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An Empirical Study of the Nursing Labour Supply Decision in England

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List of Abbreviations

- AfC – Agenda for Change

- BHPS – British Household Panel Survey

- BMA – British Medical Association

- Brexit – British Exit

- CPI – Consumer Price Index

- DoH – Department of Health

- EEA - European Economic Area

- FTE – Full Time Equivalent

- GDP – Gross Domestic Product

- GEH – George Elliot Hospital

- HCA – Health Care Assistance

- HEE – Higher Education England

- HILDA – Household, Income and Labour Dynamics in Australia

- NHS – National Health Service

- NHSP – NHS Professionals

- NSSRN - National Sample Survey of Registered Nurses

- LFS – Labour Force Survey

- LPN – Licensed Practical Nurse

- NDPB – Non-Departmental Public Body

- NHSPRB – National Health Service Pay Review Body

- NMC – Nursing and Midwifery Council

- NRP – National Retention Programme

- NSS – National Student Survey

- NSSRN - National Sample Surveys of Registered Nurses

- PQM – Performance and Quality Monitoring

- QEH – Queen Elizabeth Hospital Birmingham

- RePair - Reducing Pre-registration Attrition and Improving Retention

- RN – Registered Nurse

- TNA – Trainee Nurse Associate

- NVQ – National Vocational Qualifications

- OLS – Ordinary Least Squares

- OSCE – Objective Structure Clinical Examination

- ONS – Office for National Statistics

- RCN – Royal College of Nursing
- SOL – Shortage Occupation List
- WTR - Working Time Regulation
- UCAS – Universities and Colleges Admissions Service
- UHCW – University Hospital Coventry and Warwickshire
- UNISON – Union of Public Sector Employees
- UKHLS – UK Household Longitudinal

Abstract

The nursing labour market in England is characterised by both skill and labour imbalances, which are attributable to a variety of factors. Overall, an increasing demand for service care is being confronted with labour shortages. These shortages and the associated difficulties with workforce planning are further magnified by reported high turnover and dissatisfaction among the nursing profession.

This thesis focuses on the behaviour of individual actors in the labour market for nursing and explores the decision-making behaviour of these actors at different phases of career progression. A major concern is the nature of both supply and turnover of nurses within the NHS, and the extent to which this can be modelled, through econometric means, in sufficient detail with due regard for qualitative aspects of supply. Through mixed methods approaches, the research examines why individuals decide to study nursing at degree level; the factors that motivate an individual to register and practice as a nurse; and the factors that influence turnover and intent to leave a job role or the profession. In contrast to previous research, efforts were made to understand how this behaviour differs between single, co-habiting and married nursing-qualified individuals.

It is concluded that the motivations behind the decision-making behaviour of actors are complex. New entrants into the market feel that there is a misalignment of expectations, which stem from training and placement programmes. Current nurse employees present a picture of unmanageable workloads due to increased administration, work-related stress, and poor working conditions resulting from staff and skill shortages. These have, in turn, exacerbated the initial shortages, though the situations vary greatly across time, space and speciality. Additional influencing factors are reductions in training budgets and international recruitment. It is shown that a tendency towards adopting a 'one size fits all' policy approach, where different nursing staff are treated more or less the same, is unsustainable. The implications for future policy are that it must be based on a much more differentiated approach and underpinned by a stronger research base.

Chapter 1: Introduction

This thesis focuses on the behaviour of individual actors in the labour market for nurses. It explores the choices made at different phases of career progression. A major concern is the nature of labour supply, and the extent to which it can be modelled quantitatively in sufficient detail with due regard for qualitative aspects of the supply decision. This research builds on a substantial body of previous work which has highlighted the increasing perception of problems of disequilibrium in this labour market.

The present research explores the occupation and participation choice of individual actors at different stages of career progression. It examines: why individuals decide to study nursing at degree level; what factors motivate an individual to choose to use their education and training to register and practice as a nurse; and what factors motivate an individual to consider leaving the practice and/or the profession. It explores the motives for supplying nursing labour as well as helping to address the issue of skill and labour imbalances within the NHS. It examines how the skills of practicing registered nurses are being utilised.

The Royal College of Nursing (RCN, 2003) defines a nurse's role as:

> '*the use of clinical judgement in the provision of care to enable people to improve, maintain, or recover health, to cope with health problems, and to achieve the best possible quality of life, whatever their disease or disability, until death*'.

Between 2004 and 2019, the number of FTE (Full-time equivalent) nursing and midwifery staff had risen by just over 13%, from 286,841 in 2004 to 332,213 in 2019 (NHS Digital, 2020). The number of unfilled nursing vacancies had also increased from 5,801 unfilled positions in 2004/2005, to 8,153 in 2010, and further to 29,251 in 2016 (NHS Digital, 2005; NHS Digital, 2018). In 2019, the number of unfilled nursing positions reached its highest peak of 43,617 positions. This situation is further magnified within the UK more generally, with 1 in 3 nurses predicted to retire over the next 5 years, and a predicted 10,000 nurses potentially opting to withdraw from the labour market due to Brexit (RCN, 2018; RCN, 2019). By 2019, the nursing labour market in England was in a position of net outflow, with more staff leaving than joining, attributed to rising nurse dissatisfaction, an ageing workforce and an exodus of overseas qualified nurses due to Brexit. Figure 1 identifies the potential sources of labour outflows within the nursing labour market in England.

Figure 1: Sources of potential labour outflows
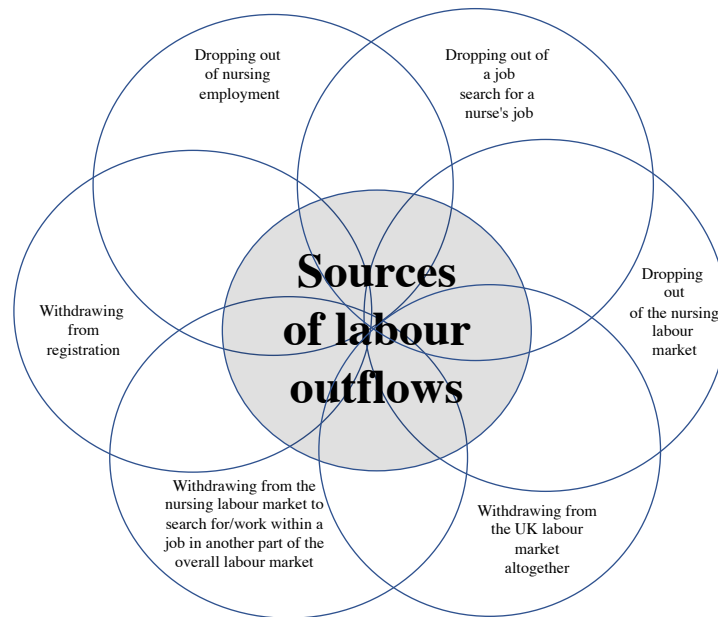
From Figure 1 it can be seen that there are a variety of potential sources of labour outflows that can contribute to the nursing labour market in England being in a position of net outflow. Nursing qualified individuals can choose to withdraw from registration; drop out of the nursing labour market entirely; drop out of nursing employment; drop out of the job search for a nurse's job; or leave the nursing labour market to work in, or look for, a job in another part of the overall labour market; or withdraw from the UK labour market altogether. These labour movements can have an impact, directly or indirectly, on the use of resources, staff morale, and patient care.

There is a distinction to be made between "turnover" and "wastage". "**Turnover**" can be defined as the

> '*totality of leavers, which includes those moving within a sector (e.g. from one NHS trust to another), those moving between sectors (e.g. from NHS to non-NHS nursing) and those leaving paid employment altogether (e.g. to retirement)*' (Buchan, *et al.*, 2018, p44).

