existing career models such as the protean careers (Hall, 1996), the boundaryless careers (Arthur, 1994) and Kaleidoscope career models (Mainiero & Sullivan, 2005), but emphasizes that careers should be considered as part of a wider career eco-system and takes a systemic perspective to understand the multiple factors that influence career sustainability, namely the person, context and time. Further, sustainable careers take a dynamic approach to illustrate how changes throughout time influence career sustainability. In line with the JD-R theory, the sustainable careers framework emphasizes the importance of resources and fulfilment of the psychological needs for autonomy, competence and relatedness for ensuring sustainable growth and continuity in one's career (De Vos et al., 2020). Semeijn et al. (2015) suggest that the JD-R theory offers a broad but fruitful starting point for a further examination of the impact of possible antecedents and their effects on important sustainable work participation outcomes.

The sustainable careers framework is still in its early stages of development (De Vos et al., 2020). This thesis contributes with empirical support for the importance of including the role of person, context and time in the research of careers. De Vos et al. (2020) has addressed the need for an in-depth understanding of the underlying mechanisms of sustainable careers. This thesis supports the use of the JD-R theory as a useful theory for understanding how different factors in individuals'

environments affect sustainable careers, supporting previous research by Richardson and McKenna (2020).

1.3 The three papers in the thesis of the study

In the following, I will present each paper included in this thesis in greater detail and how they relate to the overall aim.

Papers 1 and 2 in this thesis use cross-sectional survey data that were collected from one of four regional health authorities in Norway. All employees received the survey, which served as a work environment survey and as data for the research project 'Leadership and task planning in health services'. The research group developed the content of the survey in collaboration with representatives from the Regional health authorities and hospitals. Paper 1 analyses if gender, age, social support from immediate supervisor, competence development, autonomy, workload and institutional stress influence nurses' aspiration to become a manager. A more detailed description of each factor is presented in the theory section.

Few nurses apply for management positions, and clinicians' decisions to enter management positions seem to be influenced by pressure from managers, colleagues and other important persons (Bondas, 2006; Nordstrand Berg & Byrkjeflot, 2014; Spehar et al., 2012). Existing literature explaining nurse motivation to enter a management role is limited (Bondas, 2006; Sabei et al., 2018; Spehar et al., 2014; Wong et al., 2013). However, intrinsic factors such as autonomy, new challenges and making a difference are found to correlate with an aspiration to management (Wong et al., 2014; Wong et al., 2013). In his doctoral thesis, Spehar (2015) called for upcoming studies to investigate need satisfaction and its role in engagement in management roles. Paper 1 answers this call by testing how job resources that fulfil basic human needs and job demands affect aspiration in management. Job resources are considered to have a motivational potential, stimulate personal

growth and be functional in achieving work goals (Bakker & Demerouti, 2017). This paper aims to increase our understanding of whether the experience of job resources has consequences for registered nurses' aspiration to become a manager.

Further, identified stressors in the nurses' work environment are high experienced levels of workload, lack of participation, office politics and inadequate communication between managerial and non-managerial personnel (Cooper et al., 2001; McVicar, 2016; Vander Elst et al., 2016). The JD-R theory proposes that job demands require psychological and physical effort, which can reduce employees' level of energy and limit their effort at work (Bakker et al., 2023). Paper 1 examined if registered nurses' experience of workload and institutional stress had consequences for their aspiration to become a manager.

Paper 2 in this thesis examines the association between supervisor support and ethical dilemmas on nurses' intention to leave specialized health care, and the mediating role of the meaning of work. Intention to leave is characterized as being a person's estimated and deliberate intention to leave an organization or profession within the near time (Cho et al., 2009) and the last stage before actually resigning (Krausz et al., 1995). Numerous studies have been conducted to explain registered nurses' intention to leave and factors such as leadership style (Halter et al., 2017; Lee et al., 2019; Pishgooie et al., 2019), emotional demands (Van der Heijden et al., 2018) and high workloads (Engström et al., 2022; Moloney et al., 2018) have been pointed out. Halter and colleagues (2017) conducted a meta-review of the literature on determinants and consequences of turnover among adult nursing staff. Stress, dissatisfaction, managerial style and supervisory support were the most strongly supported determinants of nurses' turnover. Dissatisfaction relates to staffing, workload and nurses' ability to provide quality care to their patients. However, they identify that there are large gaps in the literature on determinants of turnover of registered nurses and highlight

the need for rigorous research designs based on recommendations from the management literature on turnover.

Although supervisor support is a supported predictor for nurses' intention to leave (Brunetto et al., 2016; Heijden et al., 2019), little research has been conducted on the association of ethical dilemmas and the meaning of work. In line with paper 1, paper 2 used the JD-R theory as a theoretical framework. In Norway, nurses experience high emotional demands, such as role conflict, and report that they rarely or never get feedback on the work (STAMI, 2021). This paper contributes to the overall aim of this thesis by exploring whether supervisor support and ethical dilemmas influence registered nurses' intention to leave specialist health care, and the mediating role of the meaning of work. The study provides knowledge and implications for health care managers and HRM practitioners that can help retain registered nurses.

Paper 3 is a qualitative study using semi-structured interviews with 20 registered nurses working in home care services in a medium-sized municipality in Norway. In comparison with the two first papers, paper 3 is more exploratory. The aim of this paper was to increase the understanding of what influences registered nurses' career choices in home care services, thereby answering the call for more research within this area (Abrahamsen, 2015; Halcomb et al., 2018). We identified different career choices made by the informants, such as starting in home care, working part-time or full-time, changing hours of work, becoming a resource nurse, taking a specialization and leaving home care services. We used the sustainable career perspective (De Vos & Van der Heijden, 2015) as a broad theoretical framework when thematically analyzing what influenced these career choices.

Paper 3 contributed to the overall aim of this thesis by illustrating how multiple stakeholders, unexpected events and personal and contextual factors influence registered nurses' career choices in home care services. It contributes to a field where there is limited empirical research and

increases our understanding of why some nurses leave a job in specialist health care services in favour of a job in home care services. Although the interviewees in paper 3 only consisted of woman from a single municipality, it adds to our knowledge and illustrates how nurses' career preferences change over the life course and offers implications for organization policy and HRM practices.

1.4 Research aims of the thesis

The overarching aim of this thesis is to contribute with knowledge of determinants associated with registered nurses' aspiration to become managers, intention to leave and career choices in home care services.

The three papers of this thesis address the following research aim:

1. To examine determinants (job demands and job resources) that influence registered nurses' aspirations to become a manager.
2. To examine the association between supervisor support and ethical dilemmas on registered nurses' intention to leave, and the mediating role of meaning of work.
3. To explore how contextual and individual factors influence registered nurses career choices in home care services.

The next chapter presents the theoretical framework of this thesis. Following that, a presentation of the methods and research design is given. Chapter 4 gives a short presentation of the findings for each paper. Chapter 5 presents an overall discussion of the findings, implications for practice and future research. Finally, chapter 6 presents a short conclusion. The second part of this thesis contains three articles, as presented below.

Part two of the thesis consists of the following papers:

Paper 1:

Making a career in hospitals: Determinants of registered nurses' aspirations to become a manager

Guro Hognestad Haaland, Espen Olsen & Aslaug Mikkelsen

Published in *Journal of Advanced Nursing*, 2019; 75; 2506-2515.

Paper 2:

The association of supervisor support and ethical dilemmas on Nurses' intention to leave: the mediating role of the meaning of work

Guro Hognestad Haaland, Espen Olsen & Aslaug Mikkelsen

Published in *Journal of Nursing Management*, 2021; 29; 286-293.

Paper 3:

Understanding registered nurses career choices: a qualitative study on nurses' career in home care services

Guro Hognestad Haaland, Olaug Øygarden, Marianne Storm & Aslaug Mikkelsen

Published in *BMC Health Services Research, 2023; 23:273.*

2   Theory

In this chapter, I present the two theoretical perspectives guiding this thesis, the job demand-resource theory (Bakker & Demerouti, 2007) and sustainable careers (De Vos & Van der Heijden, 2015). The JD-R theory is used as a theoretical framework for understanding how some job resources and demands are predictors of registered nurses' career choices. The sustainable career perspective was used in paper 3 to explain how individual and contextual factors influence home care nurses' career choices throughout time. Both the JD-R theory and sustainable careers framework builds on the self-determination theory (Deci & Ryan, 2000) and the conservation of resources theory (Hobfoll, 1989) to explain the underlying mechanisms of behaviour.

2.1   The job demand-resource theory (JD-R)

In this thesis, I use the JD-R theory as a theoretical framework for understanding how some selected job demands and job resources influence registered nurses' career choices. Paper 1 examined determinants that influence nurses' aspiration to become a manger. The determinant variables were gender, age, social support of an immediate supervisor, competence development, autonomy workload, and institutional stress. Paper 2 examined the association between supervisor support and ethical dilemmas on registered nurses' intention to leave, both directly and through the mediating role of the meaning of work. First, I present the theoretical framework of the JD-R theory. Second, I present how paper 1 and paper 2 apply the JD-R theory to examine how job demands and job resources influence registered nurses' aspirations to become a manger and their intention to leave health care organizations.

The JD-R theory originates from work and organizational psychology and is considered one of the leading stress job models (Schaufeli & Taris,

2014). It is a heuristic model describing the relationship between job characteristics and their influence on personal and organizational outcomes (Bakker & Demerouti, 2014; Schaufeli & Taris, 2014). The JD-R theory builds on previous job characteristics models such as the Job Characteristics Model (Hackman & Oldham, 1976), the Job Demands Control Support Model (Karasek & Theorell, 1990) and the Effort Reward Imbalance Model (Siegrist, 1996). The JD-R theory attempts to integrate the central tenets and fill the gap of these earlier models (Bakker & Demerouti, 2007). Unlike these previous models, which focused on a limited number of job characteristics, the JD-R theory proposes that many job characteristics can influence employees' health and functioning (Bakker & Demerouti, 2007). Furthermore, the JD-R theory expands from previous models by including home resources and demands (Demerouti et al., 2005) and considers that every occupation has its own job-related stress risk factors (Demerouti & Bakker, 2011).

The JD-R theory integrates the stress and the motivation research traditions (Bakker & Demerouti, 2017). Bakker and Demerouti (2014) link work characteristics, categorized as job resources and job demands to the experience of motivation and job stress among employees. Job resources refer to a job's psychological, physical, social, or organizational aspects that support employees to reduce work demands and/or stimulate personal learning, development, and growth (Bakker & Demerouti, 2007). Examples of job resources are positive patient contacts, social support from colleagues and supervisors, and opportunities for professional development. Job resources have a motivational potential and help employees handle job demands (Bakker & Demerouti, 2017; Xanthopoulou et al., 2007).

In addition to job resources, the JD-R theory has recognized the role of employees' personal resources. In line with the conservation of resources (COR) theory (Hobfoll, 2001), personal resources relate to positive self-evaluations and individuals' sense of their ability to control their

environments (Hobfoll et al., 2003). Personal resources, such as optimism or self-efficacy, can contribute to how employees influence and control their environment and play a similar role as job resources (Bakker & Demerouti, 2017). Like job resources, personal resources have motivational potential since they can help workers deal with job demands and reach work-related goals (Bakker & de Vries, 2021).

Job demands refer to a job's psychological, social, physical, or organizational aspects that require psychological and physical effort or skills (Bakker & Demerouti, 2007). Examples are harassment by patients, emotionally demanding contact with patients, work overload, and time pressure. If employees experience prolonged exposure to job demands, they can cause emotional exhaustion and disengagement (Bakker & Demerouti, 2007). Researchers have differentiated job demands into two categories, hindrance job demands and challenging job demands (Bakker & Demerouti, 2017; Lepine et al., 2005; Van den Broeck et al., 2010). Whereas hindrance job demands constrain and undermine employees' personal goal attainment, need satisfaction, growth, and learning, challenging job demands can promote and enhance personal growth, need satisfaction, learning, and future gain (Van den Broeck et al., 2016). The latter challenges are considered possible to overcome and can result in development, while hindrance demands cannot be overcome. Examples of hindrance job demands are work-home interference and emotional demands, whereas examples of challenging job demands are responsibility and workload.

Over the last decade, there has been an increased focus on how job resources and job demands can be located at different organizational levels (Bakker & Demerouti, 2017). Resources and demands may be located at the organizational level (e.g., human resource practices, organizational change, career opportunities), at the interpersonal level (e.g., social support, conflicts), at the level of organization of work (e.g., participation in decision making, role clarity) and task level (e.g., skill variety and feedback) (Bakker & Demerouti, 2017; Bakker et al., 2003;

Bakker et al., 2007). These different levels can influence each other within and over time, and multilevel constructs can result in a better understanding of the complexity of psychological phenomena unfolding within organizations (Bakker & Demerouti, 2017).

Unlike earlier job characteristic models, the JD-R theory focuses on the underlying processes between job characteristics and outcomes (Parker et al., 2017). Job demands and job resources are linked to two different underlying psychological processes, a health impairment process and a motivational process. Job demands can evoke stress reactions if nurses lack the resources to meet these demands. If nurses experience high job demands and a lack of job resources, it can result in a health impairment process (Bakker et al., 2014). In the health impairment process, job demands may exhaust employees' mental and physical resources, resulting in health problems and energy depletion. Previous reviews have identified key job demands of registered nurses as factors such as work overload, work-life interference, staffing, emotional demands, and lack of formal rewards (Broetje et al., 2020; McVicar, 2016).

The motivational process assumes that job resources have a motivational effect by providing meaning to workers (Schaufeli & Bakker, 2004). Job resources can play intrinsic or extrinsic motivational roles and buffer the undesirable influence of job demands (Bakker & Demerouti, 2017). By fulfilling basic human needs, such as the need for competence, autonomy, and relatedness, job resources can foster workers' growth and development and play an intrinsic motivational role (Deci & Ryan, 2000). Job resources can promote engagement (Bakker & Demerouti, 2017), extra-role performance (Bakker et al., 2004), and organizational commitment (Hakanen et al., 2008). Identified job resources of registered nurses are supervisor support, interpersonal relations, autonomy, and professional resources such as professional practice and development (Broetje et al., 2020).

In the first paper, we examined determinants of registered nurses' aspirations to become a manager. The job resources included in this paper relate to the basic human needs for social relations, autonomy, and competence, which are necessary for people in order to achieve psychological health and optimal development (Deci et al., 2017; Deci & Ryan, 2000; Deci et al., 1985). Our hypothesis was that job resources such as the social support of an immediate supervisor, competence development and autonomy are positively associated with registered nurses' interest in becoming a manager. Research suggests that the social support of an immediate supervisor plays an essential role in employees' growth potential and the development of professional skills (Van der Heijden, 2003). It involves receiving feedback, constructive advice, and appreciation of one's work, which are main areas in performance management systems. Working for a positive, supportive, and effective manager has previously been shown to inspire interest in a management role (Bondas, 2006; Wong et al., 2013). Managers can be important role models for registered nurses as they can provide support, encouragement, and feedback on their abilities as potential managers. In line with these findings, we expected nurses who experienced the social support of an immediate supervisor to report an aspiration to engage in management.

Autonomy refers to the experience of choice and people's desire to act from their interests and integrated values (Deci & Ryan, 2000). Nurses who experience autonomy at work may pursue a managerial role, allowing them more autonomy. Nurses who can make free choices and receives responsibilities in their work situation may learn to trust themselves and want to be involved in decision-making at a higher level in the organization. The need for competence refers to the need to feel a sense of growth and be effective in dealing with the environment (Gagné, 2014). Registered nurses who actively seek out challenges and are given exciting work tasks will likely experience a sense of achievement in their work situation. Some nurses may seek further challenges to extend their

skills, for example, to pursue a management position. We hypothesized that nurses who experienced autonomy and competence in their current position would report a higher aspiration to become a manager than those who experienced low autonomy and competence.

The job demands included in the first paper were workload and institutional stress, and our hypothesis was that interest in becoming a manager is negatively associated with workload and institutional stress. Workload comprises work pressure and work-life balance. According to previous research, work-life interference and high workloads negatively affect registered nurses' career choices, leading to burnout and intentions to leave an organization and the profession (Moloney et al., 2018). Concerns about the workload of managers and the lack of a work-life balance in management roles are identified as a disincentive for nurses to choose management as a career (Wong et al., 2014). In this thesis, institutional stress refers to disagreement with management practice, hospital policy, and values (Cooper, 1981). Previous research has found that institutional stress is related negatively to job performance among hospital employees (Bjaalid et al., 2020). NPM inspired health care reforms have led to an increased focus on cost control and efficient use of resources (Byrkjeflot & Guldbrandsøy, 2013). This may result in nurses disagreeing with a hospital's policy and priorities and in line with the JD-R theory, leading to stress reactions and a reduced aspiration to engage in management (Demerouti et al., 2000; McVicar, 2016). We hypothesized that the two job demands, workload and institutional stress, were negatively related to nurses' aspirations to become managers.

In paper 2, we explored whether social support and ethical dilemmas influence nurses' intention to leave and the mediating role of the meaning of work. We assumed that the positive aspects of social support of an immediate supervisor would lower registered nurses' intention to leave and positively relate to the meaning of work. These assumptions align with previous research, supporting supervisor support as a predictor for nurses' intention to leave (Brunetto et al., 2016; Heijden et

al., 2019). Supervisors act as agents on behalf of the organization (Baran et al., 2012) and have a critical role in implementing organizational policies and HRM practices (Fu et al., 2020; Townsend et al., 2015). Supervisors' social support can give registered nurses a meaningful vision and autonomy and stimulate proactivity and growth. Supervisor support is recognized as having an impact on registered nurses' emotional exhaustion (Woodhead et al., 2016), increased organizational commitment (Al-Yami et al., 2018; Ruiller & Van Der Heijden, 2016) and improved job satisfaction (Boamah et al., 2018).

An ethical dilemma describes a situation where an employee must choose between two equally good or poor choices (Rainer et al., 2018). According to a literature review, nurses experience ethical dilemmas because of a shortage of staff, policies, lack of equipment, and organizational issues (Haahr et al., 2020). For example, the COVID-19 outbreak triggered ethical dilemmas due to a lack of equipment, reduced time to care, and admitting patients or not to intensive care units (Giannetta et al., 2021). Nurses are educated according to professional ethical guidelines, which may conflict with the organizations' or other professions' priorities. In an integrative review, Rainer et al. (2018) identified that ethical dilemmas arose from conflict with physicians related to over-treating at the end of life, physician communication, concern regarding physician competency, and changes in the treatment plan with rotating physician coverage. Further, organizational constraints such as staffing shortages created ethical dilemmas as nurses could not give the best care (Rainer et al., 2018). In line with the JD-R theory, we hypothesized that ethical dilemmas could have a draining effect on nurses and result in an increased intention to leave.

The health care sector attracts employees with high levels of prosocial motivation, which involves the desire to help and make a positive difference to others (Grant & Sumanth, 2009). The meaning of work is defined as a subjective experience that has a personal meaning to individuals in their work (Rosso et al., 2010). Many people become

nurses for altruistic reasons (Wath & Wyk, 2020). The ability to derive meaning from work is essential to individuals' psychological well-being (Pratt & Ashforth, 2003). Meaning of work is associated with organizational commitment (Anthun & Innstrand, 2016), reduced risk of turnover (Arnoux-Nicolas et al., 2016; Clausen et al., 2010), and reduced long-term sickness absence (Clausen et al., 2010). In paper 2, we hypothesized that nurses who derive meaning from work reported less intention to leave. According to Oldham and Hackman (2010), psychological states such as experienced meaningfulness of the work are essential mediators in the relationship between job resources on the one hand and performance and motivational outcomes on the other. We hypothesized that the meaning of work had a mediating role on ethical dilemmas and social support from the supervisor on nurses' intention to leave.

The following section presents the sustainable career model. We applied this framework in paper 3 to increase our understanding and knowledge of contextual and individual factors influencing registered nurses' career choices throughout time.

2.2 Sustainable careers

In paper 3, we apply the theoretical model of sustainable careers (De Vos & Van der Heijden, 2015). According to Lawrence et al. (2015), sustainable careers represent an 'ideal type'. What exactly is or is not a sustainable career we may never be able to determine, rather we may have to identify "more or less sustainable careers" (Lawrence et al., 2015, p. 444). The aim of paper 3 was to explore how contextual and individual factors influence registered nurses' career choices in home care services, and it was not to determine if nurses have sustainable or unsustainable careers in health care. We used the sustainable career model and the three dimensions, person, context, and time, as a broad framework to understand how different factors influence registered nurses' career choices.

According to De Vos et al. (2020), three dimensions can be used to study sustainable careers; person, context, and time. First, the person dimension includes agency and meaning (De Vos & Van der Heijden, 2015). Agency refers to people making career choices consistent with their needs and interests or adapting to external changes and events (De Vos et al., 2020). Meaning refers to people being mindful of who and what is important to them during different phases of their careers (De Vos et al., 2020). Second, the context dimension refers to how different contexts, such as work and home, may influence employees' career sustainability. Third, the time dimension refers to how careers are dynamic and develops over time (De Vos et al., 2020).

Looking closer at the personal dimension, registered nurses can make several career choices through proactivity and adaptability (Buyken et al., 2015; Van Dam et al., 2015). As contemporary careers become more boundaryless, registered nurses can choose to work with something that matters to them. Registered nurses can influence their careers in line with their subjective success criterion through their actions by taking increased ownership of their working lives and career success (Akkermans & Kubasch, 2017). This requires employees to manage their careers and stay employable, referring to the extent people have the opportunity to maintain their job over time or find other work (Vanhercke et al., 2014). Employees must develop their skills, knowledge, and abilities to meet changing demands and attain the work they might strive for (Akkermans, Schaufeli, et al., 2013; Savickas & Porfeli, 2012).

Super et al. (1988) introduced the term career adaptability, which deals with adults' "readiness to cope with changing work and working conditions" (Super et al., 1988, p. 83). People develop and manage their abilities, knowledge, and skills to meet changing demands and adapt to create a person-environment fit (Akkermans, Brenninkmeijer, et al., 2013; Savickas & Porfeli, 2012). It involves registered nurses taking

control of their careers, exploring various roles, planning, and believing they can achieve their goals (Savickas & Porfeli, 2012).