Turnover, if high, can create skill and staff shortages, however there are potential benefits to a given level of labour turnover. These include, costs reductions, opportunities to employ newly skilled labour or labour of a higher skill level, and the creation of opportunities for career progression (*ibid*, p43*)*. This is in contrast to "**wastage**", which is defined as those

individuals '*leaving an employment sector, for example NHS nursing…It is important to have reliable data on both turnover and wastage, since the effectiveness of policies on recruitment, retention and the likelihood of return depend, in part, on knowing where leavers are going'(ibid)*.

Forecasts on turnover and wastage however need to be addressed with caution. Nonetheless, the perceived shortage and associated difficulties with workforce planning have been magnified by the reported high turnover and dissatisfaction among the nursing profession and their implications for the future. Marangozov *et al*., (2017, p1) stress that, currently, '*nursing staff feel overworked, underpaid and unable to provide the level of care they would like, driving overall dissatisfaction with their role'*.

Several reasons have been cited for turnover in the profession including dissatisfaction with pay; shift length; time spent on non-nursing duties; and the work-life balance (Mcllroy, 2019; RCN, 2019; Marangozov *et al*., 2017). The RCN 2019 Employment Survey concluded that job pressures were having a negative impact on both satisfaction and job quality, and ultimately, on staff turnover intent.

Turning to the structure of this thesis, Chapter 2 presents a review of the relevant literature, and explores the demand for, and supply of, nursing labour within the UK. It covers workforce planning and demand side models; the definition of nursing and emotional labour; individual decision-making behaviour relating to occupation and participation choice, and the econometric modelling of nursing supply. This illustrates that a variety of intrinsic and extrinsic factors drive the supply of nursing labour, above and beyond those traditionally incorporated in econometric analysis. These include professional ideals, humanising care work and career opportunities (Clayton-Hathway *et al*., 2020; Punshon *et al*., 2019; Mcllroy, 2019; Marangozov *et al*., 2017).

Chapter 3 follows by describing the context in this particular labour market in more detail, and explores stocks and flows of nursing labour, including the migration of nurses into and out of the UK. It identifies conditions of employment and government policy reform, and the consequent impacts these have had on the healthcare market.

Chapter 4 sets out the overall methodological approach adopted. The two core elements of the thesis are an econometric analysis of nursing supply decisions. and a complementary analysis, using a more qualitative (mixed methods) approach.

Chapter 4 begins by identifying the mixed method approaches taken in the collection and review of the primary and secondary data sources. Firstly, it explores the econometric modelling techniques adopted, including the model specification, the secondary data used, and the associated caveats. Secondly, it explores the qualitative methods employed, including the analysis techniques adopted and their associated caveats. Attention is also paid to how the findings from both econometric modelling and qualitative methods employed are triangulated.

The analysis primarily focuses on the microeconomic level in both cases.

Chapter 5 begins by identifying how nurse labour supply is econometrically modelled, and the technical complexities faced in this modelling process. It explores the findings from the econometric analysis for both married, co-habiting and single individuals, and examines the significance of marital status for the purposes of modelling nurse labour supply.

The econometric model developed in Chapter 5 aims to explain nursing labour supply in England. It uses national LFS data for 2004-2019[1], and builds on previous studies (Hanel *et al*., 2014; Rice, 2005; Skåtun *et al*., 2005). The LFS sample size, for all individuals, both married and single, who hold a nursing related qualification is given as 7,473 observations.[2] Previous research suggests this is sufficient to ensure representation and to minimise sample bias (Skåtun *et al*., 2005).[3]

The econometric approach was complemented by exploring qualitative aspects of nursing motivational behaviour and the participation decision at different phases of career progression. Chapter 6 draws on several methods used to collect and analyse qualitative data in order to address aspects of behaviour that traditional econometric labour supply models do not fully incorporate. This involved survey questionnaires, focus groups and interviews with a variety of different agents, including individuals and small population groups in local settings: nursing graduates, current nurse employees and hospital management. The survey questionnaires contained both open and closed questions, and incorporated questions akin to those in the LFS to allow for commonality between the datasets where possible.

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[1] For further discussions on the alternative data sets considered i.e. the UK Household Longitudinal Study (UKHLS) and the British Household Panel Survey (BHPS - Now aggregated with the UKHLS), please refer to Chapter 4, section 4.2.
[2] These observations represent individuals/people over time.
[3] This sample size contrasts with previous modelling attempts by Skåtun *et al*., (2005) who based their analysis on 3,493 observations.

Chapter 6 explores the perspectives of these different agents on the nursing labour market in England (with a geographical focus on the West Midlands). This chapter aims to evaluate their perspectives on the influence of pecuniary and non-pecuniary benefits; the impact and consequences of policy at a local and national level; the evolution of qualified nurse expectations; and the impact that current employment conditions and work environments have on individual decision-making behaviour.

Chapter 7 concludes with an overview of the main empirical findings from the econometric and qualitative research methods adopted. It aims also to triangulate, where possible, between these findings to provide a deeper narrative to help understand the decision-making behaviour of individuals within the English nursing labour market. Finally, it considers the implications for policy and priorities for further research.

Chapter 2: Literature Review

2.0 Introduction

This chapter focuses on exploring and evaluating previous research relating to the nursing labour market that helps to provide a foundation for understanding the nursing labour supply decision. This includes exploring the conditions underlying nursing labour demand (patient and employer demand for nursing labour), and how these influence nursing labour supply (an individual's willingness to join nursing as an occupation and to participate in the nursing labour market).

Section 2.1 begins by identifying the techniques adopted in selecting items for the purposes of this literature review. Section 2.2 focuses on the structure of nursing demand and supply, including difficulties currently faced with workforce planning and labour turnover. It begins by exploring both the demand for nursing care and supply of nurses derived from:

A) patient need or demand;

B) public and private sector employers.

It then goes on to explore:

C) nursing as a graduate profession;

D) workforce planning and demand side models;

E) the implications of the labour demographics;

F) possible responses to this demographic profile;

G) labour market disequilibrium within the healthcare sector; and

Section 2.3 explores how the female labour supply decision can be modelled, and how nursing labour supply more generally can be modelled. Section 2.4 explores a variety of qualitative studies, and includes:

A) the complexity of how a "nurse" is defined as a form of labour;

B) gender, occupational choice and segregation;

C) the occupational choice / decisions of an individual entering into the profession;

D) the motivations and sources of job satisfaction that drive both work and turnover.

Finally, Section 2.5 concludes firstly, by identifying the factors influencing the supply decisions of those involved in the nursing labour market (initial occupational choice, participation and wastage). Secondly, by providing a general overview of developments in this labour market over the past few decades, including policy interventions. It highlights the need to explore and develop more up-to-date econometric analysis, to understand the decision-making behaviour of nursing qualified actors within the UK nursing labour market. In addition, it emphasises the need to triangulate, where possible, qualitative and quantitative research methods and findings to provide further clarification and understanding.

2.1 Review Method

This literature review was conducted using a narrative technique in order to provide a critical and interpretive summary of secondary research findings. There was no predetermined structural method used to filter, review or summarise the findings of the secondary research used. A snowballing technique was used to identify potential sources. This is in contrast to a systematic literature review, in which a technical approach to filtering (eligibility criteria), appraising and amalgamating secondary research is adopted, with a '*strong emphasis on methodological reproducibility*' (Greenhalgh *et al.*, 2018, p1).

There continues to be significant debate (Greenhalgh *et al.*, 2018, p1) over which method is most suitable in providing a balanced interpretation and presentation of secondary research in order to minimise research bias (*ibid)*. However, for the purposes of this research, there was a need provide an '*overview of [the]- topic [to] highlight the state of knowledge, ignorance and uncertainty [to help explore] how we know what we know, and where the intriguing unanswered questions lie*' (*ibid*, p4). Thus, a narrative literature review was preferred.

The potential lack of systematically driven judgement in selecting and interpreting secondary sources is a drawback to the approach taken. However, the purpose of this research and literature review was not to enable methodological reproducibility, but to ensure all potential avenues of research were explored This was in a bid to provide an

> '*understanding not only of the topic in question, but also of the reasons why it has been studied in a particular way, the interpretations that have been variously made with respect to what we know about it, and the nature of the knowledge base that informs or might inform*' (Greenhalgh *et al.*, 2018, p43).

This attempts to overcome a significant drawback of a systematic review, which is the potential exclusion of valuable literature due to inflexibility in the benchmarked criteria adopted, and which may consequently skew understanding and presentation of knowledge. Similar issues are faced however when conducting a narrative review, given there may be an incentive to

> *'cherry pick evidence to bolster a particular perspective. But this must be weighed against the counterargument that the narrative review secrets evidence judiciously and purposively with an eye to what is relevant for key policy questions' (ibid, p4).*

In order to identify sources that would help add to and create an understanding of the current state of knowledge, the snow-balling technique was used. This process included accessing the bibliography and references of a source, searching for the authors' other publications, or related articles to initiate a new search.

2.2. Supply and demand structures within the nursing labour market

A) Patient need or demand?

Within the literature the discussion is on-going whether patients demand healthcare or need healthcare.

> *'The health forecasting bodies in Australia choose to refer to patient "needs" and not patient "demands". In the economic discussion of derived demand, it is possible to consider these demands as being moderated by the health professions (and are, therefore, needs)'* (Bosworth *et al.*, 2007, p2.8).

The consequent derived demand for nursing care can be segregated into three key typologies (Buchan and O'May, 1998):

1. The demand for healthcare which is driven by potential service user needs and requirements, and is determined by the size and demographics of the population;
2. The demand for healthcare which is derived from current resources within the health system, and is driven by organisational policies and practices (i.e. met demand);

3. The demand for nursing labour, which is driven by the aforementioned factors, the current staffing mix, projected demand for individuals with particular skills and qualifications, and the willingness of employers to hire new employees.

The ageing demographics world-wide have increased the demand and need for health care, which is *'exacerbated by the greater knowledge held by the general population about medical issues, and increasing expectations regarding treatment, brought on by better educated populations and the rapid growth in medical RN [registered nurse]-intensive technology'* (Shields, 2004, pF465).

B) Public and Private sector employers

The healthcare market within the UK represents a complex, imperfectly competitive market, encompassing both public (NHS) and private providers. In 2018, the Health & Social Work sector accounted for 13% of the UK's workforce (HSE, 2019, p2) and represented, and continues to represent the largest employment sector in the UK (ONS, 2019). Within England more specifically, the NHS employs 1.5 million people (Rolewicz and Palmer, 2019).

The market for healthcare within England is an example of a quasi-market, as a result of the NHS and Community Care Act 1990. This was introduced to ensure market forces were able to operate in the provision of healthcare services. '*The Act, as with other elements of the quasi-market reforms, introduced both a decentralisation of control to independent provider units, and elements of a transfer of state ownership to organisations with a non-profit status*' (Le Grand and Bartlett, 1993, P69).

As an employer of nursing labour, the NHS has to some degree, a level of monopsony power. However, the existence and influence of trade unions and other professional groups, for example the British Medical Association (BMA), counteracts this market power (Bosworth, *et al.*, 2007). '*For some other skills, the NHS's monopsony power is very limited, with suppliers of labour having a range of potential buyers for their services from many other sectors*' *(ibid, p2.13)*. Consequently, wages within the market are sheltered from labour market forces '*partly because of the difficulties of changing pay relatives, but also because the government in conjunction with the unions set national pay rates rather than being developed by markets forces*' (*ibid*, pXIX).

The challenges identified, to be further explored in Chapter 3, as a result of both unfilled nursing vacancies and increasing turnover rates therefore, cannot be resolved easily through the market mechanism due to sticky wages. Wages are inflexible due to, for example, the pay

cap and the introduction of pay scales in the interests of transparency and standardisation (RCN, 2018; RCN, 2020), and do not reflect changes in demand and supply conditions. As a result, non-wage mechanisms are employed to help address such perceived shortages, which encompass both external and internal mechanisms (Cope, 2015). Within the NHS, these external mechanisms encompass recruitment and retention strategies, for example relocation support, and recruitment drives. Internal mechanisms on the other hand, include improve training, redeployment and the implementation of strategies to reduce the demand on existing staff (*ibid*). Such strategies require significant workforce planning. This planning needs to address and consider the existence of time lags/delays when training new recruits, and workforce retention issues. '*There is a significant time lag (at least three to four years) before policies to train more new nurses can have impact, meaning greater reliance in the short term on strategies such as overseas recruitment and improving retention*' (National Audit Office, 2020, p8). Workforce retention issues place significant strains on the ease with which new job roles are filled, and existing vacancies are replenished (i.e., the replacement needs of the workforce). In 2019, the number of unfilled nursing positions was reported to be 43,617 positions (Mitchell, 2019).

Within the NHS there are many different types of hospital employer bodies, which range from NHS Trust hospitals to NHS Foundation Trust Hospitals. Foundation trusts were introduced in April 2004, as '*part of the Government's plan for creating a patient-led NHS… to provide high quality care, shaped by the needs and wishes of today's patients, in the most efficient way*' (DoH, 2005, p4). In 2011, The Health and Social Care Bill (2011, p9) made it a key priority to offer

> '*providers the option of becoming Foundation Trusts […] to encourage them to become more responsive to the wishes and preferences of commissioners and patients […][and the freedom] to innovate, respond to patients' choices and drive sustainable improvements in quality and efficiency*'.

Furthermore, Foundation Trusts hospitals were granted '*new financial freedoms which mean they can borrow and use surplus cash to reinvest in new services, equipment and innovations*' (NHS Confederation, 2007, p16). Great emphasis is placed on the autonomy they have over resources, for example, labour, and the potential advantages generated in managing human resources, for example, the ability to '*direct their services more closely...with freedom to develop new ways of working that reflect local needs and priorities*' (DoH, 2005, p3). It is consequently argued that any excess demand that exists in the nursing labour market is

significantly attributable to *'employer's monopsony power, inflexible relative wages and incomplete contracts'* (Burkett 2005, p585).

Within the local health authorities in England, Foundation Trust hospitals represent '*a bilateral monopoly in terms of both purchasers and providers. There is no process of bidding between many suppliers and many agents*' (Burkett, 2005, p582). The NHS, as the largest employer of nurses in the UK labour market has, as a consequence, significant control over the setting and determination of wages, and '*acts as a trend setter for all health sectors*' (Clayton-Hathway *et al*., 2020, p5). Furthermore, inflexibilities in pay determination stem from

> '*the NHS [being] heavily reliant on pay restraint to ensure that constrained finances do not have a negative impact on quality of care or access to services […] [consequently] local pay flexibilities to address recruitment and retention issues are not being used to alleviate the very shortages they were designed to address […] [thus] the current pay policy [may] require some modification, and greater flexibility within the NHS*' (Buchan et al., 2017, p12)

Pay policies and constraints are in addition heavily influenced by trade union activity. Nurses within the UK are represented by the Royal College of Nursing (RCN) and UNISON for the interests of both public and private sector workers. Both unions make submissions and recommendations to the government and NHS Pay Review Bodies (UNISON, 2018; RCN, 2019). These submissions reflect upon the current state of the market including average annual earning and vacancy rates, and the impact this has, and may have, on pay deals and the overall interest of their members (*ibid*). Such union activity does however create inflexibilities with regard to pay and remuneration, as they may obstruct market forces.