People with proactive behaviour refer to individuals who seek to initiate change in their environment to improve the situation or themselves (Van Dam et al., 2015). In line with the JD-R theory, De Vos et al. (2020) refer to self-determination theory (Deci & Ryan, 2000) and COR-theory (Hobfoll, 1989) to explain the underlying mechanisms of proactive behaviour. SDT suggests that people are inherently motivated and proactive in living out their full potential and satisfying the three basic psychological needs. In line with the COR-theory, De Vos et al. (2020) suggest that people who proactively conserve and generate new resources expect to be more able to protect the sustainability of their career. To be proactive and growth-oriented, people need nutriment (Deci & Ryan, 2000). The context, such as the work environment and leadership style, may contribute to need satisfaction (Baard et al., 2004), which brings us over to the role of context.

The context dimension refers to how people's career sustainability is affected by their work-related and personal contexts (De Vos et al., 2020). Health care organizations are complex hierarchical organizations with many vital stakeholders both horizontally and vertically, such as patients, home care services, GPs and hospitals, Regional Health Authorities, municipalities, and the Ministry of Health and Care Services. An individual's career sustainability can be influenced by factors at different levels in the work contexts, such as the workgroup level, occupational level, organizational level, and national level (De Vos et al., 2020).

As health care organizations depend on the performance of employees, they should create work conditions that motivate and enables nurses to have a long career in health care. Workability is a central concept to sustainable careers (Lawrence et al., 2015) and refers to the degree employees can perform their work in a healthy and productive way

without too many demands resulting in burnout (Stuer et al., 2019). In line with the JD-R theory, if nurses' work becomes too demanding without increasing the necessary resources, it could lead to stress and exhaustion and increased intention to leave an organization or profession (McVicar, 2016; Van der Heijden et al., 2018). Burnout is an indicator of an unsustainable career, and a threat to career sustainability by motivating career turnover (Barthauer et al., 2020).

In addition to the context of health care organizations, nurses' personal life context can impact registered nurses' careers' (De Vos et al., 2020). Central to sustainable careers is creating a person-career fit and the role of multiple life contexts (De Vos & Van der Heijden, 2015). Recent studies have illustrated how the role of family and leisure for employees' career sustainability, supporting the importance of including the role of non-work domains in research on sustainable careers (Hirschi et al., 2020; Kelly et al., 2020). Further, unplanned and unexpected external events outside people's control shape careers (Akkermans et al., 2018). Individuals can experience several career shocks, defined as "a disruptive and extraordinary event that is, at least to some degree, caused by factors outside the focal individual's control and that triggers a deliberate thought process concerning one's career" (Akkermans et al., 2018, p. 4). Examples are having children, going through a divorce, taking a specialization, or accepting a new job. A nurse who becomes a mother may, in line with the kaleidoscope career model (Sullivan & Mainiero, 2007), emphasizes the value of balancing work and home. Further, having a child can lead to changes in demands or resources, thus changing person-job fit (Pak et al., 2021). For example, the responsibility to bring their children to the nursery means that nurses may have to adjust working hours or make other changes for a period in their life. In a recent study, Pak et al. (2021) qualitatively studied how positive and negative career shocks relate to career (un)sustainability and people's perception of human resource practices in such a process. The results showed that career shocks change demands or resources influencing

27

career sustainability, but that an employer can reduce the negative consequences of career shocks by offering job resources and HR practices. Supervisor's support was found to be essential regardless of the type of career shock experienced by employees.

The time dimension of sustainable careers refers to how careers evolve over time (De Vos & Van der Heijden, 2015). To understand how careers change over time, De Vos et al. (2020) refer to the Selection Optimization and Compensation (SOC) theory (Baltes et al., 1999) and Socio-emotional Selectivity (SST) Theory (Carstensen, 2006). The SOC theory suggests that over time individuals use different strategies to reach three different life-span goals: growth, maintenance and regulation of loss. As people age, the resources aimed at growth will decline, while the resources used to regulate and maintain loss will increase in the later stages of individuals careers. In line with this, the SST theory (Carstensen, 2006) proposes that employees have different perceptions of time, which result in changed goals and motives in different stages of their careers.

Tims and Akkermans (2020) note that to have a sustainable career over time, employees need to craft their career, which refers to "proactive behaviors that individuals perform to self-manage their career and that are aimed at attaining optimal person-career fit" (Tims & Akkermans, 2020, pp. 175-176). Contextual demands and personal needs are dynamic and influence person-career fit throughout all stages of nurses' careers. This involves registered nurses being mindful, reflecting on their career aspirations, and making choices that improve person-career fit. Research thus far has found that proactive career behaviour, such as career crafting, is essential in fostering sustainable careers (Akkermans & Tims, 2017). Richardson and McKenna (2020) qualitatively examined the personal, contextual and temporal dimensions of athletes' careers and considered how the sustainability of their careers changed over time. They used the JD-R theory (Bakker & Demerouti, 2017) to interpret career sustainability, and their findings showed that a non-sustainable

short career in one field does not prevent career sustainability in another arena. This illustrates that career sustainability changes throughout time and adds to our understanding of the critical role of the dimensions of person, context and time for individuals' career sustainability. In the next chapter, I will present the methodological considerations of this thesis.

3   Methods

This chapter first presents the philosophical considerations of this thesis, followed by a description of the research design and setting. Then a description of the participants, data collection and analysis of the data is given for each paper. Finally, I reflect on ethical considerations, research quality and limitations of the studies.

3.1   Philosophical considerations

In the first two papers of this thesis, we applied quantitative methods to test hypotheses and explain how specific conditions are connected (Bryman, 2004). Quantitative methods are often associated with a positivist philosophy and employ measures to produce knowledge (Bryman, 2004). Ontologically positivists believe that there is only one truth, a reality that is objective and independent of human perception (Sale et al., 2002). The epistemological position of positivists is that social science should be objective. As an observer, you should separate from the entities subject to observation and remain emotionally detached and uninvolved with your study object (Johnson & Onwuegbuzie, 2004).

The third article aimed to explore how contextual and individual factors influence registered nurses' career choices in home care services, such as starting or leaving home care services, changing hours of work, taking a specialization or becoming a resource nurse. Qualitative research methods are strategies suitable for analyzing distinctive features and characteristics of a phenomenon. Qualitative methods can be associated with constructivism (Johnson & Onwuegbuzie, 2004). The ontological position is that multiple truths, realities, and context-free generalizations are neither possible nor desirable. Epistemologically, you cannot access reality independent of the mind (Sale et al., 2002). As an investigator, you cannot separate from those researched, as the researcher and the

object of study are considered interactively linked (Johnson & Onwuegbuzie, 2004).

In this thesis, I combine the strengths of quantitative and qualitative methods to increase our understanding and the validity of the findings (Tashakkori & Teddlie, 2003). Since the 1970s and 1980s, scholars have been in eager dispute if qualitative and quantitative data can be combined, as they link to different philosophical assumptions (Kelle, 2005). Both qualitative and quantitative purists view their paradigms as the ideal for research and can be interpreted as advocates for the incompatibility thesis. The incompatibility thesis postulates that qualitative and quantitative research paradigms and their related methods can not be mixed since they asked for paradigms to be joined (Tashakkori & Teddlie, 2003). A paradigm is an agreed-upon set of beliefs, generalizations, practices and values of a community of specialists (Creswell & Plano Clark, 2010; Tashakkori & Teddlie, 2010).

> "Paradigms differ in the nature of reality (ontology), how we gain knowledge of what we know (epistemology), the role values play in research (axiology), the process of research (methodology), and the language of research (rhetoric)".

Creswell and Clarke (2010, p. 41)

In contrast to those who advocate the incompatibility between qualitative and quantitative methods, others advocate that we can mix methods in various ways. According to Johnson and Onwuegbuzie (2004) the paradigm war has led to a relentless focus on the differences between quantitative and qualitative research. As they emphasize, both quantitative and qualitative research is essential and valuable. In most social research, there is no debate at the technical level of mixing methods. The remaining debate is at a more conceptual level of epistemology and philosophy (Sale et al., 2002; Tashakkori & Teddlie, 2003). According to Creswell and Clarke (2010), all research has a

philosophical assumption, and as a researcher, you should be aware of your assumptions as it affects your research process. In this thesis, qualitative and quantitative research methods are considered valuable strategies that can be combined to capture different perspectives on a complex phenomena such as careers. Philosophically, this thesis reflects a pragmatic research paradigm concerned with producing practical knowledge for health care organizations.

3.1.1 Pragmatism

Pragmatism is a philosophical tradition that brings humans and practices into the foreground (Goodman, 2020). The development of pragmatism as a philosophical tradition emerged in the 1870s in the United States (Rumens & Kelemen, 2013). Charles Sander Pierce, William James, and John Dewey were central researchers of 'classical' pragmatism, which has later been developed in newer directions such as neopragmatism and new pragmatism (Rumens & Kelemen, 2013). The development of pragmatism started as these scholars disagreed with the traditional philosophical view about the nature of knowledge, reality and inquiry (Kaushik & Walsh, 2019). It can be challenging to explain what pragmatism is precisely, and it has been criticized for including contradicting positions, lacking clarity and a robust philosophical foundation (Goodman, 2020; Rumens & Kelemen, 2013). Although pragmatism encompasses diverse positions, some concepts and themes have been outlined as essential qualities, such as truth, experience, pluralism, inquiry, embodiment, and prospective futures (Rumens & Kelemen, 2013).

First, pragmatism provides its own view of truth (Rumens & Kelemen, 2013). Pragmatists have not systematically treated ontological issues, but they reject the idea that research can produce something that represents timeless, universal truths or laws (Rumens & Kelemen, 2013). Reality is considered separate from human perception, and doubt that reality can be determined (Watson, 2010). Thereby knowledge is not reality as

meaning is dependent upon context and considered inseparable from human needs and experience (Kaushik & Walsh, 2019).

Similarly to the sustainable career perspective, pragmatism considers current meaning and knowledge as changing over time as people constantly adapt to new situations. Since experience is progressive and ongoing, truth is not final or permanent, but inquiry is considered processual and fallible (Rumens & Kelemen, 2013). Similarly, careers are dynamic; who and what matters to people changes over time, influenced by their private and organizational context (De Vos & Van der Heijden, 2015). In line with pragmatism (Watson, 2010), I do not believe a complete explanation or final truth of registered nurses' career choices is possible. However, we can seek to gain new knowledge to inform action and provide information about human practices (Rumens & Kelemen, 2013; Watson, 2010). Pragmatist epistemology emphasizes that knowledge is based on experience (Kaushik & Walsh, 2019), another key concept of pragmatism.

Experience is a basic unit of analysis in pragmatism and recognizes that individuals have diverse meanings, values and perspectives (Rumens & Kelemen, 2013). According to William James, an experience starts with an individual's interaction with the environment (Rumens & Kelemen, 2013). The physical and natural world and the emergent social and psychological world, including subjective thoughts, culture and human institutions, are important in pragmatism (Johnson & Onwuegbuzie, 2004). Through people's interaction with the environment, they gain experience, learn, and improve their capability to make valuable choices and shape their surroundings. Interaction emphasizes the importance of context, which aligns with career literature, considering context as important for understanding people's careers (De Vos & Van der Heijden, 2015). This points to the importance of health care organizations and other contextual factors for registered nurses' career choices.

Pragmatism endorses the existence of both subjective and objective points of view and offers an epistemological logic and justification for combining methods and approaches in research (Johnson et al., 2007). Pragmatists accept a plurality of methods and theories (Creswell & Plano Clark, 2010; Rumens & Kelemen, 2013). The most important is the question asked and the use of suitable methods to inform the research question. This thesis is philosophically pragmatic in combining papers with different methodological approaches and theories from different fields, in the search for better answers to the aim of the thesis. A central concept of pragmatism is 'prospective futures', which focus on research being practical and helpful to meet individual needs today and in the future (Rumens & Kelemen, 2013). To the pragmatist, the more helpful research proves to be, the more valid it is (Watson, 2010). This thesis is pragmatic because it aims to benefit the health care sector by increasing our knowledge of determinants influencing registered nurses' career choices. This motivation stems from the need for increased knowledge about nurses' career choices to ensure a sufficient workforce of motivated nurses to provide quality care.

3.2   Research design and setting

The research design in this thesis has an abductive approach and combines quantitative and qualitative methods. Pragmatism is typically associated with abductive reasoning, which searches for different possible explanations for an experienced problem (Kaushik & Walsh, 2019; Locke et al., 2008; Rumens & Kelemen, 2013). An abductive approach involves moving back and forth between data and theory to match reality and theory better. The three papers of this thesis have separate research questions, coming together under the research aim of this thesis. In the first two papers, we used statistical tests to examine the role of some chosen factors and their effect on registered nurses' aspiration to become a manager and their intention to leave. The last paper aimed to gain a richer picture of what influences registered nurses'

career choices in home care services, and further explore findings uncovered in the quantitative papers. For example, many nurses who leave specialist health care services start working in home care services. Therefore, interviews with registered nurses in home care services could broaden our understanding of why registered nurses chose to leave specialist health care services. The thesis uses data from two related research projects, 'Leadership and task planning in health services' and 'Leadership and Technology for Integrated health care services'.

The first project, 'Leadership and task planning in health services', aimed to study how changes in task planning and work distribution can improve hospital performance. The core research group consisted of five researchers, including three PhD scholars experienced in management, HRM and psychology. The project group collected data from multiple sources, including observation of meetings, focus group interviews, in-depth interviews and a survey. The qualitative data collection started in October 2013 and ended in September 2016. The quantitative data was collected in October 2014 in collaboration with the Western Norway Regional Health Authority and the connected hospitals. Data from the qualitative interviews were used to develop survey questions sent to all employees in the regional health authority region. The survey was both a work environment survey and a survey for data collection for the research project. I became part of the research group in August 2015, when most of the data were already collected. The first two papers of this thesis have used quantitative research data from this project. The variables tested in these two papers were selected after a search for possible explanations for registered nurses' career choices in established theories and previously published studies conducted within health care.

The project' Leadership and Technology for Integrated health care services' explored how home care nurses, general practitioners (GPs) and multimorbid patients' experience can contribute to integrated care. The project focused on critical factors, interactions, e-health technologies and reflection on one's role and career to achieve a more

integrated health service. The research group consisted of five members, including three PhD scholars who collaborated on the data collection, with experience as a nurse, a GP and an HRM professional. We conducted qualitative interviews to, among other things, understand what registered nurses emphasize as important for their career choices within home care services. Although we were primarily inductive, the results of the quantitative papers and previous theories guided some of the research questions. For example, the interview guide focused on registered nurses relationship with their line-manager and cooperation with colleagues, GPs, patients and hospitals. The study had a longitudinal design, with 120 days between the two interviews. The data was collected between October 2019 and March 2020 in a medium-sized municipality in Norway. The third paper in this thesis is part of that research project. I have included data from the first interview with 20 registered nurses. The second interview was a short follow-up interview, which focused on any critical events that had happened to the included patient during the last three months and what the patients, home care nurses and GPs had actively done in this situation.

Table 1 presents an overview of the methodological framework of the thesis and the three individual papers.

Table 1. Overview of the methodological framework of the thesis and the tree individual papers.

The Thesis: Determinants of registered nurses' career choices – Studies from Norwegian health care organizations	
Research Aim	Contribute to knowledge on determinants associated with registered nurses aspiration to become a manager, intention to leave and career choices in home care services.
Research approach and design	Pragmatic and abductive. Quantitative and qualitative methods.

Paper 1: Making a career in hospitals: Determinants of registered nurses' aspirations to become a manager	
Research aim	To examine seven determinants of Registered Nurses aspirations to become a manager in four Norwegian public hospitals
Research Hypothesis	H1: Male nurses have a greater interest in entering management than female nurses. H2: Older nurses are less interested in becoming a manager than younger nurses. H3: Job resources such as a) the social support of immediate supervisor b) competence development and c) autonomy are positively associated with an interest in becoming a manager. H4: Interest in becoming a manager is negatively related to the job demands of a) workload and b) institutional stress.
Research approach and design	Deductive, cross-sectional web-based survey design
Data sources and collection	2630 registered nurses responses to a self-completion survey in a Norwegian regional health authority
Main data analysis	Logistic regression analysis

Paper 2: The association of supervisor support and ethical dilemmas on Nurses' intention to leave: the mediating role of the meaning of work

Research aim	To examine the association of supervisor support and ethical dilemmas on nurses' intention to leave health care organizations, both directly and through the mediating role of the meaning of work.
Research hypothesis	H1: Ethical dilemmas at work are positively related to intention to leave. H2: Ethical dilemmas at work are negatively related to the meaning of work. H3: Social support from the supervisor is negatively related to intention to leave. H4: Social support from the supervisor is positively related to the meaning of work. H5: The meaning of work is negatively related to intention to leave. H6: The meaning of work mediates the influence of ethical dilemmas on intention to leave. H7: The meaning of work mediates the influence of social support from the supervisor on intention to leave.
Research approach and design	Deductive, cross-sectional web-based survey design
Data sources and collection	2945 registered nurses responds to a self-completion survey in a Norwegian regional health authority
Main data analysis	Structural equation modelling

Paper 3: Understanding registered nurses career choices: a qualitative study on nurses' career in primary care

Research aim	To increase our understanding of home care nurses career choices.
Research question	How do contextual and individual factors influence registered nurses' career choices in home care services?

Research approach and design	Abductive, qualitative study.
Data sources and collection	Semi structured interviews of 20 registered nurses.
Main data analysis	Thematic analysis

3.2.1 Participants, data collection and analysis of the quantitative data

The quantitative studies in this thesis are based on data from a cross-sectional survey study distributed to all employees employed in the Western Norway Regional Health Authority. The selected health region comprises four main public health enterprises and a pharmacy trust, in total, 22 883 employees.

The survey had one version for the employees and one for employees in management positions. The web system through which the survey was distributed only made it possible to submit the questionnaire after answering all the questions. The survey for managers included 384 questions, and the version for employees contained 281 questions. The survey took approximately 40 minutes in total, and the overall response rate was 40 per cent (n= 9162). Among these, 2 946 were registered nurses. The scale items used in papers 1 and 2 are presented in Table 2. The survey included measures from validated measurement instruments and some questions developed by the research group in line with the aim of the research project. Moreover, as part of papers 1 and 2, the validity and reliability of included measures were assessed first before testing hypotheses.

Table 2. Scales and items used in Paper 1 and Paper 2

SCALE	ITEMS
Social support from immediate supervisor	• Does your immediate supervisor express his/her opinion concerning your work? • Is your immediate supervisor able to appreciate the value of your work and see the results of it? • Does your immediate supervisor offer constructive advice? (Van der Heijden, 1998) Five point scale (1 = not at all, 5 = very much)
Competence development	• Does your work require you to take initiative? • I do you have the opportunity to learn new things through your work? • Does your work require adaptability? Copenhagen Psychological Questionnaire (Kristensen, 2000) Five point scale (1 = strongly disagree, 5 = strongly agree)
Autonomy	• In my department, we work together to influence the standards that constitute good work. • In my department, we often have the opportunity to influence goals or actions. • All employees in my department are involved in important decisions that affect them. From the Organization Assessment Survey (Dye, 1996) Five point scale (1 = strongly disagree, 5 = strongly agree)

Workload	How much work-related stress have you experienced concerning the following: • Workload. • Making mistakes. • Time pressure and deadlines. • The impact the work load has on my private life. • The amount of traveling my work requires. • Taking work home. From the Coopers Job Stress Questionnaire (Cooper, 1981) Six- point scale (1 = not relevant or no stress, 6 = Much or always stress)
Institutional stress	How much work-related stress have you experienced concerning the following: • The organization's policy. • Lack of power and influence. • My values conflicting with those of the organization. • Lack of cooperation and communication in your department. • Lack of clarity related to my work • The leadership not understanding the challenges of my work. • Conflicts between my profession and other professions. From the Coopers Job Stress Questionnaire (Cooper, 1981) Six- point scale (1 = not relevant or no stress, 6 = Much or always stress)
Ethical dilemmas	In your work, how often do you experience ethical or professional dilemmas related to: • Lack of cooperation between departments? • Lack of equipment? • Lack of coordination of key tasks? Developed by the research group, based on research by Gaudine, LeFort, Lamb and Thron

	(2011) Five point scale (1 = never, 5 = always)
Meaning of work	• Is your work meaningful? • Do you feel the work you do is important? • Do you feel motivated and involved in the work you do? Copenhagen Psychological Questionnaire (Kristensen, 2000) Five point scale (1 = never, 5 = always)
Intention to leave	How often during the past year have you thought about: • Leaving your job? • Moving to a job in a completely different field? • Looking for a job at a different hospital? Questionnaire by the Next study group (Hasselhorn, Tackenberg, & Müller, 2003) Six point scale (1 = never, 6 = everyday)

The aim of paper 1 was to examine the determinants of registered nurses' aspirations to become a manager. We excluded nurses currently working in management positions and nurses without a permanent contract. 2630 registered nurses were then included in this study. We chose binary logistic regression analysis to predict the relationship between the independent and the dichotomous outcome variables. This enabled us to exemplify how chosen determinants affected the dependent variable.

To assess the validity and reliability of constructs, we used confirmatory factor analyses (CFA) and general guidelines (Hair et al., 2010). Composite Reliability (CR) and Cronbach's alpha were carried out to investigate the reliability of constructs (Hair et al., 2010). Root Mean Square Error of Approximation (RMSEA < 0.08), Incremental fit index (IFI > 0.9), and Comparative Fit Index (CFI > 0.9) were used to evaluate the validity of the measurement constructs (Hair et al., 2010).

We used Hosmer and Lemeshow tests and the Omnibus Tests of model coefficients to examine the model significance (Hosmer Jr et al., 2013). Adjusted odd ratios (OR) and a 95% confidence interval (CI 95%) were calculated to evaluate the contribution of the explanatory variables. We used AMOS 25.0 to examine CFA and SPSS version 21.0 to examine the remaining assessments, including descriptive statistics, Pearson correlations and logistic regression.