Pay determination is also driven largely by government intervention. Policy changes regarding, for example, pay constraints (Agenda for Change: AfC; NHS, 2019) and income tax (Buchan *et al*., 2017, p2) can have a significant influence on wages in the market:

> '*A number of changes to the tax and benefit system mean that the same gross basic pay may result in different take-home pay. [For example, in 2017] the estimated take-home pay for someone at the top of the entry level nurse or midwife pay band (band 5) [had] increased by just £500 in cash terms between 2011/12 and 2016/17. This [was] a fall of 5% in real terms (adjusting for CPI)*' (Buchan et al., 2017, p1).

In contrast, with regard to pay determination from the purchaser/provider perspective, private healthcare providers have greater autonomy and governance over pay determination as they do not have to adhere to the AfC pay band allocations (NHSPRB, 2012; UNISON, 2018), thus competition within the private healthcare market for nurses is more prevalent. Furthermore, '*there are higher proportions of small and medium sized enterprises, which are less common in the public sector*' (NHSPRB, 2012, p7).

It is worthy of note, given the female dominance of the nursing labour market and the above discussions on pay (as evidenced in Chapter 3), that

> '*the gender pay gap is significantly lower in the public sector. For full time employees, the gender pay gap is half that in the private sector. Part-time women suffer a significant pay penalty in both sectors, but this is also lower in the public sector*' *(Trade Union Congress, 2012, p2)*

The RCN (2019, p3) attribute the gender pay gap to the larger proportion of men who are employed in more senior roles within the workforce. It is consequently argued that

> '*nursing as a profession has a sticky floor, rather than a glass ceiling, with a lack of gender opportunity rather than the gender pay gap, being the problem […] men take less time to reach higher pay bands than women*' (Jones-Berry, 2019).

The RCN further note that:

> '*the pay of registered nurses is also characterised by little variation in earnings across the nursing workforce, despite the wide range of roles and responsibility and levels of seniority; this suggests there is low scope for progression and higher earnings across nursing careers*' (Clayton-Hathway *et al*., 2020, p6).

In 2019, women earned 4.1% less than men per hour working full-time, and 4.7% part-time (ONS, 2019). This is in comparison to the private sector, where the gender pay gap is magnified as

> '*men [are] more likely to obtain private sector jobs in occupations where public sector wage ceilings often exist, whereas women are more likely to obtain lower paid private sector jobs, which tend to offer less job security and favour part-time employment*' (Boniol *et al*., 2019, p5).

The RCN concludes the existence of a pay-gap in the healthcare sector in general is the '*result of two factors: men working on average more hours than women [structural factor] and sex discrimination*' (Clayton-Hathway, *et al*., 2020, p5). More generally, efforts are being made to address this issues of gender-bias by encouraging equality in the recruitment and progression of female nurses to more senior roles within the organisation (Punshon *et al*., 2019). In 2020, the RCN reported that

> '*among nurses, the gender pay gap amounts to 17% on a weekly basis, however, when other factors are considered (age, number of dependents or having management responsibilities) this gap disappears almost completely due to differences in working hours (women in nursing are more likely to work on a part-time basis than men) […] A decomposition of the nursing gender pay gap shows that if women and men worked the same hours, the pay gap would be reduced by £102.60 per week, accounting for the majority (95%) of it. In other words, it is the gendered construction of nursing that is suppressing wages rather than gender inequality in the workforce*' (Clayton-Hathway, *et al*., 2020, p6).[4]

Within the private healthcare and social care sector more generally, there are three distinct groups of employers: for profit; not for profit; and voluntary. Unlike the public sector, the independent sector encompasses more than just independent healthcare providers, and includes, for example, independent schools, recruitment consultants and commercial organisations (British Medical Association, 2019). There are a variety of independent healthcare providers, including Nuffield, Bupa and BMI, who help to support the public healthcare sector (NHS) with regard to primary care delivery. The private sector in addition, draws on the public sector for nursing labour supply, which in turn affects labour demand and supply within the NHS. Labour demand is therefore driven by employer demand from both the public and private sector. Their interaction impacts on labour supply within the health and social care sector.

The training needs of the nursing workforce within England are subsequently demand driven. This demand arises from both employers (i.e., health service), both public and private as identified above, who require qualified staff and provisions for staff training and enrichment, and from the individual, who requires training and education to become qualified. These training needs fluctuate with changes in technology, consumer demand and the existing skill mix and structure of the workforce.

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[4] Figure reported as a real value.

C. **Nursing as a graduate profession**

From the 1980s and 1990s there was a drive to develop the identity of the nursing occupation into one which was viewed as a profession, with a focus on education and research. Previously, nurses and midwives

> *'were often referred to as 'callings', 'charity', 'occupations' and 'semi-professions', with their work based on applied knowledge from more established academic disciplines such as medicine'* (Vermeulen *et al.*, 2019, p1)

There is a distinction made between occupation and profession through Greenwood's taxonomy in which

> *'the defining differences [of a profession]include: own body of knowledge, recognised authority, broader community sanctions, own code of ethics, and professional culture sustained by formal professional associations. Increasing professionalisation [...] lead[s] to strengthening of [...] professional autonomy, and [...] increase in recognition, prestige and income, as well as political influence'* (*ibid, p2*).

The drive therefore to develop nursing into a profession was significantly influenced by the "graduatisation" of nursing, and the standardisation of nursing practice and qualifications across the higher education sector *(ibid)*. This change helped to develop nursing into a profession that has 'own body of knowledge' which is evidence-based, develops best practice and has the capability to accredit the individuals that work within the profession. Rafferty (1996, p67) however notes that *'the anomalies inherent in the pursuit of this particular form of autonomy continue to plague reformers of nursing till the present'*.

Thomas (2016) identifies that through engaging with research within the discipline, the development of a specialised body of knowledge is consequently used to developed high-skilled individuals within a governed institutional setting. This is coupled with three other factors that help to underpin and establish nursing as a profession. The second factor is the further governing of an individual's ability to practice, once trained, by an independent registered body, which in this instance is the Nursing and Midwifery Council (NMC). This registration is consequently used as a gateway to practice within the profession as a nurse. The third factor is the existence of autonomy in both the workplace and duties undertaken, and those registered within the profession are the only individuals suitable and capable to assess

others' practice. Finally, as identified above, there is a body of ethics that governs practice. Thus, it can be argued that nursing has developed itself into a profession.

Project 2000 was the catalyst that helped to further establish nursing as a profession and enhance care-delivery and practice, by developing a "graduatised" labour market, '*based on education-led arguments that nursing must become a graduate profession to meet the needs of complex care delivery*' (Buchan and Seccombe, 2011, p35). By the year 2013, the Nursing and Midwifery Council (NMC) required as a minimum, a degree qualification to be registered as a nurse in England (Shields *et al*., 2012). It should be noted that at that time within the UK,

> '*universities [were] subject to commissioned targets from their Strategic Health Authorities, and therefore [were] under pressure [at the time] to fill funded places for degrees and diplomas. Student selection [was] usually based on open days, interviews and academic achievements*' (Smith, 2012, p42).

The link between enhanced training, via degrees or apprentice style training, and care-delivery is a fundamental driving factor for maintaining the link between education feeding forward into practice to improve patient outcomes (Leary *et al*., 2016). Aiken *et al*., (2014, p1827) conclude that '*an increase in nurses with a bachelor's degree is associated with a decrease in inpatient hospital deaths'*. Thus, the balance between educational attainment/practice and the need for an immediate solution to the perceived labour shortage is complex. There is continued debate regarding the level of "graduatisation" that should be used as a minimum to practice as a nurse. This ranges from one perspective that apprentice style training is more effective in enhancing patient care, to another that degree level training should be extended from a traditional 3-year university course to 4 years to further improve positive patient outcomes (Aiken *et al*., 2014; Christiansen *et al*., 2018). Christiansen *et al*., (2018, p567) stress that

> '*the need for new graduate nurses to have the capabilities to function effectively in increasingly complex, dynamic and diverse health care settings has energised debate about the need for four-year nursing degrees […] Research has demonstrated a relationship between four-year baccalaureate nurses and better patient outcomes in the clinical setting'*.