The aim of paper 2 was to examine the association of supervisor support and ethical dilemmas on nurses' intention to leave health care organizations, both directly and through the mediating role of the meaning of work. 2946 registered nurses from the health region were included in this study. Structural equation modelling (SEM) was applied to increase our understanding of the structural relations among the concepts included in the study.

To assess the validity and reliability of the constructs in paper 2, we conducted descriptive statistics and an assessment of normality. In line with paper 1, we used Cronbachs' alpha and Composite Reliability (CR) to assess reliability. We conducted Average Variance Extracted (AVE) to explore the exploratory power of the factor-item relations and correlations to assess the degree of overlaps between concepts. To investigate the factor loadings and the measurement model, we used CFA. We conducted SEM to explore the relationships between concepts, which include direct influence and the mediating role of the meaning of work. The model fit thresholders were assessed by the Root Mean Square Error of Approximation (RMSEA < 0.08), Tucker Lewis Index (TLI > 0.9), Incremental Fit Index (IFI > 0.9) and Comparative Fit Index (CFI > 0.9) (Hair et al., 2010).

3.2.2 *Participants, data collection and analysis of the qualitative data*

In paper 3, we used individual semi-structured interviews with 20 home care nurses. The participants worked in a medium-sized municipality organized in ten different units. The participants were registered nurses with a minimum of a bachelor's degree and who were familiar with the patients included in the project. The administrative leader of the municipal division of health and social care approved the study. We approached first-line managers in relevant units to recruit participants, and they scheduled the interviews during the participants' working hours.

The study was part of a larger project, and I conducted fifteen of the twenty interviews, while another project member conducted the last five. The interviews lasted from 48 minutes to 1 hour and 38 minutes. One interview was incomplete, as the participant had to leave. This interview lasted 30 minutes, and we decided to include the answers in the study. All interviews were audio recorded and transcribed verbatim. The registered nurses were aged between 29 to 63 years (average 42,5 years). Job percentages ranged between 75 per cent to 100 per cent (average 90 per cent), and their work experience as a nurse ranged from 1 to 35 years (average 16,1 years).

A thematic analysis was guided by Braun and Clarke's (2006, 2013) six-phase process. There were no predefined codes at the beginning of the analysis, and this process was mainly inductive. However, pre-existing knowledge guided some of the interview questions and the research groups' previous knowledge of the health care sector. I read the interview transcripts numerous times and created a timeline for each nurse to identify different career choices. For the data analyses, I used NVIVO 16 software system to develop codes and revised them by going back and forth between interviews. When analyzing the data, I read career theory to identify the relevance of the information to the research aim. The main themes were generated abductively by moving between data and theory.

The co-authors read interviews, and emerging themes were discussed with the co-authors to generate a nuanced and rich analysis of the data set (Braun & Clarke, 2019). We interpreted and discussed the coded data to find patterns and a shared meaning that could form a theme. In this process, we used mind maps and Microsoft Excel with a list of codes. This was a dynamic process, where themes were re-examined, and the naming of themes was considered ongoingly in relation to relevant theory.

3.3 Ethical considerations

The study procedures for gathering the quantitative data were reported to the Norwegian Centre for Research Data (ref. no. 33 311). All participants received information about the survey's background, that participation was voluntary and anonymous, and written contact information to three research project members.

The research procedures for gathering the qualitative data were also reported to the Norwegian Centre for Research Data (ref. no. 228630). All participants received written information about the project, confidentiality, their right to withdraw from the study without consequences and contact details to the project leader, Data Protection Officer and Data Protection Services. Before the interviews, all participants received oral information about the research project and had the opportunity to ask questions. All participants signed a voluntary written consent and were given a study number to secure confidentiality.

The National Committee for Research Ethics in the Social Science and Humanities publishes guidelines for research ethics in the social sciences, the humanities, law and theology (NESH, 2022). The guidelines refer to different standards essential for a researcher, ranging from important considerations to absolute requirements. The Norwegian Ethics committees emphasize the importance of respecting general principles for research ethics like fairness, respect, good consequences

and integrity (NESH, 2022). In line with pragmatic principles, this thesis seeks to provide information of value to health care managers and HRM practitioners. Moreover, data connected to identifiable people must be stored responsibly and not longer than necessary (NESH, 2022). In both projects, the information given by the respondents was kept on password–protected computers and personal data were de-identified and anonymized in line with the guidelines of the Centre of Research Data approval. Before the qualitative interviews, the participants were asked not to use identifiable names, and the interviewers did not use or record any names. In the presentation of quotes in paper 3, I was conscious of not choosing statements that could identify the informants.

The NESH guidelines highlight the importance of individual freedom and independence to ensure research credibility (NESH, 2022). I have a permanent position at Stavanger University Hospital, and the hospital has funded my PhD. In addition, the research project 'Leadership and task planning in health services' was funded by the Western Norway Regional Health Authority, Stavanger University Hospital and the University of Stavanger. The hospital did not guide the design of this thesis and had no role in the interpretation or analysis of the data. My experience at the hospital provides insight into the context of specialist health care and the challenges with recruiting, motivating and retaining registered nurses. This experience was important to remember during the data collection and analysis, as my experiences may impact how I interpreted the material. To address this, I discussed the data and findings with research group members, aiming to present the data nuanced and thoroughly. Further, another research group member conducted five qualitative interviews, and we had an ongoing dialogue checking the correspondence between the findings.

3.4 Research quality and limitations

3.4.1 Methodological comments and limitations of the survey study

Papers 1 and 2 use quantitative cross-sectional data. We were therefore unable to draw causal explanations based on a longitudinal design. In both of the quantitative papers, we study intended behaviours. Although nurses intend to leave or aspire to become a manager, it does not mean they carry out these actions later. A longitudinal design could provide further information on the underlying processes, particularly if important life events and choices were investigated in actual time. Regarding the generalizability of the findings, more research should be conducted in different cultures and health care settings. It is important to stress that the factors investigated in these two papers are not exhaustive.

I became part of the research group after the collection of data, something that could limit my understanding of the process and decisions made while preparing the survey. To familiarize myself with the data, I discussed the process and choices made with the original research group participants. Another limitation of using existing data is that one cannot influence which questions are being asked and are limited to the variables in the present data set. For example, in paper 1 it could be interesting to include more questions that focused explicitly on nurses' view of a role as manager. However, the dataset was extensive, including various validated questionnaires about employees' opinions about their organization and the work environment. It repeated several of the questions from the EU-funded research programme NEXT – Nurses' Early Exit Study (Hasselhorn et al., 2003). Hence, the survey data contained a range of relevant measures that could contribute to examining registered nurses' career choices.

The survey took approximately 40 minutes to answer, and respondents could not submit their answers in the application through which the

survey was distributed before all questions were answered. The overall response rate was 40%. We cannot confirm that the sample is representative of all organizational members. Those nurses experiencing high job demands may not have taken the time to answer the survey. The survey was criticized for being too long for some hospital participants. The variables sex, age groups and job percentage are considered representative of the nursing population in the health care region, and we are not aware of any significant biases among the 2 946 registered nurses participating in the study compared with the total population of employees.

3.4.2 Trustworthiness and limitations of the qualitative study

In paper 3, we addressed trustworthiness by applying strategies from the standardized criteria by Lincoln and Guba (1985), namely credibility, transferability, dependability and confirmability. Guided by Nowell et al. (2017), we used these criteria to support a trustworthy thematic analysis (Braun & Clarke, 2006). In the first phase of the analysis, all co-authors familiarized themselves with the data and searched for meaning and patterns to enhance the study's credibility. In the second and third phases, we established trustworthiness by research triangulation when generating initial codes and searching for themes. I drew visual mind maps and used Microsoft Excel to search for themes and connections. This process was documented and discussed with the co-authors of the paper. In phase four and five of the thematic analysis, themes were examined by co-authors and themes was reviewed in relation to the raw data to determine that the themes accurately reflected the meanings of the whole data set. Everyone agreed on the final naming of themes. In phase six, when producing the paper, we used the consolidated criteria for reporting qualitative studies (COREQ) as a guideline to ensure the transferability and confirmability of the research process (Tong et al., 2007).

There is considerable debate over how qualitative research should be judged (Mays & Pope, 2000). Qualitative research has a long history of being criticized for not adequately justifying its claims, and there is no agreed set of criteria for judging whether a piece of qualitative research is any good (Braun & Clarke, 2013; Loseke & Cahill, 2007). For example, peer debriefings, member checks and memos recommended as validation strategies by Lincoln and Guba (1985) are considered inappropriate methods by other researchers, as these are post-hoc evaluations (Morse, 2015; Silverman, 2006).

Many scientific journals have responded to the problem of evaluating qualitative research by developing guidelines and checklists for authors and reviewers (Buus & Agdal, 2013; Duchesne & Jannin, 2008). However, such checklists are also criticized as they might have unintended consequences, such as researchers might presenting their research more linearly than what occurred. Qualitative researchers have a long tradition of being flexible and adapting their plans to changing conditions to explore situated meaning in people's experiences and actions (Buus & Agdal, 2013; Morse, 2015). We applied standardized criteria's as guidelines and inspiration to increase the quality of the research and presentation of paper 3, but do not consider a single set of criteria as definitive.

A limitation of paper 3 is that the sample consisted only of women from a single municipality in Norway. Since few men work in home care services, they could have contributed with other essential perspectives on the research topic. Furthermore, nurses from other municipalities in Norway could have given different perspectives than those in the study. Several of the participants had long seniority in home care services. It can be hard to recall what happened retrospectively many years ago, and the results may be biased. In addition, it is important to remember that home care nurses' work environments and tasks have changed significantly in recent years (Fjørtoft et al., 2020; Melby et al., 2018).

This means some of the information the informants gave may not be as valid today.

4   Results

This chapter presents a short summary of the results of each paper included in this thesis. The next chapter will discuss the results in relation to the research aims of this thesis, previous research and theoretical perspectives. An overview of the research aims is listed on page 15.

4.1   Paper 1

Paper 1 examined if gender, age, the job resources social support of an immediate supervisor, competence development, autonomy, and the job demands, workload and institutional stress influence registered nurses' aspirations to become a manager in four Norwegian public hospitals. We used binary logistic regression analyses to test the hypotheses. The two variables, competence development and autonomy, were not significant. The model was significant and explained 14.7 % of the variance in aspiration to become a manager. Our results confirmed that men are more likely to aspire to become a manager than women. In per cent, 23% of the women and 42.9 % of the men reported an aspiration to become a manager. Further, the findings indicated that younger nurses are more interested in becoming a manager than older nurses. The social support of an immediate supervisor and the experience of institutional stress was positively associated with nurses' aspiration to become a manager. Institutional stress was inverse of what we expected. The determinant workload was significant, indicating that the higher workload experienced by nurses, the less they want to become a manager. The findings supported using the JD-R theory as a theoretical framework for increasing our understanding of determinants influencing nurses' aspiration to become a manager.

4.2   Paper 2

Paper 2 examined the association between supervisor support and ethical dilemmas on nurses' intention to leave health care organizations, both directly and through the mediating role of the meaning of work. The study provided empirical support for the hypothesized links in the developed research model. Our findings indicated that ethical dilemmas were positively associated with an intention to leave and negatively with the meaning of work. Registered nurses perception of social support from the supervisor was negatively related to the intention to leave and positively to the meaning of work. The meaning of work relates negatively to the intention to leave, and the results indicated a significant and positive indirect effect from ethical dilemmas via the meaning of work on the intention to leave. Moreover, our results show that the indirect effect of social support from the supervisor via the meaning of work on the intention to leave was significant. This paper advanced our knowledge of how the determinants of supervisor support and the meaning of work can reduce nurses' intention to leave health care organizations, and how ethical dilemmas can increase registered nurses' intention to leave health care organizations. The results supported using the JD-R theory as a theoretical framework for understanding nurses' turnover intention.

4.3   Paper 3

The third paper explored registered nurses' career choices in home care services, such as starting in home care services, working part or full-time, changing work hours or leaving home care services. Our findings of this qualitative study produced three distinctive themes. The first theme was how nurses make career choices in home care services due to influence from multiple stakeholders like first-line managers, colleagues and patients, as well as contextual factors like clinical practice, exciting work tasks, and financial support for further education. This is in line with the sustainable career perspective, which stresses the importance of

54

including the role of context and external events to understand peoples' career trajectories.

A second theme we identified was career choices due to fit between the job and nurses' private life. This captures how nurses make career choices to improve their work-life balance and how their needs change over time. Shift arrangements, geographical location of work and family situations affected nurses' choice to start in home care services and their decision to work part-time or full-time, adjust work hours and apply for a specialization.

The last theme we identified, was how nurses make career choices to enhance the meaning of work. The organization of work and work content were identified as important for nurses' career choices. The findings illustrate how registered nurses were concerned with understanding patients' needs and providing quality care. Work in home care services enables nurses to spend time in the patients' homes and get to know the patients and their families, something considered an antecedent for providing good care. Having high autonomy in their work was recognized as both challenging and motivating. Nurses stressed the importance of professional knowledge as home care services have become more specialized. This led nurses to seek postgraduate education, further strengthening nurses' employability and the possibility of finding job alternatives without shift work.

5 Discussion and implications

This thesis aims to offer important knowledge for recruiting, developing and retaining registered nurses in health care organizations. In a pragmatic attempt to contribute to helpful research, this thesis combines different theoretical perspectives and methods. The first two papers used the JD-R theory as a theoretical framework, which has previously been used to explain employees' intention to leave. In this thesis, we expand the use of the JD-R theory to explain determinants associated with registered nurses' aspiration to become a manager. Although the JD-R theory has included the development of the work-home resource model and the role of proactive behaviour in recent years (Bakker et al., 2023), the results also point to the shortcomings of the JD-R theory in predicting career-related outcomes. Studying organizational demands and resources without accounting for a broad set of contextual factors and events does not capture the complexity of determinants associated with registered nurses' career choices over time. Further, the thesis addresses the call for more empirical research on the interaction between the three dimensions of sustainable careers: person, context and time (De Vos et al., 2020).

In the following section, I will discuss the findings from the three individual papers in more detail and in relation to the overall research aim and presented theory.

5.1 Demands and resources as push or pull factors for registered nurses' career choices

The JD-R theory emphasizes that every occupation has specific job demands and resources (Bakker & Demerouti, 2007). In line with the JD-R theory and previous research of the nursing profession (McVicar, 2016; Bakke et al., 2021; Halter et al., 2017; Heijden et al., 2019; Vander Elst et al., 2016; Wong et al., 2014), we tested some specific job demands

and job resources and their association with aspiration to become a manager and intention to leave.

All three papers highlight the importance of the social support of an immediate supervisor for registered nurses career choices. In paper 1, the social support of an immediate supervisor influenced nurses' aspirations to become a manager. In paper 2, the perception of social support from the supervisor was positively related to the meaning of work and negatively associated with nurses' intention to leave. The results in both papers were in line with hypothesized links, supporting previous research highlighting the importance of social support from supervisors for nurses' aspirations in management (Bondas, 2006; Wong et al., 2013) and intention to leave the organization and profession (Heijden et al., 2019; Moloney et al., 2018).

The immediate supervisor is considered crucial in how workers consider their work environment, as they can control rewards, politics, goals and perceived fairness at work (Gagné, 2014). In line with the JD-R literature (Demerouti & Bakker, 2011), in this thesis, the social support of an immediate supervisor is considered a resource. Supportive management is also considered a critical HRM practice within health care (Guest & de Lange, 2020). Previous studies have identified that social support from an immediate supervisor reduced emotional exhaustion (Woodhead et al., 2016) and was positively related to work engagement (Othman & Nasurdin, 2013). In a qualitative study, Wong et al. (2013) identified that working for a visible and positive manager inspired interest in management as a career. Essential qualities nurses valued of their managers included being good listeners and communicators, empowering, trustworthy, decisive and focused on a positive work environment and patient care. In this thesis, some nurses experienced their front line-manager as encouraging and supportive, inspiring and pushing nurses' career development. Other nurses experienced instability and the absence of a manager, which caused frustration, exhaustion and career unsustainability.

58

As suggested in the JD-R literature (Bakker et al., 2018), we expected that different leadership styles would influence nurses' work motivation through job resources and demands. In a systematic review of leadership and the job demands-resource theory, Tummers and Bakker (2021) suggested three main ways in which leadership may affect employees: 1) leaders can directly influence job demands, job resources, and personal resources, 2) leaders can moderate the link between resources and motivation as well as the link between job demands and strain, and 3) leaders can directly influence employees job crafting and self-undermining. These findings illustrate that managers can influence employees' career behaviour, both directly and indirectly, by increasing or decreasing job demands and resources.

In paper 2, the meaning of work had a direct negative association with nurses' intention to leave and a mediating association on nurses' intention to leave. The meaning of work has previously been identified as negatively associated with registered nurses' turnover intention (Arnoux-Nicolas et al., 2016; Clausen et al., 2010; Sun et al., 2019), and as an essential mediator (Akgunduz et al., 2018; Arnoux-Nicolas et al., 2016). Meaning of work may have a protective role when facing difficult working conditions. The model developed in paper 2 provides valuable insight into how the meaning of work seems to suppress the negative influence of ethical dilemmas and strengthen the impact of social support from supervisors on nurses' intention to leave. In line with the JD-R theory (Bakker & Demerouti, 2017), the results suggest that the meaning of work can buffer the undesirable influence of job demands.

Similarly, in paper 3, we identified the meaning of work as one of the main themes influencing nurses' career choices in home care services. Nurses described how they experienced the meaning of work when helping and developing a close relationship with patients. Previous research has identified that experience of meaningfulness at work is work's most significant psychological feature in preventing undesirable work outcomes (Humphrey et al., 2007), stimulating engagement, and

enriching employees' lives outside the workplace (Jiang & Johnson, 2018).

Many nurses choose the profession because of altruistic motives (Wath & Wyk, 2020). Article 3 illustrates how some nurses proactively shaped their careers by pursuing postgraduate education to improve patient care. HRM practices within primary health care seem to enable this by providing opportunities for professional development through financial resources, adjusting work hours and offering paid leave. The sustainable careers perspective postulates that employees who enjoy meaningful work experience work engagement and job satisfaction (De Vos & Van der Heijden, 2015). The results indicate that healthcare organizations should offer the basis for a meaningful and healthy work situation. Offering HRM practices such as involvement, empowerment, and opportunities for development in line with nurses' values and goals may improve the chance of person-career fit (Van der Heijden et al., 2020). It is suggested that enhanced person-career fit will benefit organizations and employees through improved job performance, meaningfulness, and organizational commitment (Valcour, 2015).

Nursing is characterized as a stressful job with a high workload (Chen et al., 2015; Galdikiene et al., 2016; Hasselhorn et al., 2008). The findings from the first paper supported an inverse relationship between workload and nurses' aspiration to enter a management position. In a Canadian study, nurses' concern with the workload of managers and the lack of work-life balance in management roles were identified as a critical disincentive for choosing management as a career (Wong et al., 2013). This thesis adds to our understanding that the experience of a high workload in registered nurses' current position also negatively influence their aspiration to become a manager.

Heavy workloads may hinder nurses' from performing work that meets their professional standards, leading to frustration and stress. Nurses continuously exposed to high job demands and a lack of job resources

may use mental effort to cope with their working situation, draining nurses' energy and making them prone to burnout (Bakker & Demerouti, 2017). In a cross-sectional survey of registered nurses working in New Zealand, high workload and work-life interference were the strongest predictors of burnout and highly correlated with registered nurses' intention to leave an organization and the profession (Moloney et al., 2018). Findings from this thesis support these findings and shed light on how work-life balance influences different career choices, such as time for specialization, work percentage and shift schedule. The role of work-life balance will be discussed more closely later.

Previous studies have identified workload as a challenging demand (Lepine et al., 2005; Van den Broeck et al., 2010), whereas the findings of this thesis support workload as a hindrance demand. One explanation can be the context of the health care sector characterized by a heavy workload that nurses may not see a way to change or overcome. Ultimately, this may demotivate nurses who already experience heavy workloads to seek a management position characterized by high demands and workload.

In paper 2, ethical dilemmas were positively related to the intention to leave and negatively associated with the meaning of work. Previous studies have highlighted how ethical climate, involving employees' mutual view on how to behave and handle ethical issues, is associated with nurses' intention to leave (Abou Hashish, 2017; Koskenvuori et al., 2019). This thesis contributes with insight into how ethical dilemmas relate to registered nurses' turnover intention, also in Norway, which has among the highest number of nurses and doctors per capita in Europe (OECD, 2021). Lack of coordination and systematic barriers may lead to frustration and stress, hindering nurses from working satisfactorily and in line with their ethical standards. Although this study was conducted in specialist health care, ethical dilemmas are just as relevant among registered nurses in primary health care services (Giannetta et al., 2021). Working within time limits, a heavy workload, and an increased focus

on standardization may force nurses to compromise professional values (Haahr et al., 2020). In line with the JD-R theory, an ethical dilemma may be a hindrance demand. The experienced organizational constraints in health care organizations are obstacles nurses cannot overcome with an increased effort which may result in frustration and stress, influencing registered nurses' intention to leave.

In paper 1, contrary to what we hypothesized, nurses who experienced institutional stress reported an aspiration to become a manager. One explanation may be that nurses who experience institutional stress proactively want to become managers to change the operation of departments, the hospital, policies, and HRM practices, thereby reducing their and other nurses' experience of stress. In other words, disagreement with the hospital's policy may trigger some nurses' interest in management, which is an interesting finding. Previous research identified that nurses could decide to become managers due to their experience of 'bad' nurse leaders (Bondas, 2006). Institutional stress seems to be a challenge demand that nurses consider they can overcome with increased effort. Investing personal resources by seeking a management position might result in resource gain and the experience of personal development and growth (Hobfoll, 2002). Previous research supports that people gain departmental resources and autonomy after obtaining a promotion (de Lange et al., 2008). Presumably, these nurses have valuable insight into the demands nurses experience at work. These experiences can help develop improvements as a manager in health care organizations.

Paper 3 reported how two nurses chose to apply for a position outside home care services. The motives and types of agency behind their choices differed widely. One nurse was drawn to another job motivated by the fact that her competence would be put to better use (pull factors). The other nurse wanted to leave home care services because of the increased workload, time pressure, and lack of support from managers and politicians (push factors), resulting in an unsustainable career. Some

career choices may be difficult for health care organizations to influence, such as choices influenced by nurses' private life context. For example, nurses may wish to move geographically closer to the family when they become mothers. Further, some career choices are based on an intrinsic motivation towards a new position that provides a better opportunity to satisfy basic psychological needs, such as competence. Although organizations can offer developmental opportunities, it may not be possible to provide the same work content and working conditions other organizations offer. However, health care organizations should be especially aware of creating a work environment that prevents those career choices that could be an 'escape' from work characteristics such as undesirable ethical dilemmas, time pressure, heavy workload and lack of cooperation between departments or professions. A work environment reflecting such characteristics may hinder nurses from performing work that meets their professional standards, leading to frustration and energy depletion. If the job demands increase and remains high for a long time, registered nurses may enter a loss spiral and experience health impairment (Bakker & Demerouti, 2017). High demands and low resources over time can decrease person-job fit, which triggers nurses to leave health care organizations for a more sustainable career (Bakker & Demerouti, 2017; De Vos & Van der Heijden, 2015).

In line with the conservation of resources theory, the JD-R theory suggests that those employees with fewer resources are more vulnerable to resource loss (Hobfoll, 2001). Based on the COR-theory, Barthauer et al. (2020) identified burnout as a threat to career sustainability by causing career turnover and that perceived departmental support can be an essential resource for employees' sustainable careers. It is suggested that health care organizations can prevent such loss spirals by offering additional resources in the form of HRM practices such as training and development, career support, provide autonomy and challenge, employment security, making health and safety a priority, better nurse-to-patient ratio, interprofessional cooperation, enabling voice, supportive

management and family-friendly work arrangements (Guest & de Lange, 2020; Xiao et al., 2022). These suggestions stress the importance of health care organizations providing registered nurses with resources to prevent nurses from seeking other job opportunities because of career unsustainability. This will serve the interests of registered nurses, health care organizations and society by ensuring a stable workforce.

5.2   The role of context and career shocks on registered nurses' career choices over time

Much research on nurses' career choices has focused on the impact of organizational factors (Guest & de Lange, 2020; Xiao et al., 2022). The findings of the third paper offer valuable insight into the importance of context and career shocks to understand what influences registered nurses' career choices over time. The sustainable career perspective was a valuable theoretical perspective to understand and explain the broad set of determinants influencing nurses' career choices in primary health care.

Paper 3 identified how the importance of fit between the job and private life influenced registered nurses' career choices. Halcomb and Ashley (2017) identified work-life balance as one of the most satisfying aspects of work in primary health care in Australia, highlighting the importance of flexible work arrangements, no shift work or weekends, location close to home and hours of employment that suit young families. The findings of this thesis support how these factors also influence registered nurses' choice to transition from specialist care to home care services in Norway.

There is a majority of women in the nursing profession, and previous research has found that women experience higher work-family conflicts than men (Ollo-López & Goñi-Legaz, 2017). These findings can explain the results of paper 1, which showed that men have a higher aspiration of entering management than women aspire. Women may still, and to a greater extent than men, view the family as their primary obligation. In

line with the kaleidoscope career model, nurses' values and priorities seem to change when nurses become mothers, giving priority to creating a balance between home and work. As a result, organizational factors such as work location, shift arrangements, and the possibility to adjust work based on the demands of family life become important for nurses' career choices.

The findings of this thesis shed light on how registered nurses' career interests and aspirations unfold throughout their careers, supporting the emphasis on time in sustainable careers. Senior nurses without a specialization expressed an interest in developing their skills but believed they were too old to embark upon a specialization or master's degree. The selection optimization and compensation model (Baltes & Baltes, 1990) suggests that as people age, their focus will shift away from growth and development towards coping with age-related losses such as physical abilities. We also identified an age difference in the first paper, where younger nurses reported a greater interest in pursuing management roles than older nurses. One explanation may be that more senior nurses have made well-thought-through career decisions, while younger nurses keep more options open. This assumption aligns with findings in a meta-analysis by Kooij et al. (2011), where work-related growth motives, such as development and advancement, decreased with age. However, intrinsic motivation related to using skills, helping people, autonomy and job security increased with age.

The thesis contributes to the literature by illustrating how a part-time job offered by family or friends and clinical practice provided nurses with job experiences affecting their perception of home care services as a potential employer. A literature review identified clinical experience and curriculum content as the primary tools for changing nurse students' negative perceptions about work in primary health care (Calma et al., 2019). This thesis supports this finding and sheds light on our understanding of how clinical experience familiarizes nurses with home care services and as potential employers through their experience with

the organization's work environment, interesting work tasks, and the experience of support and autonomy. Further, it points to a broader set of factors that can influence an individual's perception of primary health care as a potential employer, such as the offer of part-time job while being a nurse student or earlier in life. Even though these findings are from interviews with registered nurses in home care services, it is reasonable to assume that this would also apply to the rest of primary- and specialist health care.

These findings are significant because they highlight the critical role of not only the employer, supervisor and managers but also the broader context, such as the role of the private network, educational institutions and politicians. Previous career literature has been criticized for focusing too much on people's agency and ability to shape their careers (Akkermans et al., 2018). A risk of an agentic career perspective is that it assumes an unrealistic level of individuals' ability to plan and control the course and development of their careers (Akkermans et al., 2018). The findings of this thesis shed light on how registered nurses' career choices are often not the result of goal-directed behaviour but the effects of context and unplanned and unexpected events, such as the offer of a new job or position, place of clinical practice, moving which resulted in need of a new job, or becoming a mother. These findings support the theorizing of sustainable careers (De Vos et al., 2020) and career shocks (Akkermans et al., 2018) and emphasize incorporating a broader context and the role of unexpected events to provide a realistic understanding and explanation of individuals' careers trajectory.

De Vos et al. (2020) stress the importance of employees being able to change and adapt to the evolving needs to have sustainable careers. The results of paper 3 illustrate exactly how registered nurses make adjustments in their careers to increase person-career fit by changing place or hours of work. On the other hand, home care services offer HR-practices that allow nurses to work part-time, take additional leave, and other flexible work solutions to help registered nurses sustain their

careers during some phases of life. Kossek and Ollier-Malaterre (2020) studied how implementing reduced-load work, a customized form of part-time work to reduce hours of work and the amount of workload while taking a pay cut, can protect employees' sustainable careers. They stressed the importance of reduced workload in line with the reduction of pay and work hours as otherwise can harm careers sustainability. They suggested several differentiating and integrating strategies, such as reducing the number of clients or projects (Kossek & Ollier-Malaterre, 2020). In the discussion, they remarked that when work is reshuffled to other co-workers, those who take on additional tasks may end up with an unsustainable career in the long run.

A sustainable career is characterized by mutually beneficial long-term consequences for employers, employees and their surrounding context (De Vos & Van der Heijden, 2015). However, when there is a shortage of registered nurses and increasing health care demands, it is reasonable to question if it is possible to facilitate sustainable careers that benefit employers, employees and their surrounding context. It is suggested that organizations can promote sustainable careers through HRM policies and practices (De Vos & Van der Heijden, 2017), and the literature has suggested how organizations can contribute to sustainable careers by offering different individual and customized solutions (Valcour, 2015; Van der Heijden et al., 2021). However, none of this is empirical studies, and there remain unanswered questions related to the organizations' role in developing employees' sustainable careers (Tordera et al., 2020).

Considering the shortage of registered nurses, it can be challenging for health care organizations to offer individual and customized arrangements for employees, as only some nurses can replace them and may make other nurses' work situation unsustainable. Valcour (2015) points out that: "harmonizing employees' preferences and employers' needs is easier to talk about than to execute" (p.29)". Health care organizations face complex challenges in balancing the needs of the individual, all employees, and the organization, in a context with limited

67

economic and personnel resources. This challenge may also apply to the employer's efforts to make some work groups' careers more sustainable, such as young parents or senior nurses, as this may result in increased demands and an unsustainable job for other nurses. The following section presents some implications for health care managers based on the results of this thesis.

5.3 Implications for health care managers

This thesis improves our understanding of determinants influencing registered nurses' career choices in health care. First, the importance of social support of an immediate supervisor's was highlighted, emphasizing the importance of motivating and promoting competent nurses to management. The findings suggest that managers, the human resource department and other key stakeholders should communicate the positive sides of the management role, encourage, and support potential nurse managers. In line with findings by Wong et al. (2013), offering registered nurses career-planning support, management development courses, shadowing managers and mentoring can help registered nurses identify an interest in management or other career specializations.

In the health care sector, there are usually no requirements of leadership competence for applying for a management position, and nurses often enter management positions with little training (Spehar et al., 2012). Previous research has identified nurses lacking the necessary support and preparations to successfully transform into a management role (Titzer et al., 2014). In Norway, during the last decades, there has been an increased focus on strengthening managerial competencies in health care (Meld.St.11, 2014-2015). Since 2015, the Directorate of Health and KS have contracted with the Norwegian Business School to offer management education for health leaders within primary care (Rambøll, 2021). Several health trusts and regional health authorities have established their internal leadership programmes, and there is a national top management programme. Leadership development can also occur

through programmes offered by universities, colleges or private institutions (Frich et al., 2017).

In 2019, approximately 50 per cent of municipal health care managers had formal leadership competence with 30 ECTS or more (Helsedirektoratet, 2021). In another survey conducted among Norwegian nurse managers in primary and specialist health care, around seven out of ten managers stated that they have management training of shorter or longer duration (Andrews & Høgås, 2017). Around half of the managers have management training corresponding to one year of full-time study or more. Top managers more often have management training and management training longer than lower-level managers (Andrews & Høgås, 2017). Given the increased complexity and requirements of health care organizations, the results of this thesis highlight the importance of implementing practices that support managers, such as mentoring, training and development programs with an emphasis on how to exercise supportive leadership. Still, it is reasonable to question if nurse managers in the health care sector have the work conditions to practice supportive leadership.

Front-line managers have received increased workloads during the last decades (Holm-Petersen et al., 2017; Jacobsen et al., 2023), which leaves less time for the support of employees. The span of control is generally more comprehensive in the health care sector than in other sectors, and this is most likely related to the increased pressure on financial resources (Holm-Petersen et al., 2017). In a survey for the Norwegian Nurses Association, 27 per cent of the specialist health services state that they have personnel responsibility for 50-99 employees, compared to 25 per cent in the municipal health and care services. Another Norwegian research report identified the mean span of control in primary care to be 59 employees in home care services and 93 employees in nursing homes (Øygarden et al., 2020). There were identified managers responsible for as many as 315 employees in home care services.

Politically, a need for greater leadership density in the health care sector has been identified (Helsedirektoratet, 2020). A primary care survey have revealed that around 50-70% of registered nurses consider leaving the profession due to bad management (Gautun et al., 2016). Nurses stated that bad communication between managers and employees, that they are not seen or heard by the management, and that there is no or little feedback on the work they did impact the desire to leave. Large wards challenge front-line managers' visibility, the opportunity to contact employees, coordinate, create overview and ensure follow-up (Holm-Petersen et al., 2017). Hospital wards are characterized by many employees, and in home care services, much of the work takes place in the patients' homes. A Danish study by Holm-Petersen et al. (2017) suggests that being a front-line manager of 50-70 members of nursing staff creates challenges for perceived leadership quality. Jacobsen et al. (2023) support these findings but also point out that a narrow span of control also has negative implications for perceived leadership behaviour and job satisfaction (Jacobsen et al., 2023). The literature has limited research on the optimal span of control in health care. Still, the literature has suggested that the most optimal spans of control are when managers have authority over 30-40 employees, but this depends on the context (Jacobsen et al., 2023; Omery et al., 2019). The results of this thesis highlight the importance of ensuring that front-line managers have conditions to exercise supportive leadership, such as a manageable span of control, as this has great significance for nurses' well-being and career choices.

Second, our findings highlight the importance of the meaning of work for nurses' career choices. For many nurses, spending time with patients is an antecedent for their experience of the meaning of work. However, increased demands for documentation and coordination leave less time for direct patient contact. Tasks that take time away from direct patient care should be critically assessed by health care organizations and at a political level. In the sustainable career model, meaning is central to the

person dimension (De Vos & Van der Heijden, 2015), indicating that registered nurses are responsible for thinking through their interests, values and what gives them meaning. Conversely, health care organizations should provide developmental HRM practices, such as opportunities for professional learning, career planning, and promotion. Aligning work with nurses' interests, values, and strengths will boost nurses' intrinsic motivation, job performance, experienced meaningfulness and organizational commitment (De Vos & Van der Heijden, 2015; Ryan & Deci, 2000). Aligning registered nurses' needs with the organization and private context will benefit all stakeholders and impact career sustainability (De Vos & Van der Heijden, 2015).

The findings suggest that health care organizations should offer registered nurses support to handle demanding situations, such as ethical dilemmas and institutional stress. As a result of the shortage of staff, there is a growing gap between the population's expectations relating to the scope, quality and distribution of health and care services and the services' ability to meet these expectations (NOU, 2023). The Norwegian Healthcare Personnel Commission stress that a prerequisite for developing sustainable health care services is that there have to be made "limiting choices" in the future (NOU, 2023). This will be demanding for all parties involved, particularly healthcare personnel in direct contact with patients and relatives. There is a need for a shared recognition of the realistic scope and quality of health care services. For the personnel to face difficult "limiting choices", all concerned parties must be on board with this; politicians, the supervisory authorities, the health organizations and the municipalities, the partners of working life, the personnel, patients, users and relatives (NOU, 2023).

Enabling voice and encouraging staff involvement in health care organizations could be an advantage for employers and employees, promoting a constructive dialogue about ethical challenges and institutional stress. To prevent stress and burnout, employers and employees must address conflicts related to a lack of coordination

between departments and the hospital's priorities. Similarly, the findings argue for an increased need for coordinated care services between health care providers. The demographic development, and the COVID-19 pandemic, emphasize that health care organizations should support and strengthen registered nurses' ability to handle ethical dilemmas and institutional stress to prevent negative consequences.

Increased financial constraints, shortage of nurses and health care demands increase the concern regarding nurses' workload. Healthcare organizations could work strategically to explore methods for reducing the impact of high workloads to ensure a sustainable workforce. They could monitor workload and implement HRM practices such as enabling voice and participative and supportive management. In line with the Norwegian Healthcare Personnel Commission (NOU, 2023) recommendation, health care services may consider the division of labour between different professional groups. Critically evaluating registered nurses' work tasks may uncover activities other professional groups could perform, such as pharmacy, nutriment and warehouse. Strategically health care organizations have recognized this as an important means of solving staffing challenges in health care organizations. However, findings show that only some managers have systematically assessed which tasks can be transferred to other professional groups (Riksrevisionen, 2019). Nurse managers seem to have too little time for strategic work, long-term planning, changing work processes and new thinking (Andrews & Høgås, 2017; Riksrevisionen, 2019).

Results in paper 3 illustrated how home care services offered financial support for development opportunities but not career planning support. Several informants undergoing a specialization were unsure about their future in home care services and did not know their career options after their education ended. This uncertainty made nurses consider other career options outside of home care services after graduation. A positive finding of this thesis is that health care organizations may proactively

influence registered nurses' career choices by, for example, offering or encouraging people to apply for a new position or take a specialization. According to assessments made by the Office of the Auditor General (Riksrevisionen, 2019), many health care institutions lack an overview of staffing needs and plans to solve their staffing challenges. This is even though several health care organizations are experiencing significant recruitment challenges. Considering the anticipated shortage of registered nurses, this thesis suggests that health care organizations should prioritize HRM and strategic planning of health care personnel to a greater extent, and line-managers should be proactive, encouraging and supporting employees' career paths.

The results of this thesis argue for a life cycle HRM policy, as nurses' needs change over time. In the first half of their career, registered nurses will likely have other career aspirations and needs than their colleagues in their last career phase. In the first phase, the importance of family life influences nurses' career choices, such as reducing working hours, postponing postgraduate education and changing work hours. The findings suggest that home care services offer flexible work arrangements during different phases of registered nurses' careers. Offering HRM practices such as flexible and family-friendly work arrangements allows nurses to adjust to changing family needs and demands. In the second phase, health care organizations should motivate older nurses to continue to work. Kooij et al. (2014) has suggested a bundle of HRM practices to sustain an ageing workforce: developmental, maintenance, utilization, and accommodative practices. These bundles of HRM practices could health care organizations offer in some way, such as lateral job moves, exemption from working shifts, training and career planning.

The health care sector is responsible for providing proper health care to all inhabitants. This responsibility implies that it is demanding to allocate personnel resources so that the organizations have the right skills at the right time. As noted in the discussion, health care organizations face the

complex challenge of balancing the needs of the employees and the organization, which will probably increase in the years to come. In a recent report from the Norwegian hospital sector, only 26 per cent of the seniors' nurses stated that some kind of senior initiative exists in their organization. As many as 38 per cent were unsure or did not know if there were such initiatives (Midtsundstad & Nielsen, 2022). Examples of measures included extra days off, senior courses, being exempted from night shifts, and the possibility of working fewer nights. This finding suggests that health care organizations should improve the implementation and information of existing HRM practices, to ensure that employees are aware of what they already have to offer. In the following section, I will provide some research implications of the thesis.

5.4 Research implications

Based on the findings of this thesis, I will make some suggestions for further research. First, considering the critical role of line-managers, future studies should examine other explanatory factors more specifically related to nurses' perception of a management role. The two first papers studied registered nurses' aspiration to management and intention to leave, but not actual behaviour. To improve our insight, the use of longitudinal studies can capture how careers evolve and what influences registered nurses' career choices.

Second, considering the importance of social support from an immediate supervisor, more research is needed on how health care organizations can develop managers with the skills to perform supportive leadership. Such information will be particularly interesting in home care services, where much of the nurses' work takes place in patients' homes. As presented in the discussion, a high span of control may prevent line-managers from exercising supportive leadership. Increased knowledge of the consequences of span of control in health care could provide information about an optimal span of control for line-managers. Moreover, considering the anticipated growth in the number of older

people and the shortage of nurses, I urge further research to study how HRM practices can help nurses handle demanding situations such as high workloads, ethical dilemmas and institutional stress.

Third, the sustainable careers perspective is still developing, and future empirical studies should explore how organizations can facilitate sustainable careers by taking a systemic perspective considering all three dimensions: person, context and time. Central to sustainable careers is the significance of person-environment fit. Additional research should examine how health care organizations can create a fit between registered nurses' interests and career goals and how this influences career outcomes in health care organizations.

I will recommend future studies to use a longitudinal design to understand registered nurses' career choices in different life phases. As the population is becoming older, more empirical research should focus on how health care organizations can support senior nurses to stay longer at work in health care. In this connection, empirical research should examine if offering individual and customized solutions for some individuals or groups leads to increase demands and an unsustainable work situation for other people or groups. This would be especially interesting to study closer in a context such as health care, with increasing demands and decreasing access to personnel resources.

Fourth, much research on registered nurses' career choices has focused on the role of job demands and job resources using the JD-R theory. Although this approach provides us with important information on how different variables are associated with one another, the qualitative findings of this study emphasize the importance of future studies incorporating the role of a broader context and life events to gain a more accurate understanding of what influences registered nurses' careers. Finally, the studies of this thesis were conducted in a Norwegian context with a nationalized health care system. Further research should examine

the findings in other countries with different cultures and health care settings to strengthen the generalizability of the results.

6   Conclusion

The demographic changes in the population and the growing number of older patients stress the need for knowledge to attract, motivate, develop and retain registered nurses in health care. The main objective of this thesis was to contribute to knowledge on determinants associated with registered nurses' aspiration to become a manager, intention to leave and career choices in home care services. In line with pragmatism, this thesis combined different methodological approaches and different theories in search of knowledge that can benefit the health care sector.

The findings from the first two papers highlight how some selected job resources and job demands influence registered nurses' aspiration to become a manager and intention to leave. Moreover, the first paper highlighted the difference between age and gender in aspiration to become a manager. In paper three, we applied the sustainable careers perspective as a framework for understanding what influence registered nurses' career choices in home care services. This paper had a more explorative design and identified how registered nurses' broader context and changing needs influenced their choices to start in home care services, take a specialization, change hours of work, become a resource nurse and leave home care services. This thesis offers some implications for health care managers and HRM practitioners and raises some questions for further studies to address.

7   References

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Part II

List of Papers

Paper 1:

Haaland, G. H., Olsen, E., & Mikkelsen, A. (2019). Making a career in hospitals: Determinants of registered nurses' aspirations to become a manager. *Journal of Advanced Nursing*, 75(11), 2506-2515. doi:10.1111/jan.14002

Paper 2:

Hognestad Haaland, G., Olsen, E., & Mikkelsen, A. (2021). The association between supervisor support and ethical dilemmas on nurses' intention to leave: The mediating role of the meaning of work. *Journal of Nursing Management*, 29, 286–293. https://doi.org/10.1111/jonm.13153

Paper 3:

Haaland, G. H., Øygarden, O., Storm, M., & Mikkelsen, A. (2023). Understanding registered nurses' career choices in home care services: a qualitative study. *BMC Health Services Research*, 23(273). doi:10.1186/s12913-023-09259-0

Paper 1

Haaland, G. H., Olsen, E., & Mikkelsen, A. (2019). Making a career in hospitals: Determinants of registered nurses' aspirations to become a manager. *Journal of Advanced Nursing*, 75(11), 2506-2515. doi:10.1111/jan.14002

ORIGINAL RESEARCH:
EMPIRICAL RESEARCH – QUANTITATIVE

JAN **WILEY**

Making a career in hospitals: Determinants of registered nurses' aspirations to become a manager

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Abstract

Aim: To examine seven determinants of Registered Nurses' aspirations to become a manager in four Norwegian public hospitals.

Background: Research evidence shows that nurses submit few applications to management positions. Understanding the determinants that influence nurses' aspirations to become managers can provide healthcare organizations with important knowledge on the drivers and barriers in recruitment and on the development of nurse managers.