Oliver (2019) identified however, that such suggestions are against a backdrop of perceptions

'*that "overeducated nurses" lead[s] to declining standards of care […] [against an] immense (and growing) contribution to patient care by advanced nurse practitioners educated to masters level, in services throughout the NHS*'.

Fundamentally however, there is a general consensus that the "graduatisation" of nursing has had a positive impact on patient care and delivery. Anderson *et al*., (2019, p1197) further stress that "graduatisation" of nursing has helped to enhance professional identify, defined as

'*a value and belief system which shapes and legitimises the behaviour of individuals within professional groups […] It is underpinned by historical, social and political influences […] Professional identity is considered to be constructed through enculturation by participation in common workplace practices [...] One of its functions is to ensure individuals become, be and stay "one of our kind"*'.

Research has consequently found a positive link between professional identify and healthcare delivery, and that a strong professional identity helps to enhance practice and care delivery (*ibid*).

D. Workforce Planning and demand side models

The stocks and flows of individuals within the nursing labour market can be explored and projected using stock-flow models (Drennan and Ross, 2019). Such models help to forecast the availability of labour within a given organisation and/or sector. Labour stocks refer to those individuals who are willing and able to supply their labour hours, given the wage rate and employment conditions at a given point in time (Borjas, 2015). Labour flows on the other hand, refer to the movement of individuals who enter or exit an organisation and/or sector (*ibid*). Labour inflows include those individuals who are new to the profession (e.g., graduates), those who have chosen to re-enter the workforce, and migrant workers (*ibid*). Labour outflows include those individuals who have left the workforce due to retirement, death, maternity and emigration (*ibid*). Such models combine the available data on stocks and flows within a given organisation/sector to help aid understanding of net changes in both employment and replacement demands and highlight areas of imbalance. The overall impact on the current workforce and labour market is dependent on the time period considered, and other demographic factors. Typically, in the nursing labour market, 'replacement demand', defined as '*a need to recruit and train new entrants into these types of jobs to replace those retiring from the workforce or leaving for other reasons*' (Wilson *et al*., 2020, p87) outstrips 'structural demand', defined as '*a net change in employment levels*' (*ibid*).

When exploring the stocks and flows of individuals within the nursing labour market Bosworth *et al.*, (2007) stressed the importance for employers in considering the significance of internal labour markets that exist within the NHS. Doeringer (1971, p 1-2) defines an internal labour market as

> *'an administrative unit […] within which the pricing and allocation of labour is governed by a set of administrative rules and procedure […] to be distinguished from the external labour market […] where pricing, allocating and training decisions are controlled directly by economic variables'.*

Replacement demands within the NHS and private sector are embodied within the overall '*occupational employment structure'* of the labour market (Wilson *et al.*, 2020) which

> *'are driven by long-term trends, including changing sectoral employment patterns and technological and organisational trends influencing the patterns of occupational demand within sectors'* (*ibid*, p2).

This '*occupational change'* is influenced by a variety of external and internal factors, or '*skills drivers*' (*ibid*, p68). External factors relate to those influences that are driven by the healthcare employment sector more generally, and the '*pattern of goods and services produced' (ibid*, p68). These factors included local and national policy changes (Section 3.3), technological innovation and development, and globalisation (*ibid*). On the other hand, internal factors impact on employment patterns within the nursing labour market (Section 3.1), and are driven by the organisational needs and forecasted needs, and how these impact on the skill requirements of the workforce, for example, technological developments.

The health sector more generally within the UK, has become increasingly dependent on the inflow of healthcare workers from international labour movements, as documented in Chapter 3. Both public and private healthcare providers are focusing efforts on recruitment strategies that encourage skilled migrant workers from both developed and developing countries to relocate and practice within the UK (*ibid*). However, '*depending on the future UK-EU relationship [Brexit], a change in migration and demographic trends could impact demand*.' (Wilson *et al.*, 2020, P41)

There have been concerns that overseas recruitment processes have been aggressive, and as a consequence less developed countries are unable to compete to retain their nursing labour. This has the potential to detrimentally impact their ability to maintain sufficient levels of healthcare provision for their own populations needs (Nursing Times, 2019). The International Council of Nurses (ICN) has

'urged countries to ensure they had policies in place to protect the rights of nurses who joined their services from overseas and who were at risk of "exploitation" […] (from) false or misleading information about their terms and conditions of employment, remuneration and benefits […] and in access to education and career opportunities' (ibid).

Previously the Department of Health has intervened in an attempt to prevent the poaching of qualified nurses from developing countries, establishing in 2001 that:

'unless foreigners provide unsolicited applications or their governments have established programmes for professional development with the UK, the NHS was advised to avoid recruiting. The guidelines were updated to include recruitment agencies working for the NHS, but the guidelines [did] not apply to the independent sector and are not monitored or enforced' (Batata, 2005, p2).

Such developments help to explain why international recruitment within the private healthcare sector has been more prominent over the past decade. Restrictions were progressively reduced, and such migration has been actively encouraged.

The UK's exit from the EU (Brexit) may have significant implications for the migration of workers into the healthcare sector, and the tenure of migrants already employed within the sector (Mckenna, 2017). In 2019, within the Healthcare sector in England, '*higher proportions of doctors and nurses were non-British nationals than people in other staff groups – 29% and 18% respectively*' (ONS, 2019). However, migration barriers and restrictions may not help employers more generally to address the exodus/migration of domestic workers, as they may find it challenging to employ overseas migrants to balance the labour flows post-Brexit (see Section 3.3).

There are, however, significant barriers to migration, which employers must consider. Migration and international recruitment are not, as argued above, an immediate solution. These barriers include possible requalification, physical costs of relocation and transfer, language differences and potential technical terminology, adjustment into new clinical practices, and the overall social costs of relocation (Schilgen *et al*., 2019).

Employers however are also experiencing an exodus of home nurses to other developed countries (Chapter 3), coupled with an exodus of overseas nurses returning home, attributable in part to Brexit (RCN, 2019). Such movements represent a brain drain, defined as a loss of highly skilled/trained/qualified workers from the economy (Borjas, 2015), to the healthcare sector within the UK more generally. This further exacerbates the situation and the quality of

care delivered (RCN, 2019). Workforce planning therefore must not only consider the domestic market forces at work within the nursing labour market, but must also consider those on a more globalised scale. Employers must address the push factors that drive domestic nurses to leave their current employment for overseas work. These factors include training and career opportunities, income prospects and overall quality of life (Sasso *et al*., 2019). Bach (2007) notes that previous increases in the migration of healthcare professions more generally, has been a direct result of poor workforce planning, and structural issues within the healthcare labour market.