Design: This study adopted a cross-sectional web-based survey design.

Method: Logistic regression analysis based on 2,630 Registered Nurses' responses to a self-completion survey in a Norwegian regional health authority collected during October 2014. The overall response rate was 40%.

Results: Findings indicate that men and younger nurses are most likely to report an aspiration in management. The social support of an immediate supervisor and institutional stress are positively associated with an aspiration to become a manager; however, high experienced workloads have the opposite effect.

Conclusion: Healthcare organizations should work strategically to develop a human resource management policy that ensures that the organization develops the nurse managers it needs now and in the future.

Impact: This study addresses the challenge of having enough qualified nurse managers. The main findings indicate that job demands can have both a negative and positive impact on nurses' aspirations to become a manager. Healthcare organizations should, however, reduce demands and consider increasing job resources. The results should have an impact on the human resource department, managers, and other key personnel in healthcare organizations.

KEYWORDS
career, healthcare organizations, job demands, job resources, management, nurses, stress

111

1 | INTRODUCTION

Health care needs a sufficiently large workforce of well-trained and motivated nurses that can deliver high quality service and take on management responsibilities. It is often implicitly assumed in the literature that progressing into management is a desired and positive career move (Spehar, Frich, & Kjekshus, 2014). However, only a small proportion of nurses apply for management positions. Clinicians' decisions to enter management positions seem to be influenced by pressure from colleagues, managers, and other important persons (Berg & Byrkjeflot, 2014; Spehar, Frich, & Kjekshus, 2012). It is surprising, based on the importance of nurse manager influence on organizational outcomes (Lavoie-Tremblay, Fernet, Lavigne, & Austin, 2016; Morsiani, Bagnasco, & Sasso, 2017), how little research has been conducted into Registered Nurses' motives and reasons for embarking on a career in management (Bondas, 2006; Spehar et al., 2014; Wong et al., 2013).

A deeper understanding of the factors that influence nurses' aspirations to become managers can provide healthcare organizations with crucial knowledge on the drivers and barriers behind recruitment of nurse managers in hospitals. Nurses in management positions are exposed to organizational, economical, scientific, and political demands (Bondas, 2006). It is frequently argued that traditional methods for selection of nurse managers have resulted in the promotion of excellent clinicians who lack formal management education and lack the support needed to successfully transition into management (Abraham, 2011; Titzer, Shirey, & Hauck, 2014). Ineffective selection and preparation of new nurse managers can, however, have a negative impact on work environments, turnover rates and patient outcomes (Titzer et al., 2014).

The aim of this study is to examine if gender, age, the job resources social support from immediate supervisor, competence development, autonomy and the job demands, workload, and institutional stress influence nurses' aspiration to become a manager. Research on career choice in nursing has often explored the influences on nurses' decisions to enter the nursing profession (Price, 2009). There is, however, limited knowledge on work-related experiences that influence nurse aspiration to become a manager. The results of this study could therefore provide useful insights that can be used to optimize recruitment of nurses into management positions and management development programs.

1.1 | Background

Many authors have used the terms management and leadership interchangeably (Yukl, 2013). Management is often described as concerning how to get things done and getting people to perform better. Leadership is, however, often understood as concerning what things mean to people and getting people to decide what are the most important things that need to be done (Yukl, 2013). Most scholars seem to agree that achieving success as a manager in modern organizations involves leading (Yukl, 2013). In this paper we refer to managers as those in an organization that hold a formal manager

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Why is this research needed?

- The challenge of having enough qualified nurse managers grows with demographic changes in the population and the growing number of older patients. Knowledge about determinants that influence registered nurses' aspiration to enter management is limited.
- Greater understanding of how job resources and job demands affect aspiration in management can provide healthcare organizations with important knowledge on the drivers and barriers in recruitment and development of nurse managers. 1pblockFixed2.

Whar are the key findings?

- Men and younger nurses are more interested in becoming a nurse manager than women and older nurses.
- Job demands can serve as either an incentive or a disincentive to the aspiration to become a nurse manager.
- The job resource social support from an immediate supervisor has an impact on nurse's desire to enter management.

How should key findings be used to influence policy/practice/research/education?

- Managers, the human resource department and other key personnel should support and encourage potential nurse managers, particularly young woman and middle-career nurses.
- Healthcare organizations should evaluate nurse workloads and consider the importance of work-life balance.
- Career planning support should be made available to nurses.

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position and responsibilities. Formal nurse managers are responsible for areas such as staffing, planning and budgeting. Nurses in clinical positions are, however, primarily responsible for the nursing and care for patients.

A variety of constructs have been postulated as determinants of management role occupancy. These include educational experience (Eich, 2008), peer group (Day, 2000) mentors (Lester, Hannah, Harms, Vogelgesang, & Avolio, 2011; Muir, 2014) and training and developmental experiences (Day & Dragoni, 2015; Lacerenza, Reyes, Marlow, Joseph, & Salas, 2017). In nursing, previous research has also found that younger nurses were more interested in management than older nurses (Bulmer, 2013; Laschinger, Wong, & Grau, 2013). We know that the healthcare sector has a disproportionally high number of men in nurse management positions in many countries (Evans, 2004; Karlsen, 2012). Evans (2004) emphasizes that prevailing definitions of masculinity have acted as a powerful barrier to men crossing the gender divide and entering the nursing profession,

but once there, they gravitate towards management and specialties perceived to be masculine. Other possible explanations for this underrepresentation of female managers are multiple: work-family conflicts, women actively choosing not to pursue management positions and that there are few opportunities for nurses to participate in professional development that would promote their advancement into management roles (Arvey, Zhang, Avolio, & Krueger, 2007). There may also be a gender bias in the selection processes into management position (Koch, D'Mello, & Sackett, 2015). Because of gender stereotypes, men are more frequently viewed to be stronger leaders than women (Heilman, Manzi, & Braun, 2015; Van den Brink, Holgersson, Linghag, & Deé, 2013). However, Koch et al. (2015) found no strong preference for either gender for female-dominated jobs. We will, in this study, test whether age and gender have an influence on nurse aspirations to enter management roles.

In many industries, the Job Demand-Resource (JD-R) model has become central to the explanation and understanding of organizational factors and their influence on outcomes like occupational health, job satisfaction, turnover, and sick leave (Bakker & Demerouti, 2014; Demerouti & Bakker, 2017), but we know of no study that has investigated nurses' aspirations to become a manager based on the JD-R framework. This theoretical model attempts to integrate the stress research tradition and the motivation research tradition. It also proposes two work characteristics categories relevant to the experience of motivation and job stress among employees. The work characteristics are job resources and job demands. Job resources relate to the social, physical, psychological, or organizational aspects of a job that help the individual to meet work goals, reduce work demands and/or stimulate personal development, learning and growth (Bakker & Demerouti, 2007). Job demands relate to the social, physical, psychological or organizational aspects of a job that require psychological and physical effort or skills. High job demands and a lack of job resources have a draining effect on employees through a stress process (Bakker, Demerouti, & Sanz-Vergel, 2014).

The JD-R model states that many types of job resources may buffer the undesirable influence of job demands (Bakker & Demerouti, 2017). Job resources can either play an intrinsic motivational role through fostering employees' growth, learning, and development, or an extrinsic motivational role through being instrumental in achieving work goals. In the intrinsic role, job resources fulfil basic human needs, such as the needs for autonomy, competence, and relatedness (Deci, Olafsen, & Ryan, 2017). In this article, we will explore whether autonomy, competence development and the social support of immediate supervisors influence nurses' aspiration to become a manager. We expect nurses' who experience autonomy in their current position, to have greater interest in attaining management roles than nurses who experience low autonomy. Nurses who have experienced delegated responsibilities and freedom in their work situation may learn to trust themselves and their own judgement and want to be involved in decision-making at a higher level in the organization. The need for competence refers to the need to feel a sense of mastery and of being effective in dealing with the environment (Gagné, 2014). Nurses who are given the opportunity to learn new things, to adapt and use their skills and expertise, may gain a sense of achievement in their working situation and may, from this, seek further challenges by pursuing a management position.

There is a positive correlation between autonomy support and employees' feelings of autonomy, competence, and relatedness. This in turn relates to greater work performance and adjustment (Slemp, Hern, Patrick, & Ryan, 2018). A manager's control of goals, politics, rewards, and perceived fairness in the workplace provides them with considerable influence over how employees perceive their work environment (controlling vs. autonomous), which in turn can have an impact on employees' sense of self-determination (Gagné, 2014). Working for an effective, visible, and positive manager might inspire interest in a management role, as exemplified in earlier studies (Bondas, 2006; Wong et al., 2013). Nurses who receive social support from their immediate supervisor, such as constructive advice and appreciation of their work, could experience higher self-esteem and the motivation to engage in management.

Bulmer (2013) found that advanced educational preparation, supervisory appraisal support, and informational support were explanatory factors related to nurses' engagement in a management role. Qualitative and quantitative research have found that intrinsic motivational factors such as new challenges, autonomy, opportunity to influence others and making a difference are highly correlated with aspiration to management (Wong, Laschinger, & Cziraki, 2014; Wong et al., 2013). On the other hand, Bondas (2006) findings show that nurses who enter nursing management felt they were persuaded or pushed into these roles.

The JD-R model acknowledges that every occupation has its own job-related stress risk factors (Demerouti & Bakker, 2011). Nursing is a stressful job (Galdikiene, Asikainen, Balciunas, & Suominen, 2016; Hasselhorn, 2008). Job demands that overwhelm nurses' personal ability can potentially evoke stress-reactions and low resources and high demands are described as producing the highest levels of strain (Bakker & Demerouti, 2014). Studies of nurses have identified various kinds of stressors in the work environment. These include high experienced levels of emotional demands, workloads, lack of participation, office politics and inadequate communication particularly between managerial and non-managerial personnel (Cooper, Dewe, & O'Driscoll, 2001; McVicar, 2016; Vander Elst et al., 2016).

We, in this paper, will investigate how workload and institutional stress relates to nurses' interest in assuming a management position. Workload is comprised of work-life balance and work pressure. Institutional stress is frequently related to disagreement with hospital policy, values and management practice. Nurses' concerns about the workload of managers and the lack of a work-life balance in management roles seems to be a key disincentive for choosing management as a career (Wong et al., 2014). High workloads and work-life interference were recently found to result in high burnout and were highly correlated with Registered Nurses' intentions to leave an organization and the profession (Moloney, Boxall, Parsons, & Cheung, 2017). On the other hand, most Norwegian nurse managers in hospitals work in the daytime. Control of one's work schedule, working in the daytime and more power in decision-making are incentives for taking on a management role (Wong et al., 2014).

Modern health care is becoming increasingly complex. Disagreement with hospital policy, management practice and strategy may lead to stress (Demerouti, Bakker, Nachreiner, Schaufeli, 2000; McVicar, 2016). Nurses who disagree with a hospital's policy may have little influence on important organizational decisions. This can lead to frustration, reduced work motivation and reduced interest in engaging in management. Nurses who are experiencing high workloads, work pressure and work-life conflicts must use mental effort to cope with their working situation. This can, according to the JD-R model, in the long run lead to depletion of energy and nurses being unable to perform well because their resources are diminished (Bakker & Demerouti, 2017).

2 | THE STUDY

2.1 | Aim

The purpose of this study was to explore determinants that influence nurses' aspirations to become a manager. The determinant variables selected were gender, age, the job resources social support of immediate supervisor, competence development, autonomy and the job demands, workload and institutional stress. Our hypotheses were that: 1) male nurses have a greater interest in entering management than female nurses; 2) older nurses are less interested in becoming a manager than younger nurses; and 3) job resources such as: a) the social support of immediate supervisor; b) competence development; and c) autonomy are positively associated with an interest in becoming a manager; 4) interest in becoming a manager is negatively related to the job demands of: (a) workload; and (b) institutional stress.

2.2 | Design

The study adopted a cross-sectional web-based survey design.

2.3 | Participants

The data used in this study was collected from an internal web-based survey sent out in October 2014 to all healthcare employees employed in the Western Norway Regional Health Authority, one of Norway's four regional health authorities. The Western Norway Regional Health Authority is comprised of four public health enterprises and a pharmacy trust and has overall responsibility for the specialist health service in the region.

2.4 | Data collection

The survey was part of the "Task planning and management in the hospital sector" research project. 9,162 employees responded to the survey, representing a response rate of 40%. Nurses currently working in management positions and without a permanent contract were not included in the study. 2,630 Registered Nurses were the target of this study.

2.5 | Measurement instruments

In line with our theoretical approach, validated instruments were included to get an overview over work environmental characteristics and stress at the hospitals. In the current study, the following variables were included as the most relevant explanatory factors in relation to explaining variance related to management aspiration among nurses.

2.5.1 | Demographic factors

The demographic factors of gender and age were included in the study. Age was measured using a five-point scale ranging from age 30 years or less, age 31–40, age 41–50, age 51–60, and age 61 or older.

2.5.2 | Social support of immediate supervisor

Three items were used to measure the social support of the immediate supervisor (Van der Heijden, 1998). The items were measured using a five-point scale (1 = not at all, 5 = very much). Items include "Does your immediate supervisor provide constructive advice?" and "Does your immediate supervisor express his/her opinion of your work?".

2.5.3 | Competence development

Four items from the Copenhagen Psychosocial Questionnaire were used to measure competence development (Kristensen, 2000). The items were measured using a five-point scale (1 = strongly disagree, 5 = strongly agree). Items include "Does your work require you to take the initiative?", "Do you have the opportunity to learn new things through your work?" and "Does your work require adaptability?"

2.5.4 | Autonomy

Four items from the Organization Assessment Survey (Dye, 1996) were used to measure autonomy. The items were measured using a five-point scale (1 = strongly disagree, 5 = strongly agree). Items include "In my department, we work together to influence the standards that constitute good work", 'In my department, we often have the opportunity to influence goals or actions and "All employees in my department are involved in important decisions that affect them."

2.5.5 | Workload

Six items from Cooper's Job Stress Questionnaire (Cooper, 1981) were used to measure workload. The items were measured on a six-point scale (1 = not relevant or no stress, 6 = much or always stress). The questionnaire focuses on potentially stressful aspects of the work environment. The scale includes items related to work load, work pressure, making mistakes and work-life balance.

2.5.6 | Institutional stress

Seven items from Cooper's Job Stress Questionnaire (Cooper, 1981) were used to measure institutional stress. Items were measured on a six-point scale (1 = not relevant or no stress, 6 = much or always stress). Items relate to the organization's policy, lack of power and influence, values that conflict with those of the organization and managers not understanding the challenges related to the work situation.

2.6 | Ethical considerations

The Norwegian Centre for Research Data registered and approved the study's procedures, project number 33,311.

2.7 | Data analysis

It is important to establish validity and reliability on all measures before testing hypotheses. Confirmatory factor analyses (CFA) and general guidelines (Hair, Black, Babin, & Anderson, 2010) are therefore used to assess the validity and reliability of constructs. Reliability of constructs was investigated using Composite Reliability (CR) and Cronbach's alpha (Hair et al.., 2010). The validity of the measurement constructs was evaluated using the following indicators (Hair et al., 2010); Root Mean Square Error of Approximation (RMSEA < 0.08), Incremental fit index (IFI > 0.9), Comparative Fit Index (CFI > 0.9). The sensitivity of the Chi square however means that it is not used to assess the measurement model (Schumacker & Lomax, 2004).

The outcome variable is dichotomous. A binary logistic regression was therefore used to test the hypothesis. Model significance was examined using the Hosmer and Lemeshow tests and the Omnibus Tests of model coefficients (Hosmer Jr, Lemeshow, & Sturdivant, 2013). Negelkerke R^2 provides an indication of the amount of variation in the outcome variable that is explained by the model. Adjusted odd ratios (OR) and a 95% confidence interval (CI 95%) were calculated to evaluate the contribution of the explanatory variables. CFA is estimated using AMOS 25.0. The remaining assessments, including descriptive statistics and Pearson correlations, were conducted in SPSS version 21.0.

3 | RESULTS

The characteristics and frequencies of the registered nurse sample are shown in Table 1. 9.6% of the 2,630 participants were men and 90.4% were women. 56.6% of the sample were over 40 and 54.4% worked full-time in the public health enterprises. Range, mean, and standard deviations and the reliability statistics for study variables are given in Table 2. Competence development, autonomy, and the social support of immediate supervisor had the highest mean scores. Gender, aspiration to become a manager and institutional stress had the lowest scores. 655 of the nurses surveyed had an aspiration to become a manager, while 1975 of the nurses did not. The lowest standard deviations emerged from gender, aspiration to become a

TABLE 1 Characteristics of study participants (*n* = 2,630)

	N (%)
Gender	
Men	252 (9.6)
Women	2,378 (90.4)
Age groups (years)	
< 31	445 (16.9)
31 – 40	696 (26.5)
41 – 50	705 (26.8)
51 – 60	631 (24.0)
> 60	153 (5.8)
Job percentage	
Full-time	1,430 (54.4)
Part-time	1,200 (45.6)

manager and competence development. The statistical variation of the variables was generally considered to be acceptable.

3.1 | Assessing quality of the measurement model

CFA and Maximum Likelihood Extraction indicate the factorial model and operationalization of the constructs tested on the registered nurse sample were relatively satisfactory (RMSEA: 0.07, IFI: 0.90, CFI: 0.90). The reliability of the measures was also satisfactory and considered to be adequate. Cronbach's alpha ranged from 0.71 to 0.91, indicating robust reliability. CR was above 0.7, ranging from 0.72 to 0.77 and also satisfactory.

The inter-construct correlations were low to moderate (ranging from −0.48 – 0.55) indicating discriminant validity (Table 2). We expected the two job demand factors, workload and institutional stress, to be positively correlated. This was confirmed (*r* = 0.55). Likewise, we also expected job resource factors (autonomy, competence development, and social support) to be positively correlated. Correlations ranged from 0.27 to 0.53, so this was confirmed. Generally, also according to expectations, job demand factors was negatively related to job resource factors, with correlations ranging from 0.00 to −0.48.

3.2 | Hypotheses testing

Binary logistic regression analyses were undertaken to test the hypotheses. Table 3 shows the results of the logistic regression analyses, "aspiration to become a manager" being the outcome variable. The model contained seven explanatory variables and five of the explanatory variables made statistically significant contributions. The model was significant and explained 14.7% of the variance in aspiration to become a manger. The results confirmed that hypothesis 1 was supported; men are more likely to have an aspiration to become a manager then women (OR = 2.50, CI 1.87–3.33). Of the women 23% reported an aspiration to become a manager, while 42.9% of men reported this aspiration. Age was also significant, supporting hypothesis 2 that younger nurses are more interested in becoming a manager than

TABLE 2 Descriptive statistics, Cronbach's alphas, and correlations

Variables	Range	M	SD	Alpha	1	2	3	4	5	6	7	8
1. Gender	1–2	1.10	0.29	—	—							
2. Age	1–5	2.75	1.16	—	−0.31	—						
3. Aspiration to become a manager	1–2	1.24	0.43	—	0.16**	−0.26**	—					
4. Social support from supervisor	1–4	3.08	0.89	0.85	0.06**	0.02	0.03	—				
5. Competence development	1–5	4.37	0.51	0.71	−0.13**	−0.01	−0.00	0.27**	—			
6. Autonomy	1–5	3.23	0.80	0.91	−0.01	0.05*	−0.01	0.53**	0.28**	—		
7. Workload	1–6	2.09	0.73	0.77	−0.02	−0.22**	0.07**	−0.21**	0.00	−0.30**	—	
8. Institutional stress	1–6	1.78	0.84	0.87	0.03	−0.09**	0.13**	−0.34**	−0.23**	−0.48**	0.55**	—

Note. Aspiration to become a manager: 0 = no, 1 = yes. Gender: 1 = Female, 2 = Male.
*p < 0.05. **p < 0.01.

TABLE 3 Logistic regression analysis with odds ratio related to registered nurses aspiration to become a manager (N = 2,630)

	OR	CI 95%	p value
Gender	2.50***	1.87–3.33	0.001
Age	0.57***	0.52–0.62	0.001
Social support from supervisor	1.14*	1.00–1.29	0.045
Competence development	1.15	0.94–1.40	0.177
Autonomy	1.10	0.95–1.28	0.191
Workload	0.81**	0.69–0.94	0.007
Institutional stress	1.63***	1.41–1.87	0.001

Note. Aspiration to become a manager: 0 = no, 1 = yes.
Omnibus tests: p < 0.001; Hosmer and Lemeshow tests: p = 0.245.
Nagelkerke R^2 = 14.7%.
*p < 0.05, **p < 0.01; ***p < 000.1.

older nurses (OR = 0.57, CI = 0.52–0.62). The social support of your immediate supervisor was positively associated with an aspiration to become a manager (OR = 1.14, CI = 1.00–1.29), supporting hypothesis 3a. We expected nurses who reported high levels of competence development (hypothesis 3b) and autonomy (hypothesis 3c) to report an aspiration to become a manager. These two hypotheses were not, however, significantly supported. Workload was significant, providing support for hypothesis 4a (OR = 0.81, CI = 0.69–0.94). This indicates that the higher the workload experienced by nurses, the less they want to become a manager. Nurses furthermore reported an aspiration to become a manager when experiencing institutional stress (OR = 1.63, CI = 1.41–1.87), which is the opposite direction expected by hypotheses 4b.

3.3 | Validity and reliability

All measurement scales were investigated related to psychometric qualities. CFA confirmed that items belonged to the different theoretical domains they are expected to measure. Furthermore, correlations were low to moderate (ranging from −0.48 to 0.55) which indicate satisfactory levels related to discriminant validity. Internal-consistency reliability (Cronbach's alpha) was acceptable and ranged from 0.71–0.91. Composite reliability was also above 0.7, as recommended (Hair et al., 2010). The tolerance test ranged from 0.565–0.972, VIF ranged from 1.028–1.1771, indicating a satisfactory level of multi-collinearity among explanatory variables in the logistic regression estimations (Huizingh, 2007). Criterion related validity is demonstrated when the theoretical model significantly explain variance in the outcome variable (Netemeyer, Bearden, & Sharma, 2003), which is demonstrated in the binary logistic regression estimations. It was concluded, based on these findings, that the validity and reliability of the study were satisfactory.

4 | DISCUSSION

The aim of this study was to examine determinants of Registered Nurses' aspirations to become a manager. For this purpose, a model was developed. The model included the explanatory variables gender, age, the job resources social support of immediate supervisor, competence development, autonomy and the job demands, workload and institutional stress. The validity and reliability of measurement constructs were assessed before the hypotheses were tested. The study provides empirical support for some of the hypothesized links. The explanatory variables competence development and autonomy were, however, not significant. The influence of institutional stress was, furthermore, the inverse of hypothesis expectation. Men are more likely to be interested in the managerial role than women. Younger nurses are also more interested in the managerial role than older nurses. The social support of an immediate supervisor is positively associated with an interest in becoming a manager, while higher workloads among nurses decrease their interest. Institutional stress is positively associated with an interest in becoming a manager.

This study advances knowledge by showing that the motivation of nurses to take on the managerial role depends both on work characteristics in the hospital setting and on gender and age. It also contributes to a field where there is limited empirical research and few underlying theoretical models that explain nurse motivation to enter a managerial role. One could argue, from a theoretical standpoint, that interest in a managerial position could be an "escape" from nursing work characteristics such as undesirable work schedules, lower salary and low decision autonomy. It is also, however, possible to argue that aspiration is based on other work characteristics, interest in a managerial role perhaps being an "escape" to new positions with higher status, that are better paid and provide greater influence on strategy and the operation of the hospital. This study contributes with empirical research to these contrasting arguments. Positive job characteristics of the nursing job, such as the social support of an immediate supervisor, are likely to have a positive influence on interest in the managerial role. On the other hand, institutional stress (a job demand characteristic) is also likely to positively influence interest in becoming a manager.

The results show that men have a higher aspiration of entering management than woman, supporting earlier findings (Karlsen, 2012). This may be because women still and to a much greater extent than men, view the family as their main obligation. Previous research has found that women experience higher work-family conflicts than men (Ollo-López & Goñi-Legaz, 2017). A lower aspiration among woman to enter management is particularly challenging in healthcare organizations where most nursing staff is woman. The implication of this is that a large proportion of the potential female candidates for management positions may reject this as a career alternative.

This study and earlier research (Laschinger et al., 2013; Wong et al., 2013) show that it is still the youngest nurses who report greater interest in pursuing management roles. Older nurses may have made a well thought-through decision about their career. Younger nurses may still want future options in their career. Talent management for both younger and older nurses may help hospitals ensure that they have the talented people they need to attain business goals. Talent management can be seen as being a "bundle" of interrelated processes to ensure that the organization acquires, develops and keeps the talented people it needs now and in the future, in this case nurse managers (Armstrong, 2012).

As expected in this study social support of their immediate supervisor influence nurses' interest in management. This is in line with a study by Wong et al. (2013) where participants expressed that working with an effective manager stimulates interest in management roles. The JD-R model suggests that different leadership styles will influence employees' work motivation through job resources and job demands (Bakker & Demerouti, 2018). It is reasonable to believe that other important colleagues can also influence employee interest in a managerial role. Role models such as peers, senior employees and mentors all have an influence on career expectations and decisions (Price, 2009). An active HRM policy including work force planning, performance and talent management, can systemize the feedback and support in a workplace and provide the motivation for career moves (Armstrong, 2012).

Competing demands between personal and work roles can result in personal conflicts (Ghislieri, Gatti, Molino, & Cortese, 2017; Moloney et al., 2017). This study gave support to an inverse relationship between workload and nurse aspiration to enter management. Nursing can be characterized as being a high-strain job that challenges the work-family balance and which increases the probability of turnover (Chen, Brown, Bowers, & Chang, 2015). Flexible working practices or self-scheduling strategies could promote a better balance, especially in some stages of life such as when responsible for young children. Healthcare organizations should work strategically to explore methods for reducing the impact of high workload, to ensure the future of their workforce. The availability of greater resources can act as a buffer to job demands (Gordon et al., 2018).

Contrary with what we expected, nurses who experienced institutional stress reported an interest in management. There may be several explanations of this. Disagreement with the hospital's policy may trigger nurses' interest in management. Nurses may want to influence and contribute to changes in strategy, human resource policy and practice and how the hospital is operated. Job demands are suggested to play a central role in the health impairment process but not in the motivational process (Bakker & Demerouti, 2014). However, some scholars have argued that job demands may also play a motivational role (Bakker & Sanz-Vergel, 2013). This is still considered an unsettled issue in the JD-R framework that needs to be addressed, something this study emphasize (Bakker & Demerouti, 2017). Nurses who experience institutional stress might proactively want to become managers to make their work environment more meaningful and increase their resources. Nurses can also, according to Bondas (2006), decide to become managers because they have experienced 'bad' nurse leaders. It is argued that nurses have unique and crucial insights into those aspects of their work environment that support and hinder the ability to successfully deliver care. The strategies used by healthcare organizations to ensure safety and quality of care must therefore include an awareness of nurses' perceptions of their work environment (Yanchus, Ohler, Crowe, Teclaw, & Osatuke, 2017).

4.1 | Limitations

Additional research should consider using a longitudinal design and further explore the mechanisms that influence nurse career choices, which is a subsidiary research field. Regarding the generalizability of the findings, more research on nurse career issues should be conducted in different healthcare settings and cultures. Our focus in this study was to examine the determinants of nurse aspiration to become a manager through examining demographic factors and some job characteristics related to job resources and job demands. The study used the JD- R model as a framework. Future studies might benefit from including other types of explanatory factors, such as self-efficacy and optimism. Social cognitive factors and personality traits probably have the potential to

explain career choices among nurses'. Future studies can also use qualitative design to investigate contextual factors in relation to career decisions.

5 | CONCLUSION

Today's hospitals must increasingly create the work conditions that promote and sustain employee well-being and the motivation that brings competent nurses to management (Fernet, Austin, & Vallerand, 2012). This study presents several determinants that influence nurses' interest in management positions. It is crucial that healthcare organizations develop and continually evaluate their human resource strategies to meet the challenge of recruiting the right nurse managers. Encouraging nurses to take management positions must be balanced with the general need for human resources in the hospital setting. A shortage of nurse managers and of nurses can, for example, be a dilemma. Career planning support should be available to all nurses, as it can help nurses to identify an interest in management or other career specializations. Healthcare organizations should consider increasing job resources for those nurses' who are interested in management. These resources could include management development courses, shadowing managers and mentoring (Demerouti & Bakker, 2011; Wong et al., 2013). Healthcare organizations should encourage young women and middle-career nurses in particular to seek out the opportunities which can prepare them for a role in management. This study highlights the importance of a good relationship between nurses and their immediate supervisor in the development of future nurse managers.

The results of this study suggest, contrary with what we expected, that job demands can have both a negative and positive impact on nurses' interest in management. This exemplifies the complexity of hospitals and illustrates that the relationships between hospital characteristics might differ from what we theoretically assume. This study also illustrates the importance of conducting analytics in hospitals to increase our understanding of the factors that explain variance of different outcomes in real hospital settings, including the factors that influence nurse interest in the managerial role. Healthcare organizations should collect hospital data, for example via surveys and other data sources, monitor workloads and improve the balance between work and family life, by ensuring the right number of staff with the right skills mix are available. Nurses who experience institutional stress have a greater interest in entering management than other nurses. They may see better ways of organizing their day-to-day work and might see potential improvement areas in the organization. This group of personnel might therefore hold important information that can help improve hospitals.

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Paper 2

ORIGINAL ARTICLE

WILEY

The association between supervisor support and ethical dilemmas on Nurses' intention to leave: The mediating role of the meaning of work

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Abstract

Aim: To examine the association between supervisor support and ethical dilemmas on nurses' intention to leave health care organisations, both directly and through the mediating role of the meaning of work.

Background: The shortage of nurses makes it vital that organisations retain nurses and so reduce the costs associated with replacing experienced nurses.

Methods: This cross-sectional study samples 2,946 registered nurses from a selected health region in Norway. Structural equation modelling was used to test a hypothesized model.

Results: Social support from the supervisor and ethical dilemmas is associated with nurses' intention to leave, both directly and indirectly through the mediating role of the meaning of work.

Conclusion: Health care organisations should enhance social support from supervisors and the meaning of work, and reduce the level of ethical dilemmas in hospitals.

Implications for Nursing Management: Health care organisations should continuously develop and offer training in nurse manager skills, such as being empathic, understanding employees' needs and how to communicate and handle ethical dilemmas. Managers should value staff contributions, encourage staff involvement in ethical questions and highlight the impact of nurses' work on improving the welfare of others.

KEYWORDS

ethical dilemmas, intention to leave, management, meaning of work, nursing

1 | INTRODUCTION

The health care sector is rapidly evolving, this evolution being driven by factors such as higher patient expectation levels, advanced technological developments and increasing demands upon nursing care due to an ageing population (Buchan, Duffield, & Jordan, 2015). There will be a shortage of registered nurses during the next 10 years (World Health Organisation, 2020), which should be a concern for health care managers, political leaders and the general population. From a managerial perspective, there is a need for knowledge on the determinants of nurses' career choices. This is knowledge that can be used to help retain a qualified workforce of nurses and specialized nurses. Accessible health care requires a motivated and well-trained nurse workforce of sufficient size, which is able to deliver a high-quality service. The costs associated with high turnover (Duffield, Roche, Homer, Buchan, & Dimitrelis, 2014)

mean that much can be gained from finding ways to decrease nurses' intentions to leave health care organisations.

Intention to leave is described as being an individual's deliberate and estimated intention to leave an organisation or profession within the near future (Cho, Johanson, & Guchait, 2009). Intention to leave is considered to be the last stage of a sequence in the withdrawal cognition process, before actually resigning (Krausz, Koslowsky, Shalom, & Elyakim, 1995). A variety of environmental and interpersonal factors have been identified as potential determinants of nurses' intention to leave (Halter et al., 2017). These include psychological distress (Brunetto, Rodwell, Shacklock, Farr-Wharton, & Demir, 2016), leadership style (Lee, Chiang, & Kuo, 2019; Pishgooie, Atashzadeh-Shoorideh, Falcó-Pegueroles, & Lotfi, 2019), burnout (Moloney, Box all, Parsons, & Cheung, 2017) and emotional demands (Van der Heijden, Peeters, Le Blanc, & Van Breukelen, 2018). This study attempts to provide new knowledge by testing the association between social support and ethical dilemmas on nurses' intention to leave, and to test the mediating role of the meaning of work.

1.1 | Theoretical framework, relevant research and hypotheses

The Job Demand-Resource (JD-R) model is a central framework for understanding organisational factors and their affect on outcomes such as intention to leave, job involvement and work engagement (Bakker & Demerouti, 2017). The JD-R model proposes two work characteristic categories: job resources and job demands. Job resources relate to employees' experience of motivation, and job demands relate to strain reactions (Bakker & Demerouti, 2017). Further, the JD-R model accounts for two separate but related underlying psychological processes, namely a health impairment process and a motivational process. In the health impairment process, job demands may exhaust employees' mental and physical energy resulting in strain reactions and health problems. However, in the motivational process, it is assumed that job resources play either an intrinsic or extrinsic motivational role and promote positive work outcomes, such as job involvement, high job performance and organisational commitment (Bakker & Demerouti, 2017). High demands and low resources may turn in to job stress, which is a known factor in turnover (McVicar, 2016). For instance, studies by Moloney et al. (2017) and Van der Heijden et al. (2018) used the JD-R framework to examine the consequences of job resources and job demands on nurses' intention to leave. Whereas supervisor support is a common predictor for nurses' intention to leave (Brunetto et al., 2016; Van der Heijden, Brown Mahoney, & Xu, 2019), the association between ethical dilemmas and meaning of work has only rarely been examined. To our knowledge, this is the first research to test a model examining whether supervisor support, considered a job resource, and ethical dilemmas, considered a job demand, are associated with nurses' intention to leave

health care organisations, both directly and through the mediating role of the meaning of work.

The JD-R model assumes that every profession has its own job-related risk factors that are related to job stress (Demerouti & Bakker, 2011). Health care organisations are experiencing increasing pressure and demands that high-quality care is delivered at lower costs. Nurses that feel they have to perform work tasks that are, due to costs constraints, not in line with their ethical standards, may experience this as an ethical dilemma. An ethical dilemma is a situation in which an employee must choose between two equally good or poor choices (Rainer, Schneider, & Lorenz, 2018) and is something nurses experience on an everyday basis. A literature review of nurses' experiences of ethical dilemmas found that factors such as lack of equipment, shortage of staff, and policies and organisational issues were found in most studies to be stressful (Haahr, Norlyk, Martinsen, & Dreyer, 2019). Ethical dilemmas are considered, in our research model, to be an indicator of job demands. We believe that nurses who experience ethical dilemmas, and who experience feelings such as frustration and anxiety when faced with organisational priorities and routines, have a higher intention to leave. We also hypothesize that practices that conflict with nurses' professional values increase the experience of ethical dilemmas, and reduce the meaning of work among nurses. The meaning of work is described as being a subjective experience that has a personal meaning to people in their work (Rosso, Dekas, & Wrzesniewski, 2010). It is also referred to as a subjective sense that individuals make of their work (Pratt & Ashforth, 2003).

H 1 Ethical dilemmas at work are positively related to intention to leave.

H 2 Ethical dilemmas at work are negatively related to the meaning of work.

Numerous studies show that nurses need to experience the organisational support of management, as this improves job satisfaction (Boamah, Laschinger, Wong, & Clarke, 2018) and commitment to an organisation (Al-Yami, Galdas, & Watson, 2018) and reduces intention to leave (Brunetto et al., 2016). Social support from supervisors is an important predictor of reduced emotional exhaustion (Woodhead, Northrop, & Edelstein, 2016) and is positively related to work engagement (Othman & Nasurdin, 2013). A study by Van der Heijden et al. (2019) shows that social support from supervisors reduces nurses' intention to leave the profession. Moreover, a supervisor can give constructive feedback and enhance the capacities of nurses to cope with emotionally demanding situations. The conditions under which work is assigned can, furthermore, influence the extent to which work can be experienced as being meaningful (Michaelson, 2011). Given the positive aspects of supervisor support, this dimension is considered an important job resource in our study. We assume that support of an immediate supervisor will lower intention to leave, and the meaning of work plays a mediating role.

H 3 Social support from the supervisor is negatively related to intention to leave.

H 4 Social support from the supervisor is positively related to the meaning of work.

Individuals actively desire and seek meaningfulness in their lives and work. Their ability to derive meaning from work or other social domains is considered to be an important element of individual psychological well-being (Pratt & Ashforth, 2003). Meaning of work has been associated with organisational commitment (Anthun & Innstrand, 2016), reduced risk of turnover (Arnoux-Nicolas, Sovet, Lhotellier, Di Fabio, & Bernaud, 2016; Clausen, Christensen, & Borg, 2010) and long-term sickness absence (Clausen et al., 2010). Many nurses enter the nursing profession altruistically motivated (van der Wath & van Wyk, 2019). We believe that work that one perceives improves the welfare of others, leads to an increased experience of the work being meaningful and thus decreases intention to leave. We further hypothesize that meaning of work has a mediating role on ethical dilemmas and social support from the supervisor on nurses' intention to leave (Figure 1).

H 5 The meaning of work is negatively related to intention to leave.

H 6 The meaning of work mediates the influence of ethical dilemmas on intention to leave.

H 7 The meaning of work mediates the influence of social support from the supervisor on intention to leave.

2 | METHODS

2.1 | Study design and setting

In this study, we used a cross-sectional survey design. The hypothesized links are given in Figure 1. The data were collected using an internal Web-based survey sent to all employees in one of four regional health authorities in Norway. The selected health region, the western part of Norway, is made up of four main public health enterprises and a pharmacy trust. They ensure that 1.1 million people receive the specialist health services they are entitled to.

2.2 | Data collection, participants and ethics

The survey was part of the research project 'Task planning and management in the hospital sector'. A total of 9,162 employees completed the survey, and the overall response rate was 40%. A total of 2,946 registered nurses from the health region were included in this study. Permission to conduct the study was obtained from the Norwegian Centre for Research Data, project number 33,311.

2.3 | Measurement instruments

A three-item scale developed by Van der Heijden (1998) was used to measure social support from the supervisor. This included questions relating to an immediate supervisor providing constructive advice and expressing their opinion of an employee's work. The items were measured using a 5-point scale ranging from not at all (1) to very much (5).

Three items were used to measure how often employees experienced ethical dilemmas in their work. This included questions relating to the lack of cooperation between departments, lack of coordination on important work tasks and lack of equipment. The questions were developed by the research group and were based on research by Gaudine, LeFort, Lamb, and Thorn (2011), and information obtained from qualitative interviews conducted with health care personnel. The items were measured using a 5-point scale ranging from never (1) to always (5).

Three items were derived from the Copenhagen Psychosocial Questionnaire (COPSOQ) and were used to measure the meaning of work (Kristensen, 2000). This included questions relating to whether work is meaningful and of importance, and whether employees feel motivated and involved in the work they carry out. The items were measured using a 5-point scale ranging from never (1) to always (5).

Three items from the questionnaire by the next study group were used to measure nurses' intent to leave (Hasselhorn, Tackenberg, & Müller, 2003). This included questions relating to how often in recent years workers have thought about giving up nursing and starting a different type of job. Items were measured on a 6-point scale ranging from never (1) to everyday (6).
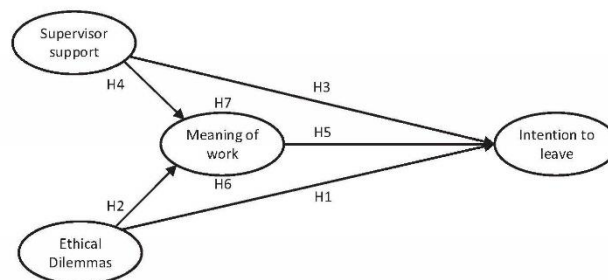

FIGURE 1 The research model of the present research with letters referring to specified hypothesis

2.4 | Data analysis

The following statistical analysis packages were used in this study. SPSS 21.0 was used to calculate descriptive statistics and Pearson's correlations, and AMOS 21.0 was used to examine confirmatory factor analysis (CFA) and structural equation modelling (SEM). Several steps were conducted to establish satisfactory validity and reliability: (a) descriptive statistics and assessment of normality was conducted to explore the variance of items and measurement concepts, (b) Cronbach's alpha and composite reliability (CR) were conducted to assess reliability, (c) average variance extracted (AVE) was performed to explore the exploratory power of the factor–item relations, (d) correlations were conducted to assess the degree of overlaps between concepts, (e) CFA was used to investigate the factor loadings and the measurement model, and (f) SEM explores the nomological validity and relationships between concepts, which include direct effects and the mediating role of meaning of work. When conducting SEM, all items were included in the estimates, to include both latent and manifest variables. With using this recommended approach, the measurement model is nested within the structural model. The model fit indices included assessment of the Root Mean Square Error of Approximation (RMSEA), Tucker Lewis Index (TLI), Incremental Fit Index (IFI) and Comparative Fit Index (CFI). A RMSEA value of less than 0.08 implies an acceptable fit (McDonald & Ho, 2002), and TLI, IFI and CFI values exceeding 0.90 indicate a good fit (Hair, Black, Babin, & Anderson, 2014) (Tables 1-3).

3 | RESULTS

Characteristics of the participants are summarized in Table 1. Of 2,946 participants, 90.4% were women, and 9.7% were men. 53.4% of the registered nurses worked full-time, and 52.8% were over 40 years old.

TABLE 1 Characteristics of study participants ($n = 2,946$)

Variables	% (n)
Sex	
Men	09.7 (285)
Women	90.3 (2,661)
Age groups (years)	
<31	21.6 (636)
31–40	25.6 (753)
41–50	25.4 (749)
51–60	22.1 (651)
>60	05.3 (157)
Job percentage	
Full time	53.4 (1,572)
Part time	46.6 (1,374)

3.1 | Measurement model

The results of the CFA were acceptable ($\chi^2 = 497.16$, $df = 48$, CFI = 0.97, IFI = 0.97, TLI, 0.95, RMSEA = 0.056, lo/hi:0.052/0.061) and provided support that the structural model can be tested. Cronbach's alpha, composite reliability (CR), average variance extracted (AVE) and the correlations are given in Table 2, and descriptive statistics are included in Table 3. Cronbach's alpha ranged from 0.72 to 0.84 and was adequate for all constructs. CR ranged between 0.73 and 0.86 and therefore exceeds the recommended reliability threshold of 0.70 (Hair et al., 2014). AVE showed that all variables exceeded the recommended 0.50 threshold for convergent validity, except ethical dilemmas (0.48), which was marginally below the criteria. However, it has been claimed that AVE is too strict, and reliability can be measured through CR alone (Malhotra & Dash, 2011). Correlations ranged from −0.34 to 0.23 and therefore support the discriminant validity of measures. Overall, the variance of items and dimensions, and the psychometric properties were considered to be adequate for the measurement constructs. Hence, no further trimming or adjustment of the measurement model were considered to be necessary before testing of the structural model.

3.2 | Test of structural model

The hypothesized model (Figure 1) was tested using SEM and maximum-likelihood extraction. The results indicate an adequate fit ($\chi^2 = 497.16.01$, $df = 48$, CFI = 0.97, IFI = 0.97, TLI = 0.95, RMSEA = 0.056, lo/hi: 0.52, 0.61). All the hypothesized paths were significant which supports the proposed hypothesis. Ethical dilemmas were positively related to intention to leave (H1: $b = 0.14 < 0.001$) and negatively related to the meaning of work (H2: $b = −0.11 < 0.001$). The perception of social support from the supervisor was negatively related to intention to leave (H3: $b = −0.11 < 0.001$) and positively related to the meaning of work (H4: $b = 0.17 < 0.001$). The meaning of work was negatively related to intention to leave (H5: $b = −0.30 < 0.001$).