Workforce planning within the NHS is confronted with a variety of uncertainties, both from the demand side and supply side of the nursing labour market. The National Audit Office (2020, p7), with reference to Table 2.1 below, identifies the '*observed challenges to workforce planning and supply*' for the UK nursing workforce as being reflective of 4 key areas: '*accountability; workforce planning; workforce supply and short-term shortfalls*', all of which are inter-related:

Table 2.1: Observed challenges to workforce planning and supply

Commonly observed challenges in workforce planning and supply	
Accountability	• Ensuring responsibilities and accountabilities for workforce planning and supply are clear and well understood, and aligned with organisational influence, priorities and incentives.
	• Having effective national, regional or central coordination and oversight in workforce planning and supply.
Workforce planning	• Demonstrating a robust understanding of the future need for staff based on evidence and reliable forecasting, including key policy changes
	• Understanding the performance of current and future supply routes for staff and how these address overall staffing requirements and any identified shortfalls.
	• Setting out an overall workforce plan that meets government's objectives, and is actively managed and reviewed.
	• Having reliable information/data on workforce.
	• Integrating workforce, finance and performance strategies and planning.
	• Ensuring coverage of all types of staff in planning.
Workforce supply	• Ensuring training places reflect future staffing needs, as well as factors such as attrition and subsequent participation in the workforce.
	• Ensuring funding arrangements for training and recruitment provide the right incentives for individuals, education providers and employers to achieve overall workforce objectives.
	• Addressing differences in staffing challenges by area and role in workforce planning and supply.
	• Providing adequate support and funding for local bodies to implement workforce strategies.
	• Ensuring workforce objectives are supported by wider cross-governmental policies and initiatives.
Addressing short-term shortfalls	• Identifying a cost-effective, sustainable approach for filling shortfalls in staff, and supporting employers to fill shortfalls.
	• Appropriately managing the risk of an undesirable level of competition between employers for the same staff

Source: National Audit Office (2020, p7)

Effective workforce planning is consequently key to combating and addressing forecast challenges with service provision. Bosworth *et al*. *(2007, pxxv)* note that:

> '*a number of factors conspire to make workforce planning essential within the health sector, including: the absence of wage adjustments though normal market forces; the long lead time in training staff; the necessity to ensure patient needs are met; and that tax payers' money is not wasted by training too many new staff*' (Bosworth *et al*., 2007, pxxv)

On the demand side, workforce planning is influenced by a variety of factors (Chapter 3), including; changes in local and national budgets impacting upon recruitment; technological changes and advancements; current migration policy, and workforce productivity enhancements impacting on future labour requirements (*ibid*). On the supply side, workforce

planning is influenced by the economic environment and labour market pressures (Chapter 3), including: labour demographics; job satisfaction; migration; and training capacities. (*ibid*).

Given the size, complexity and hierarchical organisation of the NHS, workforce planning must consider both internal and external labour markets structure and movements. The internal labour market is created by the movement of existing staff between roles within the organisation as a result of career progression opportunities, in contrast to the external labour market which depends upon pay and remuneration incentives.

'*Succession planning involves "growing your own staff" to meet future skill needs*', (Bosworth *et al.,* 2007, p xix). Succession planning however, requires close management to ensure such career progressions do not leave vacancies lower down the hierarchical structure, and minimises potential wastage from individuals choosing to leave the organisation and exit into the external labour market.

General perceptions are that a shortage exists within the nursing workforce in England, and the wider UK (CFWI, 2013, p20; Tan and Zago, 2018), and in aggregate, '*the NHS workforce gap will persist until 2027 if no action is taken on staff numbers, productivity or service redesign*' (Ely, 2018).

Shortages are defined within the economic field as imbalances between supply and labour demand at a particular price. However, within the general literature on skills, no clear consensus exists with regard to how shortages are defined and measured. It is commonplace to explore the notion of '*skill gaps'* and '*skill shortages*' as opposed to simply '*shortages*' (Meagher *et al*., 2014). They suggest that such definitions are fraught with difficulties. Those working within the NHS are clear that skills imbalances and skills mismatches do exist within the healthcare market (RCN, 2019).

Several indicators and thresholds are explored within the literature in an attempt to clarify what a shortage is within the healthcare labour market. However, such thresholds/benchmarks need to be explored with caution, given that the picture becomes less transparent when '*the total demand for labour services or supply of services, as measured in hours of work, as opposed to focussing on numbers employed*' (*ibid*, p4) is considered, along with relative and real wages. Meagher *et al*., (2014, p6) stress that

'no indicators provide an unequivocal measure of shortage, the thresholds which an indicator is deemed to show a "shortage" is arbitrary and different indicators often give conflicting results [...] no single indicator of a shortage exists [and] the mostly widely utilised indicators of shortage are vacancies [...] The main measures that have been used [are] external labour market measures (recruitment difficulties): vacancies; unfilled vacancies; skill shortage vacancies; [and] internal skill gaps (inadequate skills amongst the existing workforce)'.

Skills gaps exist as a result of '*a lack of skills in the [nursing] workforce as a whole*' (Bosworth *et al*., 2007, p1.7). This situation is further accentuated by the existence of a skills shortage, derived internally through the existing nursing workforce not having the skills required to advance to higher level posts, or the existence of those possessing the correct skill mix not being able to be released to fill these higher posts (*ibid*). This is in addition to external skills shortages, where there are individuals in the labour market who do possess the correct skills to fill the vacancies but choose not to supply their labour to the nursing labour market (*ibid*).

Consequently, when exploring future recruitment and training needs within the NHS, workforce planning must consider both the replacement demands and needs of the current workforce caused by turnover, and thus wastage within the organisation and net employment changes. Replacement demand is however difficult to estimate and forecast.

Several models have been developed in order to help forecast demand for nursing labour and help aid the workforce planning process (Griffiths *et al*., 2020; Bosworth *et al*., 2007). However,

'*despite the importance […] and the large volume of publication, evidence about nurse staffing methods remains highly limited. There is no evidence to support the choice of any particular tool*' (Griffiths *et al*., 2020, p1)

Within the UK more generally, the most commonly used of these workforce planning methods for nurse staffing levels is the "Telford approach"[5], first introduced in the 1970's (*ibid*). This workforce planning methodology is based on the judgment of health care professionals, who agree and approve the required size and mix of teams within the nursing workforce for a given ward/specialism. This planning considers a variety of human resource challenges, including

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[5] For a full 'overview of approaches to determining nurse staffing levels', please see Griffiths, Saville, Ball, Jones, Pattison, and Monks, 2020.

annual leave, technological innovations, shift patterns and sickness (Griffiths *et al*., 2020; Bosworth *et al*., 2007).

This approach allows workforce satisfaction to be monitored, and the impacts of workforce changes on patient care and delivery to be assessed (Bosworth *et al*., 2007). The benefits of using such method to help aid workforce planning within the NHS are the ease, applicability and cost-effectiveness of the approach. In addition, it ensures that allowances are made for annual leave and sick leave (Griffiths *et al*., 2020). However, a key inherent weakness with the "Telford Approach" is that

> *'the judgement of required staffing does not require the use of objective measures to determine need, hence it is an example of a 'professional judgement' based approach [...] [a] deliberative approach without formal measurement'* (*ibid*, p3).

Additional methods for determining suitable staffing levels include; nurses per occupied bed, acuity-quality methods, time task/activity method, and regression analysis (Bosworth *et al*., 2007, p4.2; Griffiths *et al*., 2020).

Previously, within the NHS, staffing levels and workforce planning faced significant scrutiny:

> *'In all four UK countries there has been an emerging policy focus on organisational level nurse staffing, with a move to harness the evidence base, and improve the use of staffing tools when determining local nurse staffing levels [...] There is an increased emphasis on the need to use temporary staff more effectively at local level, and with greater focus on the care quality impact [...] [However] local application of staffing tools is irrelevant if there are insufficient nurses, with the right skills, available to be deployed locally'* (Buchan *et al*., 2013, p5).

This movement towards a more *organisational approach* is viewed as only one core element in the workforce planning process. *Effective redeployment* of staff through adaptive shift planning to match workload flow and *labour market equilibrium*, are also key in this movement towards a more organisational approach to workforce planning. Effective workforce planning requires all *three elements* to be aligned, to ensure everyday staffing levels sufficiently meet the workflow requirements and are systematically adapted to respond to the dynamic healthcare needs of the local population. This is in addition to actively maintaining and protecting national labour supply to ensure it meets current and future care requirements. However, this should be considered in light of the current labour market (Chapter 3), including previous reports that a nursing labour shortfall is imminent and may further be exacerbated (Section 3.1). The ageing workforce, declining birth rates, post-recession NHS funding cuts,

and Brexit, which could, and have, resulted in redundancies and stalls in recruitment, will all have an impact (Murray, 2017; RCN, 2019; Clayton-Hathway *et al.*, 2020).