The mediational role of the meaning of work model was estimated on the data using the maximum likelihood and 5,000 bootstrap replications. Results indicate a significant and positive indirect effect from ethical dilemmas via the meaning of work on intention to leave: ethical dilemmas → meaning of work → intention to leave (indirect effect = 0.056; 95% CI = 0.029, 0.089). The result therefore supports hypotheses H6. The results furthermore show that the indirect effect from social support from the supervisor via the meaning of work on intention to leave was significant: social support from the supervisor → meaning of work → intention to leave (indirect effect = −0.047; 95% CI = −0.034, −0.064). The results therefore also supported hypotheses H7 (Figure 2).

TABLE 2 Descriptive statistics, Cronbach's alphas, composite reliability, average variance extracted and correlations

	Range	M	SD	Alpha	CR	AVE	1	2	3	4
1. Meaning of work	1–5	4.69	0.50	0.83	0.85	0.66				
2. Intention to leave	1–5	1.77	0.58	0.73	0.76	0.54	−.34**			
3. Supervisor support	1–5	3.75	0.97	0.84	0.86	0.66	.23**	−.20**		
4. Ethical dilemmas	1–5	2.66	0.59	0.72	0.73	0.48	−.14**	−.19**	−.20**	

Abbreviations: AVE, average variance extracted; CR, composite reliability; M, mean; SD, standard deviation.

$*p < .05.$

$**p < .01.$

TABLE 3 Summary of confirmatory factor analyses

				95% CI	
Construct-Item	Factor loadings	M	SD	Lower bound	Upper bound
Social support from the supervisor					
SS1 Is your immediate supervisor able to appreciate the value of your work and see the results of it?	0.75	3.63	1.09	3.59	3.67
SS2 Does your immediate supervisor express his/her opinion concerning your work?	0.86	2.82	0.96	2.78	2.85
SS3 Does your immediate supervisor offer constructive advice?	0.83	2.82	1.00	2.78	2.86
Ethical dilemmas					
ED1 In your work, how often do you experience ethical or professional dilemmas related to lack of cooperation between departments?	0.61	2.75	0.75	2.73	2.78
ED2 In your work, how often do you experience ethical or professional dilemmas related to lack of equipment?	0.66	2.65	0.77	2.62	2.68
ED3 In your work, how often do you experience ethical or professional dilemmas related to lack of coordination of key tasks?	0.79	2.56	0.69	2.54	2.59
Meaning of work					
MOW1 Is your work meaningful?	0.87	4.75	0.53	4.74	4.77
MOW2 Do you feel that the work you do is important?	0.86	4.78	0.51	4.77	4.80
MOW3 Do you feel motivated and involved in the work you do?	0.71	4.54	0.69	4.52	4.57
Intention to leave					
ITL1 How often during the past year have you thought about leaving your job?	0.93	1.93	0.80	1.90	1.96
ITL2 How often during the past year have you thought about moving to a job in a completely different field?	0.77	1.82	0.72	1.79	1.85
ITL3 How often during the past year have you thought about looking for a job at a different hospital?	0.40	1.57	0.62	1.55	1.59

Abbreviations: 95% CI, 95% confidence interval; M, mean; SD, standard deviation.

4 | DISCUSSION

In this article, we explored whether supervisor support and ethical dilemmas influence nurses' intention to leave, and the mediating role of the meaning of work. A research model was developed and tested to explore this. The study provided empirical support for the hypothesized links and thereby advances our knowledge of the determinants, which can reduce nurses' intention to leave health care organisations.

The study furthermore increases our knowledge by highlighting the importance of supervisor support, ethical dilemmas and the meaning of work upon intention to leave. Moreover, it supports the use of the JD-R model as a theoretical framework in understanding nursing behaviour.

The results confirm that ethical dilemmas were positively related to intention to leave and negatively related to the meaning of work. This supports H1 and H2. The results are also in line with
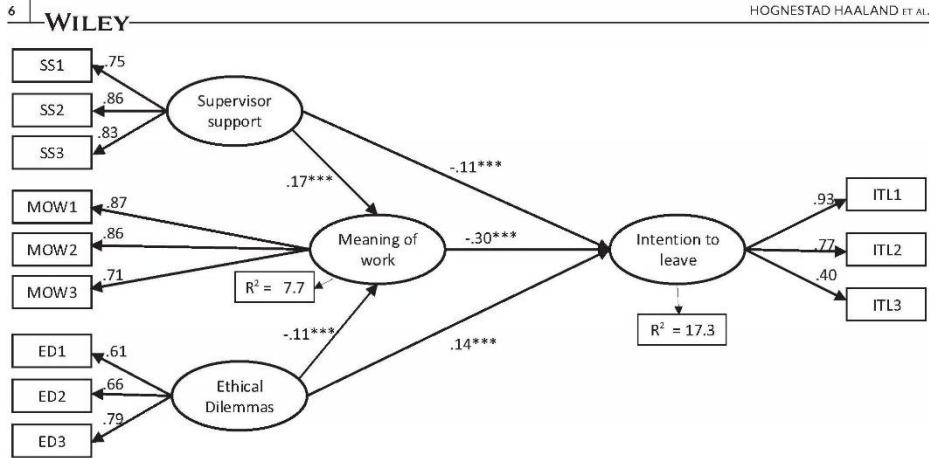
FIGURE 2 Structural model tested on nurses with standard path coefficients. $*p < .05$. $**p < .01$

previous studies, which have highlighted ethics and its association with nurses' intention to leave (Abou Hashish, 2017; Koskenvuori, Numminen, & Suhonen, 2017). Abou Hashish (2017) examined the relationship between ethical work climate, job satisfaction, perceived organisational support, nurses' organisational commitment and turnover intention. The greater the extent to which nurses perceive their work climate as being ethical and supportive, the lower their turnover intention. Experiences of ethical dilemmas in everyday work may hinder nurses from carrying out their work satisfactorily, so influencing their intention to leave. Lack of coordination and systematic barriers could preclude nurses from carrying out their work effectively and in line with their ethical standards, leading to frustration and stress. Moreover, health care organisations should explore ways for reducing the impact of ethical dilemmas to retain the nurses it needs now and in the future.

The perception of social support from the supervisor was, in line with our expectations, positively related to the meaning of work and negatively related to the intention to leave. This supports H3 and H4. Our results confirm the earlier findings of Van der Heijden et al. (2019) and Moloney et al. (2017) that social support from supervisors reduces nurses' intention to leave. Immediate supervisor can control rewards, politics, goals and perceived fairness at work. They therefore have an important role in how employees consider their work environment (Gagné, 2014). The results illustrate, in line with JD-R theory, that supervisors are a resource and can reduce intention to leave (Bakker & Demerouti, 2017). Social support from supervisors was also positively related to the meaning of work. This result demonstrates the importance of management quality in the retention of nurses.

Our results support the meaning of work as having a direct negative association with nurses' intention to leave. This therefore supports H5. Meaning of work has previously been negatively associated with turnover intention (Arnoux-Nicolas et al., 2016; Clausen

et al., 2010; Sun, Lee, & Sohn, 2019). A meta-analysis by Humphrey, Nahrgang, and Morgeson (2007) showed the experience of meaningfulness to be the most significant psychological feature of work in preventing undesirable work outcomes. This highlights the importance of health care organisations securing a working environment that offers the basis for a meaningful and healthy working situation, upon the retention of nurses.

Our results also show that the meaning of work mediates influence on nurses' intention to leave. This supports H6 and H7. The meaning of work seems to suppress the negative influence of ethical dilemmas and strengthen the influence of social support from supervisors on nurses' intention to leave. In line with previous research, the findings support the meaning of work as an important mediator (Akgunduz, Alkan, & Gök, 2018; Arnoux-Nicolas et al., 2016), and health care organisations should increasingly promote meaning of work as an important resource. Organisations that contribute to meaningfulness in employees have been found to not only stimulate engagement, but also enrich employees' lives outside the workplace (Jiang & Johnson, 2018). A focus on the meaning of work can therefore be crucial to the work on retaining qualified nurses in health care organisations. The findings suggest that levels of ethical dilemmas and supervisor support play an important role in this.

5 | LIMITATIONS

Our study has limitations. First, our findings need to be considered in the specific context of Norway. Further research into nurses' intention to leave should therefore be conducted in different cultures and health care settings. Second, we are unable to draw causal explanations due to the cross-sectional design. Additional research that uses a longitudinal design could provide further

information on the underlying processes. Third, we only looked at intention to leave and not actual turnover. Future studies can therefore use turnover instead of intention to leave in the research design.

6 | CONCLUSION

The aim of this study was to test the association between social support from supervisors and ethical dilemmas on nurses' intention to leave, and the mediating role of meaning of work. The study results showed that the hypotheses were confirmed. This adds to our understanding of why some nurses intend to leave health care. Health care organisations should, in a time in which recruiting enough qualified nurses is difficult, focus on how to increase their job resources by enhancing the experience of the meaning of work and supervisor support, and by reducing job demands such as ethical dilemmas.

7 | IMPLICATIONS FOR NURSING MANAGEMENT

This study improves our knowledge of how health care providers and managers can reduce nurses' intention to leave. Nurses frequently enter management positions in health care with little training or experience (Spehar, Frich, & Kjekshus, 2014). They lack the necessary preparations and support to successfully transform into a management role (Titzer, Shirey, & Hauck, 2014). Management quality is of upmost importance to organisational outcomes (Al-Yami et al., 2018; Boamah et al., 2018). Health care organisations should therefore continually offer training programmes and develop nurse manager skills, which focus on the aspects of being empathic, demonstrating transparency, understanding employee needs and how to communicate and handle ethical dilemmas. Intention to leave can, through improving the quality of management, be reduced by keeping ethically demanding situations at the lowest possible level. Managers should value staff contributions, encourage staff involvement in ethical questions and provide forums for discussing ethical policies and issues. The development of the meaning of work in the workplace is an important management responsibility, as it has the potential to reduce nurse turnover and the intention to leave and simultaneously contribute to greater well-being and quality of life both within and outside the workplace (Jiang & Johnson, 2018). Job resources can contribute to greater meaning of work. Health care organisations should therefore provide nurses with adequate job resources. Managers should highlight the positive impact of nurses' work on improving the welfare of others, as this can increase nurses' perception of their work as important, valuable and meaningful. The meaning of work can also be increased by better alignment of nurse values and wishes with future career opportunities and career development. Future research may include more job resources and demands to investigate other or supplementary predictors of nurses' intention to leave.

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Paper 3

Haaland, G. H., Øygarden, O., Storm, M., & Mikkelsen, A. (2023). Understanding registered nurses' career choices in home care services: a qualitative study. *BMC Health Services Research*, 23(273). doi:10.1186/s12913-023-09259-0

RESEARCH　　　　　　　　　　　　　　　　　　　　　　**Open Access**

Understanding registered nurses' career choices in home care services: a qualitative study

Guro Hognestad Haaland[1,2]*, Olaug Øygarden[3], Marianne Storm[4,5] and Aslaug Mikkelsen[1,2]

Abstract

Background The anticipated growth in number of older people with long-term health problems is associated with a greater need for registered nurses. Home care services needs enough nurses that can deliver high quality services in patients' homes. This article improves our understanding of nurses' career choices in home care services.

Methods A qualitative study using individual semi-structured interviews with 20 registered nurses working in home care services. The interviews were audio-recorded, transcribed and thematically analyzed.

Results The analysis resulted in three themes emphasizing the importance of multiple stakeholders and contextual factors, fit with nurses' private life, and meaning of work. The results offer important insights that can be used to improve organizational policy and HR practices to sustain a workforce of registered nurses in home care services.

Conclusion The results illustrate the importance of having a whole life perspective to understand nurses' career choices, and how nurses' career preferences changes over time.

Keywords Nursing, Career choices, Career events, Home care services, Sustainable workforce, HR policies, Management

Background

The anticipated growth in number of older people and earlier hospital discharge of patients with more complicated medical diagnosis is associated with a greater need for health care services at home [1–3]. Similarly to other Nordic countries, Norwegian municipalities are responsible for providing primary health care services in patients' homes [4] irrespective of gender, age, geographical location or socioeconomic status [5]. Primary care services include home care services, nursing homes, municipal emergency care units, intermediate care, the provision of GPs and preventive services [4]. Consistent with previous research [6–9], this paper makes use of the term home care nurses referring to registered nurses who work in home care services. Home care services include nursing care and other forms of health care such as physiotherapy, occupational therapy or rehabilitation for either a short or a long period [5]. Health care delivered at home has become more complex, and registered nurses play a critical role providing care to sicker patients needing advanced care [8, 10]. The number of recipients receiving nursing care in their own homes has grown rapidly in the recent years [11], and the growth

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is expected to increase significantly also in the years to come [12]. With the worldwide shortage of nurses [13], there is an urgent need to understand what influences registered nurses' career choices in home care services. This may provide information to ensure that registered nurses consider home care nursing as an attractive workplace for a lifelong career.

Traditionally, the choice of an occupation was associated with a linear career path and a secure employment within one organization. Nowadays, careers can be unpredictable and complex, and employees are not bound to their initial occupation [14]. In Norway, one in five registered nurses leave health care services ten years after graduating [15]. High turnover among nurses who leave their clinical jobs or profession is costly, because it is expensive to train and replace experienced nurses. The result is understaffing, which is a potential risk to patient safety [16]. Previous studies have mainly focused on nurse students' career preferences, and identified that primary health care is not the preferred workplace for nursing students [17–19]; however, the likelihood of working in the municipal health and care services increases with time [20–22]. In a quantitative longitudinal study, Abrahamsen [23] identified how nurse students' career expectations relate to their career choices. One year after graduation, choosing to work in nursing homes and home care nursing related to nurses' expectations of achieving a management position. Ten years later, nurses' choice to work in nursing homes and home care services rather related to nurses' expectations to work part time, illustrating that the motives behind career choices change with time. Abrahamsen tested three dimensions of career expectations and emphasized the importance of additional knowledge of registered nurses career choices to improve recruitment and retention strategies in the less popular nursing fields such as home care services.

As contemporary careers are increasingly dynamic and complex, employees can make several career choices over time and adjust to external influences [24]. Nurses can change occupation, work in different organizations, have a permanent or temporary position, and apply for temporary unpaid leave to raise their children. The shortage of registered nurses means that they can choose between many career options. Researchers have investigated the most and least satisfying aspects of work in primary health care [25], nurses' job satisfaction and quality of life [26, 27], and why home care nurses remain in their jobs [28, 29]. Results of these studies identified autonomy, work-life balance, interaction with patients, role diversity, and patient-family interaction as satisfying aspects of work in primary health care and influence nurses' intention to remain. In contrast, low pay, lack of a career path, time constraints and workload have been identified

as the least satisfying aspects of work in primary health care [25, 27]. Although these studies increased our knowledge of important aspects of nurses' career in primary health care, there is still a need for a more detailed understanding of what affects nurses' career choices in home care services [30, 31]. Since 2015, the municipalities have experienced an increase in challenges recruiting registered nurses to nursing homes and home care services [32], and previous studies have reported a lack of registered nurses with sufficient competence in primary health care [33, 34]. This stresses the importance to increase our understanding of what influences registered nurses career choices in home care services. This paper seeks to address this gap by asking the following research question; *how do contextual and individual factors influence registered nurses' career choices in home care services*? The results can provide home care services and other health care organizations with important information on how to provide human resource management practices and organizational policies in order to recruit, develop and retain registered nurses. Changing needs and motivations, and contextual demands affect person-career fit and people's career choices over time [35]. Examples of registered nurses' career choices are starting in home care services, working part-or full-time, changing hours of work, becoming a resource nurse, taking a specialization, or leaving home care services. We will use the sustainable career framework that provides a whole-life perspective on careers that is useful for understanding nurses' career choices [24].

Sustainable careers

Careers are dynamic, made up of choices and events over time that will determine their sustainability [24]. Unlike other career paradigms, the sustainable career perspective stresses the importance of context and the role of multiple stakeholders on the sustainability of employees' career over time [36]. Sustainable careers draws on theories like selection optimization and compensation [37], conservation of resources [38] and self-determination theory [39], and emphasize the importance of resources and fulfillment of the psychological needs for autonomy, competence and relatedness for ensuring sustainable growth and continuity in one's career [36]. Findings suggests that basic psychological needs relate to registered nurses' turnover intention [40] and career commitment [41]. Something that is *sustainable* can last for a long time without being depleted or destroyed [24]. For nurses to have a long career, the home care services needs to create work conditions that endorse motivation and well-being, and nurses themselves needs to stay employable. Sustainable careers are characterized by happy, healthy and productive workers, and are defined as "sequences of career experiences reflected through a variety of

134

patterns of continuity over time, thereby crossing several social spaces characterized by individual agency, herewith providing meaning to the individual" (24, p.7). In order to attract, motivate, develop and retain registered nurses over time, home care services should foster sustainable careers as unsustainable careers increase the risk for career turnover [42]. Three dimensions can be used to study sustainable careers, the person, the context and time [36].

The *person* dimension relates to agency and meaning [24]. *Agency* refers to making career choices that are consistent with individual's needs and aspirations, or adapting to external changes and events [36]. To have a sustainable career over time, employees need to craft their career, which refers to "proactive behaviours [...] to self-manage their career and that are aimed at attaining optimal person-career fit" [43, p. 175–176]. *Meaning* refers to people being mindful about what and who is important to them in their career, and this might change over time [36]. Meaning of work is associated with registered nurses' intention to leave [44, 45] and organizational commitment [46]. Further, people's values will guide their careers. De Vos et al. [47] cite the kaleidoscope career model [48], which distinguishes three values: authenticity, balance and challenge. Although all three values are always active, one value will have priority. In line with the findings by Abrahamsen [23], this may explain why registered nurses career preferences change and why primary care work becomes more popular with time. As personal needs, interests and aspirations might change, career competencies and career adaptability are important for individuals to achieve their desired career [36].

Current career literature places a significant focus on personal agency and control, but to understand a career trajectory that is becoming more complex, it is necessary to include the role of context and external events [49]. The *context* dimension refers to how the work-related context and private life affect people's career sustainability, such as first-line managers, colleagues, patients, family, and friends. For example, numerous studies within health care have highlighted the importance of social support from immediate supervisor for registered nurses' intention to leave the profession [50], commitment to the organization [51] and reduced intention to leave [44, 52]. The experience of conflict between work and family correlates with nurses' choice to leave an organization and the profession [53]. Nurses will most likely experience several career shocks, defined as *disruptive and extraordinary events that are, at least to some degree, caused by factors outside the focal individual's control and that trigger a deliberate thought process concerning one's career* (49, p. 4). For instance, going through a divorce, having children, being diagnosed with a serious illness, accepting a new job or reorganizations are likely to affect nurses' career choices. Changes in demands or resources at home or at work can make careers more or less sustainable over time [54, 55]. If nurses' work becomes too demanding without an increase in the necessary resources, it could lead to stress and exhaustion according to the job demand- resource (JD-R) model [56] and affect nurses' choice to leave home care services or the profession [57]. Emotional demands [58] and burnout [53] are associated with registered nurses' intention to leave. Although individuals are the "owners" of their careers, both employees and employers are responsible for creating sustainable careers [59, 60]. Home care nurses' ability to perform advanced procedures that had previously been done in hospitals has raised expectations of their work and competence [61]. To succeed and remain employable, individuals are required to manage and develop their knowledge, abilities and skills to meet changing demands [62, 63]. At the same time, employers must provide opportunities for professional learning and development [64]. Aligning one's needs with the organization and private context, will benefit all stakeholders, and impact the sustainability of his or her career [24].

The *time* dimension relates to the dynamic evolution of careers [36]. Employees' careers might be more or less sustainable over time due to changes in demands or resources at home or at work [54, 55]. For example, registered nurses often work part-time while the children are young [65]. Earlier research shows an age differences between younger and older nurses and their wish to leave home care services and nursing homes [66]. This is in line with previous findings of a negative relationship between registered nurses' age and turnover intention [50, 67].

Methods
Setting, design, participants and ethics
This study is part of a larger research project in Leadership and Technology for Integrated Health Care Services. The project explores how home care nurses, general practitioners (GPs) and multimorbid patients experience and contribute to integrated care. In Norway, the municipalities are responsible for the organization and delivery of primary care services, and national health and regional health authorities are responsible for specialist care services. Local authorities are free to determine how to organize community services; the municipality in this study organized home care services in ten units. The responsibilities of the municipalities have increased over time and challenges have been identified in management, recruitment, competency and in the responsibilities assigned to professional groups within primary health care services [68]. A qualitative research design using individual interviews was chosen for this project, as this

enabled us to have a dialogue with the study participants and explore individual experiences [69].

This qualitative study uses individual semi-structured interviews with 20 home care nurses from a medium-sized municipality in Norway (Table 1). In Norway, registered nurses have a bachelor's degree and are authorized to practice as a nurse by the Norwegian Authority for Health Personnel [70]. The project group established contact and made a formal agreement to conduct the study with the administrative leader of the municipal division of health and social care. We used purposive sampling and approached first-line managers in relevant units by phone or e-mail, and they helped recruit registered nurses with a minimum of a bachelor's degree and who were familiar with the patients included in the project. Potential participants received written information about the study so that they could decide whether to participate. This included information on the purpose of the project, the person in charge, what their participation involved, how data was stored and used, what would happen with the personal data at the end of the research project, rights and that participation was voluntary. The first-line managers scheduled the interviews, which were held during the participants' working hours in a quiet room located at the nurses' workplace. The interviews were held face-to-face with only the interviewer and participant present. None of the registered nurses have subsequently withdrawn from the research project.

The research procedures were reported to the Norwegian Centre for Research Data (ref. no. 228,630). The Regional Committee for Medical and Health Research Ethics in Norway (ref. no. 2019/1138) exempted the research project from formal review since the research project was not expected to generate new knowledge about health and disease. Before the interviews, all participants received oral information about the aim of the research project, that the interviewer was a PhD student and had the opportunity to ask questions, before signing a voluntary written consent. The study participants were informed that they could withdraw from the study at any time without consequences and could access the data collected. The participants received written contact details to the project leader, Data Protection Officer and Data Protection Services. A voice recorder was used to record the interviews. In the beginning of the interview, the participants were asked not to use any identifiable names, and the interviewers did not mention or record the name of the participants. Each participant received a study number to secure confidentiality. Anonymous transcripts and recordings were stored on a password-protected computer. A list of names and respective codes is locked in a secure cabinet at the University where the project leader is employed, and can only be accessed by the research group. In accordance with the protocol of the Norwegian Center of Research Data all collected data will be deleted in the beginning of 2025.