Wanless (2002) noted that the role of healthcare professionals over the next 20 years, and for foreseeable future, will change and evolve considerably. This will have significant implications for workforce planning and the demand for nursing labour within the NHS. Wanless (2002) posed three key questions for consideration, which need to be regularly reviewed, and which are significant areas for reflection. The first area for consideration focuses upon the changing role of healthcare professions, and questions:

> *'What is the scope for the significant expansion in nurse-led services?; how will the use of healthcare assistants change?; how will the roles of specialist and generalist doctors change; and how will partnerships with other professionals, especially social care change?'* (*ibid*, p160).

The second area for review questions the current training practices within the healthcare sector, and whether such provisions will ensure the correct number and mix of health care professionals required.

The third area for review explores '*how a mismatch between the demand and supply of skilled labour on the health service can be avoided? [and] what implications will this have for the cost of the workforce*' (*ibid*, p160).

There continues however, to be a relative paucity of literature in the field that explores and attempts to address, as a collective, these three areas of concern, and the consequent implications for both the current and future care provision within the NHS. In particular, there is a lack of development of research exploring the potential discrepancy between the demand and supply of healthcare professionals within the health service, and the consequent costs of this disequilibrium to the current workforce. Previous research pays particular attention to the proposed and forecast shortage of labour within the area of nursing. This makes the assumption that demand has and will outstrip supply. During 2018 and 2019 evidence examining the situation (RCN, 2019; NHS Digital, 2018; Charlesworth *et al.*, 2019) continued to suggest significant labour disequilibrium and resource misallocations, as opposed to just a shortage of nursing labour.

E) Some implications of demographics

Demographics will have implications for both the demand for and supply of nurses. On the one hand, changing demographics for the population at large will have significant implications for the scale and patterns of demand for nurses. On the other hand, the demographics of the nursing workforce will have significant implication for the supply of nurses (both entry and exits).

i. Implications for demand

Overall employment figures for 2019 provide a clear picture, consistent with changing healthcare demands, political changes (Brexit) and sector cuts (Chapter 3). For example, it is clear that the ageing demographics of the population has translated into a need to employ more nurses in the area of acute, elderly and general care, with demand for geriatric care, by 2025, expected to rise by up to 25% (Davies, 2019). Nurses within the area of acute, elderly and general care in England, since 2017, have

> '*accounted for 62% of all nurses and health visitors working in hospitals and community health services in England [...] There are around 13,600 more full-time equivalent nurses working in these types of wards than in October 2010*' (Milne, 2018).

It should be noted that once a student has graduated from a training/education programme, in order to specialise within a given area, they are required to do further training within the discipline specific field. Thus, these figures illustrate occupational choice and self-selection into the given area of specialism.

Additionally, as explored in Section 2.2(D), there remains

> '*uncertainty about the status of EU nationals after Brexit, changes to immigration policies, and the impact of changed language testing requirements for international nurses have led to a reduction in the inflow of health professionals from the EU and a shift in focus to the recruitment of non-EU nurses*' (Buchan *et al.*, 2019, p8).

This uncertainty has had, and will have, significant implications for the demand of EU and non-EU nurses, and overall international recruitment.

ii. Implications for wastage

Workforce demographics also have implications for recruitment and wastage. The NHS has experienced, and is argued to still be experiencing (RCN, 2019) both recruitment and retention issues, including high rates of nursing wastage. The NHS Pay Review Body (2019, pxi) note that

> '*a degree of turnover is normal to refresh the workforce, but, after a consistent upward trend in turnover rates since 2010, particularly for clinical staff, turnover in 2017/18 levelled off […] Maintaining NHS retention at a manageable level is essential given the workforce gap and current supply concerns. The data on the reasons for AfC staff leaving the NHS remain patchy at best, and inadequate to make a full assessment of the influencing factors*'

As reported in Section 3.1, the number of unfilled nursing vacancies within England has been on steady increase since 2004. These vacancy and turnover rates are attributable to a variety of factors, including issues of professional adjustment once qualified, and an ageing workforce increasing the number of individuals choosing to retire (Hitchcock, et al., 2018; RCN, 2018).

The causes of nurse labour turnover and individual intentions to leave the nursing profession are well documented (RCN, 2019; Marangozov *et al*., 2017). These include dissatisfaction with pay; shift length; time spent on non-nursing duties; and the work-life balance (Mcllroy, 2019). Previous research has identified that

> '*hospital nurse satisfaction is closely related to working conditions and the organizational environment, job stress, role perception and content, and organisational and professional commitment*' (Huxley *et al*., p1).

The RCN 2019 Employment Survey concluded that job pressures were having a negative impact on both satisfaction (discussed later in Section 2.4 (D)) and job quality, and ultimately, on staff turnover intent. The majority of respondents felt they were '*overworked in under-resourced environment*s' *(*Mcllroy, 2019, p6)*,* and many felt that they spent a disproportionate amount of time on non-nursing duties. Furthermore, it is reported that

> '*half of all nursing staff are dissatisfied with their work-life balance and almost two thirds feel they are too busy to provide the standard they would like. This demonstrates the cost to nursing staff as individuals as well as the job they perform, with serious implications for patient safety' (ibid* p6).

Many entrants appear to hold misconceived ideas of what a nursing career will entail: within the first 2 years of employment, 33% of newly registered nurses choose to leave the profession due to misalignments of expectations and realisations about the job role, which have a negative impact on their work satisfaction (Carlson, 2020). Indeed, between 2016 and 2017, '*more than 17,000 nurses under the age of 40 left the NHS in England […] over 6,000 leavers were aged between 26 and 29*' (Kendall-Raynor, 2018).

Directly or indirectly, work satisfaction among nurses is argued to not only be related to the quality of care delivered, but also (negatively) to turnover within the profession (Kendall-Raynor, 2018; RCN, 2019). At the other end of the spectrum, the RCN 2019 Employment survey found that the ageing demographics of the workforce, combined with a perceived increase in work pressure, was impacting on the decisions on those older nursing staff. It was found that a significant proportion of respondents over the age of 55, reported '*that they had or plan to change their working patterns or take early retirement in response to pressures in their job*' (McIlroy, 2019, p80).

The high wastage rates within the NHS, and healthcare sector more generally, represent a loss of human capital investment[6], and place a significant strain on existing staff resources i.e., those staff that choose to remain. Buchan *et al*., (2019, p7) noted in the previous, 2018, workforce trends report, that

> '*the turnover of NHS staff was increasing, and that most NHS trusts were exhibiting reductions in workforce stability rates. These retention measures suggested that the problem of retaining staff was increasing, despite it being regarded as a policy priority*'.

Considering the reported high turnover and wastage rates presented above, more recent workforce publications stress that recruitment into the profession is not a significant cause for concern (RCN, 2019), however the growing retention issues within the NHS remains high on the management agenda (*ibid*). Currently, policy aims to address the issues of poor satisfaction within the hospital setting (RCN, 2019). It should be noted however, that there is an abundance of research into the potential causes of nurse dissatisfaction within the hospital workplace (Eley *et al*., 2012; RCN, 2019; Hoff *et al*., 2019; Bautista *et al*., 2020). However, it is unclear how these findings are being transferred into the policy arena (RCN, 2019).

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[6] Defined as the knowledge, experience and skills held by an individual, which are valued by a firm/organisation (Borjas, 2015).

Current and previous policy, both from a governmental perspective and hospital perspective, have sought to address what is perceived to be an existing nursing labour shortage within the market. This perceived shortage is forecast to become more prominent as a result of a variety of factors, including the ageing demographics of the workforce, Brexit, and high graduate turnover (RCN, 2019). However, on review of both university recruitment figures, NHS workforce figures and turnover rates, it becomes clearer that a key issue is significant labour wastage, as opposed to a labour market shortage.