Data collection

Data collection took place between October 2019 and March 2020. The semi- structured interviews ranged from 48 min to 1 h and 38 min. All were audio recorded with participants' permission, transcribed verbatim and de-identified. One interview was incomplete, because the participant had to leave before we had asked all the questions. This interview lasted for 30 min, and we included the answers in the study. The research questions were developed by the research group, and the interview guide addressed participants' gender, age, family situation and open-ended questions explored nurses' thoughts, reflections, and experiences on their career in home care services and further career interests. The interviews also focused on nurses' experience of cooperation with the patient and GP on the project. The interview guide included questions such as "How would you describe your working situation in home care services?", "How do you envision your career as a nurse?" and "what would be important to you in terms of support/incentives/development in order to make your desired career possible?". The researchers were not acquainted with any of the registered nurses participating in the study.

The research group consists of four females and one male. Two members of the research group are professors experienced with qualitative studies, whereas the other members are PhDs. The first author conducted 15 interviews and another member of the research group

Table 1 Characteristics of study participants

	Age	Years of experience as a nurse	Job percentage
Nurse 1	39	16	100
Nurse 2	49	24	100
Nurse 3	34	10	80
Nurse 4	34	11	75
Nurse 5	37	14	100
Nurse 6	43	22	100
Nurse 7	56	35	60
Nurse 8	39	11	75
Nurse 9	38	7	75
Nurse 10	63	19	100
Nurse 11	61	25	100
Nurse 12	32	10	100
Nurse 13	32	3	100
Nurse 14	53	31	75
Nurse 15	56	28	100
Nurse 16	29	1	75
Nurse 17	34	10	100
Nurse 18	33	11	100
Nurse 19	34	4	85
Nurse 20	53	30	100

Papers

Haaland *et al. BMC Health Services Research*   (2023) 23:273   Page 5 of 12

conducted five. Both interviewers were PhD students, with previous experience in conducting qualitative interviews. The first author is a female with human resources experience in specialist health care, and the other male researcher is a GP. Other members of the research group are experienced in leadership and nursing, making the group multidisciplinary. The research group had peer debriefing during the project period to discuss and gain different perspectives on the ongoing interviews. In addition, the two researchers conducting the interviews had an ongoing dialogue checking the correspondence between the findings. A sample size of 6–20+ participants is considered satisfactory in qualitative research, depending on the richness of the data and size of the project [71]. We determined that saturation had been met after about 15 interviews.

Analysis

An inductive thematic analysis of the data was undertaken. This is a flexible way to identify themes and patterns in qualitative data analysis [72]. The analysis was guided by Braun and Clarke's [72] six-phase process (Table 2). The main themes were generated abductively. Preexisting knowledge guided some of the interview questions, and when analyzing the data the first author read career theory to identify the relevance of information to the research aim. To address the trustworthiness of this study we applied strategies from the standardized criteria by Lincoln and Guba [73], namely credibility, transferability, dependability and confirmability. In line with Nowell et al. [74] we used these criteria as guidelines to support a rigorous thematic analysis. To ensure the trustworthiness in the first phase, all co-authors familiarized themselves with the data and individually searched

for meaning and patterns enhancing the credibility of the study. The raw data and transcripts were organized in folders representing each nurse. In the second phase when generating initial codes, research triangulation enhanced confirmability. In phase three, the first author used Microsoft Excel and drew visual mind maps in the search for themes and connections. This process was documented and discussed with co-authors. In phase four and five of the thematic analysis themes were examined by co-authors and themes was reviewed in relation to the raw data before everyone agreed on the final naming. In phase six, we used the consolidated criteria for reporting qualitative studies (COREQ) as a guideline to ensure the transferability and confirmability of the research process [75].

Results

The data analysis produced three distinctive themes for nurses' career choices in home care services: (1) as a result of influence from multiple stakeholders and contextual factors; (2) as a result of fit with nurses' private life; and (3) as a result of enhancing meaning of work.

Career choices as a result of influence from multiple stakeholders and contextual factors

The nurses described their choice to start working in home care services as resulting from coincidences, stakeholder influence, organizational policies and educational factors. Some participants started working in a part-time position in home care services while they were in their late teens. One nurse said:

> *I started working here as a student during my second year. Then a family member of a friend asked if I would like to work here as an extra and I thought*

Table 2 Thematic analysis as recommended by Braun and Clarke, and our analysis activity

Braun and Clarkes six phases of thematic analysis with descriptions		Our analysis activity
1. Familiarisation with the data	Transcribing data, reading and re-reading the data set, noting quotes of potential interest.	After transcription, the researchers read the interview transcripts. The first author read the interview transcripts several times, and created a time-line for each nurse to identify different career choices.
2. Systematic data coding	Systematic coding of interesting features across the data set, collecting data relevant to each code.	By the use of NVIVO 16 software system the first author worked systematically through each interview, and developed codes through this process. The codes were revised by going back and forth between interviews.
3. Generating initial themes	Comparing and collating codes into potential themes, gathering all data relevant to each theme.	The researchers interpreted and discussed the coded data to find patterns and a shared meaning that could form a theme. Mind maps and Microsoft Excel with a list of codes and data items was used in this process to discuss fit and number of themes.
4. Developing and reviewing themes	Checking themes against the coded extracts and the entire dataset.	The themes were reviewed in relation to each other, and in relation to the data set, and four themes was reduces to three themes in this process. This was a dynamic process, and there was a need to re-examine some of the activities done in phases two and three of the analysis. Further, the themes were viewed in relation to relevant theory.
5. Defining themes	Generating clear names and identify the specifics for each theme.	Naming themes was an evolving process, and several changes was made before the final version of name for each theme.
6. Write-up	Final chance for analysis, selection of appropriate extract examples and producing a report of the analysis.	The research group agreed on theme structure, the order in which to present themes and extract examples.

137

Papers

Haaland *et al. BMC Health Services Research*   (2023) 23:273   Page 6 of 12

yes, I could try that. And I've been here ever since. So yeah, it was really just coincidental that I ended up working in home care services. (Informant 18)

Clinical practice placements, part of the bachelor program in nursing, take place in hospitals, nursing homes, and home care services. The hospitals and municipalities are responsible for organizing the clinical practice, where a student gains experience with departments under clinical supervision. One nurse said:

We have many practicums at school and for my last one I also chose home care services. It was really just because I thought it had been the most fun practicum, and I ended up here. (Informant 16)

Clinical practice placements or part-time jobs familiarize nursing students with home care services as a potential employer. A good work environment, supportive colleagues and first-line managers, interesting work tasks and autonomy were among the factors influencing some nurses' view of home care services as a potential workplace. Other nurses applied for a position in home care services as a result of changes in their personal life, like moving to a new city. We also found that different stakeholders and organizational factors influenced nurses' choice to apply for postgraduate education or become a resource nurse. Nurses emphasized the importance of financial support from the employer in entering a specialization. The municipality provides financial support for unpaid leave and school expenses for relevant specializations. People or experiences in nurses' surroundings often influenced their choice of specialization. One nurse explained how she had been inspired by the skilled geriatric nurses she met during clinical practice. Another nurse described why she became a resource nurse in palliative care:

It was basically because they asked me. They probably thought it was a good fit for me, even though I didn't think so myself at that time because I thought it was a bit scary to speak to people who were in their last stage of life. "I don't think I would be good at that" I said, but then I thought well, I just have to give it a go. So that's what happened. I don't really know another reason. (Informant 8)

Especially first-line managers appears to have both a positive and a negative effect on nurses' career choices in home care services. The nurses had different experiences of management. Some unit leaders were inspiring, encouraging and supportive, while other units experienced instability and absence of a first-line manager. One nurse had applied for unpaid leave, to start working in

a nursing home. Her unit had been chronically understaffed. She thought that her managers were not advertising vacancies, and were inattentive to employees' needs. When she read a newspaper article reporting that politicians would not provide more resources to home care services, she doubted that she would return. She said:

That's the reason I feel that I can't do this anymore. I feel that I give, give, give all the time, while my superior is away a lot, and that really affects my motivation. (Informant 17).

Career choices as a result of fit with nurses' private life

An overarching theme that explains nurses' career choices in home care services can be seen as a result of fit with their private life. It captures the ways in which nurses make career choices that improve their work-life balance and how their needs change. Some of the nurses had previously worked, or considered working, at a hospital in a nearby municipality. However, the geographical location of work, shift arrangements and family situation affected nurses' choice to work in home care services. As one nurse said:

From 2013, I think it was, when I started working a bit at the hospital and I thought I should give it a go again. So I was there a couple of years, I think, but then it became quite hard to combine with family life, especially because my husband travels a lot. That just made it too hard to work there. (informant 6).

Some nurses applied for a position in home care services, as the workplace is closer to home, and they would have a shorter commute and spend less time in traffic. Even though work in a hospital is considered professionally attractive, some nurses found it difficult to combine with their family life. As the example illustrates, when both parents have irregular work schedules, organizing family life is not easy. This was especially true for nurses with children, who struggled to balance their responsibilities to work and family. One nurse said:

After I had children it's been quite practical. I didn't have to work a three split schedule for example. My evening shifts start 3.30 pm or 4.30 pm. It's a flexible job, and because you start at 7.30 am you are able to bring your children to nursery first. (Informant 18)

Nurses identified working hours to be better in home care services than at a hospital or nursing home. Shift arrangements in home care services involves more flexible working hours and does not include work at night.

138

Papers

Haaland *et al. BMC Health Services Research*   (2023) 23:273   Page 7 of 12

However, nurses still experience shift work as demanding, as it includes evening, weekend, and holiday work. To accommodate this kind of schedule, nurses had to depend on a partner who worked standard business hours and who could pick up the slack with family responsibilities. Nurses described how they and their partner shared household and childcare responsibilities. Several nurses who had small children worked fewer hours to spend more time at home. However, none of the nurses mentioned having a male partner taking unpaid leave to be at home with their children, illustrating a traditional gendered division of childcare. A nurse said:

> When the children were little we really had enough just trying to keep our heads above water so I worked part time and as the children have had less need of me I've increased my work hours. I've felt that my work at home has been the most important one, and that I've worked as a nurse in addition to that one. But as time has gone by, and I've gotten more energetic, and my children get by more on their own, I've been working full time. (Informant 20).

In Norway, parents are entitled to 12 months of paid leave. In addition, each parent is then entitled to one year of unpaid leave. Most children between the ages of one and five attend kindergarten. There is one admission every year facilitated by the municipality. This means that some parents need to apply for unpaid leave so that they can stay home with their children who are waiting to start kindergarten. Several nurses chose to work part-time evening shifts while waiting for a place in kindergarten, so they were able to combine work and family. Other nurses whose children were eligible for kindergarten preferred to apply for unpaid leave in order to stay at home with them. Their colleagues and first-line manager supported their decision to work part time and adjust their working situation. However, as their children became less dependent on them, some nurses opted to return to work full time, in the evenings, and apply for a specialization. Nurses felt a tension between personal and professional wishes. One nurse described how she wanted to take a specialization, but adjusted the time and place to accommodate her children. However, younger informants did not want to delay pursing a specialization or master's degree for too long. Nurses in the later stages of the careers and without a specialization, supported this view, as they believed that they were too old for further education. However, they expressed an interest in developing their skills and knowledge at work.

Career choices as a result of enhancing meaning of work
Nurses can work in different clinical fields and types of organizations. Work content and organization of work influenced participants' application for a position in home care services. One nurse explained why she started in home care services:

> It's very special to go into people's houses, it's a very pleasant atmosphere. You get to see the whole person in a way, not just their illnesses. And you get to see how they live, which gives you an idea of who they are as people. It's also very exciting to hear their stories and not just see them when they are at their lowest. (Informant 5).

In home care services, many patients receive treatment for years, so their nurses know their complete history, needs, routines, and interests, all of which affect quality of care. Nurses can take a holistic approach to patients. An important part of nurse's job is to monitor changes in a patient's condition. Spending time in the patient's home and getting to know them and their family help nurses to understand that patient's needs. A nurse described why knowing the patients is important:

> I think it's important. Because you care about their well-being, and....The fact that you can get a bit close to them so that you're able to help in the best possible way. And to not just see their illnesses, but also everything around them. Their next of kin, contact with their doctor....to be able follow up properly. (Informant 13).

Knowing patients well is an antecedent for providing quality of care, something the organization of work in home care services facilitate. Nurses enjoyed the coordination of care among stakeholders, like the patient's family, GP, physiotherapy services and allocation office. However, nurses were frustrated with the lack of collaboration with GPs or hospitals, because it led to uncertainty and extra work for nurses who often work alone in patient's homes. Although it can be difficult to work independently, it can also be motivating. One nurse said:

> Yes, I did consider the hospital. I thought it might be more challenging, as there are a lot of procedures. But the thing with home care services is that you work quite independently because you're out there driving. So I figured I'm learning just as much here, and maybe even more. You become independent, and you have to make your own choices and I feel more in charge of my own work situation here. (Informant 14).

The nurse mentions the importance of having an interesting job and recognizes autonomy as a factor in her choice to work in home care services. When driving from

patient to patient, nurses have time to reflect. In addition, informants expressed happiness at not being tied to an institution. At the same time, they noted the importance of professional support, and described daily arenas where they were able to discuss challenges and patients' conditions with colleagues and first-line manager. They also discussed patient's conditions with the patients themselves, their families, GP, and contacted acute care if necessary. The motivation for enhancing the welfare of others influenced nurses' career choices, like specialization, becoming a resource nurse and leaving home care services. Several of the informants had taken a specialization. According to one nurse:

And that's why I wanted to do further postgraduate studies too. I felt I needed it. And I feel that it's good that we are three, rotating it, because there are so many wounds it's needed. (Informant 5).

Nurses described how work in home care services has become more specialized in the past decade, and diagnoses have become more complicated. Hospitals discharge patients sooner and nurses are expected to perform unfamiliar procedures. To provide quality of care, nurses stressed the importance of professional knowledge. However, some considered postgraduate education as a possible alternative to home care services and shift work. Some nurses who study for a master's degree were unsure about their future in home care services, and how the municipality would make use of their competence after graduation. One nurse with a specialization had resigned from her job in home care services to accept a position in the specialist health care services. Work in home care services is diverse, as nurses usually serve a variety of patients with different diagnoses. She had thrived in home care services, but wanted to use her skills to help patients with more serious diagnoses.

Discussion

The aim of this study was to increase our knowledge of home care nurses' career choices. Three themes emerged: (1) career choices as a result of influence from multiple stakeholders and contextual factors; (2) career choices as a result of fit with nurses private life; and (3) career choices as a result of enhancing the meaning of work. Based on the sustainable career perspective [24], we expected that the dimensions of person, context and time would relate to the career choices of home care nurses. Previous career literature has been criticized for putting too much attention on people's agency [14, 49, 76]. This study advances knowledge by highlighting the importance of context and time on registered nurses' career choices, and provide support for the use of the sustainable career perspective as a broad theoretical framework

in understanding registered nurses career choices. It contributes to a field where previous research is largely based on quantitative data [17, 23, 31] and illustrates how nurses themselves, their private context and work context influence their career choices over time.

The results identified how stakeholders and factors within multiple contexts influenced nurses' career agency over time. Clinical practice and the offer of a part-time job, considered a positive career shock, provided job resources and experience. This appeared to affect nurses' perception of home care services as a potential employer, the person-job fit, and their choice to apply for a permanent position after graduation. This supports previous research [18, 77, 78], in which clinical experience and curriculum content are identified as the main tools for changing nurse students' negative perceptions about work in primary health care [79]. The implication of this is that managers and employees in home care services are proactive and encourage people to work in home care services and create opportunities for learning and development in line with registered nurses and home care services needs for competence. This will benefit both employer and employees need for development [80]. Home care services could offer mentors, role models, interesting work tasks, encourage voice, feedback and support in order to provide high-quality work experiences, as lack of support, uninspiring work tasks, and time constraints could lead to stress and frustration and preclude employment in home care services [25, 27, 81].

Two nurses had applied for a position outside home care services; however, the motives and types of agency behind their choices differed. One nurse wanted to quit because of increased workload, time pressure, and lack of support from managers and politicians (push factors), resulting in an unsustainable career. The other nurse was drawn to another job where her competence would be put to better use (pull factors). Previous research has identified burnout as a threat to career sustainability by causing career turnover [42]. Time pressure and heavy workload may hinder nurses from performing work that meets their professional standards, leading to stress and frustration. In line with the JD-R theory [56], high demands and low resources over time can decrease person-job fit, which causes nurses to leave home care services for a more sustainable career. However, research has indicated that employers can mitigate the negative effects of increased work demands by offering job resources [54]. In line with previous research [29, 44, 50], this study highlights the important role of first-line managers for nurses' career choices. To develop first-line managers skills by offering training programs which focus on understanding employee needs, how to provide support and encourage nurses career development will be important. This can prevent nurses from seeking other

140

Papers

Haaland *et al. BMC Health Services Research*   (2023) 23:273   Page 9 of 12

job opportunities, something that will serve the interests of home care services by ensuring a stable workforce.

Nurses started to work and continue to work in home care services as it fits their private life, supporting previous research identifying work-life balance as one of the most satisfying aspects of work in primary health care [3, 25, 82]. When nurses become mothers, they seem to give the top priority to balancing work and home. Our results show that organizational factors such as the location of work, shift arrangements, and the possibility to adjust work based on the demands of family life becomes important for nurses' choices. Previous research has showed that working night shifts is associated with negative family outcomes such at work-family conflict, especially when children are small [83]. Nurses adapt to family demands by working part-time, changing their hours of work and postponing their plans for higher education. However, none of the nurses stated that their choices depended on the limits set by a full-time working partner. This study supports the importance of including non-work domains in research on sustainable careers [82, 84]. Kossek and Ollier-Malaterre [59] and Straub et al., [60] have emphasized the importance of both employees and employer to foster sustainable careers. This implies that to retain registered nurses, home care services should adjust HR politics and practices with employees' expectations, norms and values through different phases of life, as this can facilitate nurses' experience of fit between their personal life and their work in home care services. For several nurses the desire to work part-time appears to be temporary for parts of their lives when they experience increased family obligations, supporting earlier findings [20]. Registered nurses in the last phase of their career seem to have other career aspirations than nurses in their first phase. As the proportion of adults is increasing, health care organizations should motivate registered nurses to continue until a later age. In line with suggestions by Kooij et al. [85], municipalities can offer HRM practices such as training, career planning or lateral job moves.

The results show that nurses experience meaning of work by helping their patients. Autonomy, helping people and having a close relationship with patients have been identified as some of the most satisfying aspects of work in primary health care [3, 25]. The ability to derive meaning from work is important for people's psychological well-being [86], and this highlights the importance of considering meaning of work as an important resource. Some nurses proactively shaped their careers by undergoing or completing postgraduate education. In line with self-determination theory [39], nurses expressed a need for knowledge, to improve patient care for a growing number of patients with complicated diagnoses. Studies indicate that home care nurses must perform increasingly

advanced procedures and assessments, and call for more information and training about specific procedures [8]. To encourage, facilitate, and support registered nurses' development of competence will be important. In line with previous research [6, 87], our findings demonstrate the importance of home care services continuously working to ensure improved collaboration with other health care providers in order to reduce uncertainty and extra work for registered nurses. A sense of accomplishment has been identified as important for nurses' intention to remain in home care services [28], and our results indicate that this guides additional career choices. In line with the principle of conservation of resources [38], acquiring resources makes nurses more employable and provides them with career opportunities inside and outside primary health care. Some nurses who studied for a specialization were unsure about their future in home care services, and did not see their employer as taking the initiative in discussing possible career paths. Providing career planning support, with a perspective of possible career alternatives within home care services that are valuable to the organization and provides meaning to registered nurses will be important to develop and retain registered nurses. At the same time, nurses need to be aware of what matters to them and act in the interests of their own needs and values. This will improve the chance of person-career fit and of a sustainable career [36]. Home care services should align work with nurses' interests, strengths, and values, as this would benefit both the municipality and nurses in terms of improved job performance, meaningfulness, and organizational commitment [64].

Limitations

This study has several limitations. First, the sample consisted only of women from a single municipality in Norway. Further research should be conducted in different health care settings and cultures. A second limitation is that the results may be biased as it can be hard to recall what happened many years ago. Additional research should use a longitudinal design to increase our understanding of nurses' career choices. Finally, future research should examine the role of age and the perspective of the organization.

Conclusion

The aim of this study was to increase our understanding of nurses' career choices to offer insights that can be used to attract, motivate, develop and retain registered nurses in home care services. The results illustrate the importance of having a whole life perspective to understand nurses' career choices, and how nurses' career preferences change over time. To meet the population's increased need for health and care services it is

important for the municipality to facilitate sustainable careers across the life span through HR policies, motivating and stable managers, which support nurses changing needs, interests and values. Nurses need to be mindful and act according to what is most important to them.

List of abbreviations
GPs   General practitioners

Data Availability
The datasets generated from the study are not publicly available due to reasons of confidentiality. Additional knowledge of the de-identified data can be available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate
The research procedures was reported to the Norwegian Centre for Research Data (ref. no. 228630). The Regional Committee for Medical and Health Research Ethics in Norway (ref. no. 2019/1138) exempt the research project from formal review since the research project did not intend to generate new knowledge about health and disease. The study was carried out in accordance with relevant guidelines and the declaration of Helsinki. A formal approval to conduct the study was obtained from the Divisions of health and social care services in the municipality. All participants signed a voluntary written consent before the interviews and were informed that they could withdraw from the study at any time without consequences.

Consent for publication
Not applicable.

Competing interests
No conflict of interest has been declared by the authors.

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Haaland *et al. BMC Health Services Research*   (2023) 23:273   Page 11 of 12

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Publisher's note

144