In turn, high labour wastage rates do translate into labour imbalances in a variety of hospital specialisms. However, when reviewing the data presented in Chapter 3 and in the discussions above, it could be argued that there is an inefficient use of resources. Therefore, workforce planning and potential reallocation of the existing employed labour pool may be key in helping to address the situation. Wanless (2002) stressed that a robust method of workforce planning needs to be put in place by 2020. Wanless (*ibid*) noted that this should incorporate the need to increase the number of nurses in line with the challenge of improving patient turnaround times, and the development of nursing staff in encompassing a variety of tasks previously associated with a doctor's role (i.e., skill-mix changes). Such recommendation is driven by the need to become more efficient in the allocation of NHS resources, to help address the associated issues of wastage, as opposed to being driven by a need to address a labour market shortage. The problem therefore appears to not be recruitment into the profession, but retention within the NHS (Launder, 2019), from both newly trained graduates, and from the existing skilled nursing labour force. However, this proposed, robust method of workforce planning is still to be developed.

The ageing demographics of the current nurse population is set to impact not only on the supply of nurses to the healthcare labour market, but also on the provision of healthcare to an ageing population, as many individuals convert from healthcare providers to healthcare users. The RCN UK Nursing Labour Market Review for 2018 stressed that '*the profile of the nursing workforce is progressively ageing. Comparisons of data from over the last decade highlight[ed] how older workers form a growing component of the workforce across the UK*' (RCN, 2019, p30). From 2018 onwards, it is predicted that 1 in 3 nurses will look to retire (NHS England, 2019*)*, and '*student numbers are not sufficient to match demand*' (RCN, 2019, p2). Ryan, Bergin, White, and Wells (2019, p159) note workforce planning is therefore imperative, and that given these changing demographics, more mature, older nurses must be catered for at a local and national level, with

> '*focus on recognising the achievements and expertise of older nurses, providing greater autonomy (through more empowered, expanded or flexible roles), limiting the negative impact of shift work and providing more ergonomically amenable workplaces […] [with] personal development plans that are flexible tailored to the individual nurse, particularly with regard to further education and training opportunities'.*

Rafferty (2019) reflects upon the retention and pre-retirement decisions of older nurses, and the push and pull factors that influence individual intentions to leave, which could have a significant impact on the replacement needs of the current nursing workforce. The push factors (*ibid,* p5) include: working hours ('*12-hour shifts and night shifts*'); flexibility of shift patterns; '*health issues*' and '*age-related life circumstances*'. The pull factors on the other hand include: '*financial instability*'; '*teamwork*'; '*commitment to professional experience*'; and '*opportunities for mentoring*' (*ibid,* p6). Rafferty (2019, p7) identified the need to pay '*important considerations around individual and organisational identity of older nurses'.* Rafferty (*ibid*) furthermore reflected upon existing policies regarding the retention and retirement of older nurses, and concluded that there were

> '*difficulties associated with the "retire and return" policy: including lack of information, convoluted processes, and requirements for further training before returning to the same role; Pension planning lacked support; [and] Retirement schemes required clearer signposting'.*

Consequently, it was suggested that these push and pull factors needed to be considered in relation to current retention practices, and incentives provided to encourage older workers to remain within the profession and workforce.

A growing number of nurses are choosing to take early retirement, and the NHS pension retirement age varies depending on when the individual joined the pension scheme. The normal pension age for those who joined under section 1995 of the NHS Pension scheme is 60. The minimum

> '*pension age is 50 for members who joined before 6 April 2006 and have not had a break of 5 years or more. The minimum pension age is 55 for members who joined on or after 6 April 2006'* (NHS, 2018, p3).

For those who joined under section 2008 of the NHS pension scheme, the pension '*allows normal age retirement at age 65. Members can opt for voluntary early retirement from age*

55' *(ibid)*. There are options under both schemes for 'flexible retirement' and 'retire and return'. 'Flexible retirement' options are

> *'defined as providing flexibility in respect of the age at which an employee retires, the length of time an employee takes to fully retire and/or the nature and intensity of work in the lead up to final retirement' (ibid*, p6).

'Retire and return' is defined as a stage when

> *'members who have reached the minimum retirement age can also opt to retire, take all their pension benefits and return to NHS employment. Options available include returning to the Trust in a substantive role or registering for the staff Bank'* (*ibid*).

In 2016, for example, it was reported that 7,143 NHS staff, under the age of 60, chose to 'retire and return', and claimed their pension then, following a break, returned to work (Spencer, 2016).

Kent (2015) and Rafferty (2019) provide the impression that there continues to be limited research into this group of nurses, and the value added to the workforce and NHS of returning nurses from retirement, or career breaks. It is without doubt that re-entry of this professional group provides experiential knowledge, and role models for younger nurses. Several reasons are cited for re-entry into the profession and hospital practice, including reduce parental duties, monetary gain and passion for the job. With regard to further policy objectives, Kent (*2015*, p1) notes that re-entry of registered nurses to hospital practice has clear

> *'implications for nursing management [...] Returning nurses want shorter days, alternative roles, and less physically taxing work […] [Which] can be achieved by offering flexible scheduling and work hours, creating niche roles and providing a more worker friendly physical environment'*

iii.   Implications for labour flows

International recruitment, and the retaining of nurses from overseas is an important aspect in light of Brexit, and the increasing demand for healthcare (RCN, 2019). [7] As identified in Section 3.3C, since 2016, the UK has witnessed a net outflow of nurses from the EEA

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[7] Magnified further by COVID-19.

(European Economic Area)[8], putting the UK nursing labour market in a position of net labour outflow (NHS Digital, 2018; National Audit Office, 2020). Furthermore,

> *'Since 2018, the NMC has made a number of changes intended to improve and streamline the process for overseas nurses to register to practise in the UK. However, against a target of 2,500, the HEE-led global learner programme only attracted around 1,600 nurses in the two years 2018 and 2019. It now has an increased target of 15,000 nurses between 2020 and 2024'* (National Audit Office, 2020, p10) .

Future immigration arrangements and reforms, post-Brexit, are high on the government agenda (Beaumont and Williams, 2018). Since 2016, nursing has been on the Migration Advisory Committee Shortage Occupation List (SOL), and as a result nursing applications to work in the UK are made a priority over other applications for those professions identified as non-shortage. Furthermore, prior to Brexit, if an individual was from an EEA country, they did not require a visa to work in the UK (RCN, 2017). Those individuals on the other hand who trained outside of the EEA, in 2019, need to gain professional registration from the NMC (NHS Employers, 2019). International recruitment however is financially costly for the NHS, and this financial outlay may include the fees for the use of an agency to help with recruitment, the cost of the '*Objective Structure Clinical Examination (OSCE) tuition programme and fees specific to non-EEA nurses'*, language lessons and flights (Leone, 2020). Leone *(ibid)* stresses that

> *'all routes to increase the supply of nurses have financial implications. Although international recruitment remains the overall cheapest (and quickest) option, it can cost an NHS trust between £2,000 and £12,000 per nurse hired, depending on where that nurse is from. In comparison, a nurse degree apprenticeship scheme, for example, can cost an NHS trust around £140,000 per nurse (over and above the annual designated levy of up to £27,000)'*.[9]

The inflow and outflow of nurses is facilitated by registered migration agents and recruitment partners (National Audit Office, 2020) positioned typically in the host country, who work closely with government bodies and national boards to help address and control migrant flows into the labour market. These agents act as both administrators and facilitators when individuals are exploring employment opportunities abroad and help to publish job advertisements for both public and private employer bodies. There is however an increasing

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[8] Attributed largely to Brexit.
[9] Figures reported in real values.

number of individuals however who bypass this third party, and are directly employed by the hospital, for example, through external job advertisements (*ibid*). The changing entry requirements for both home and international applicants has consequently led to changes in the employment structure of the health and social care sector. Many individuals seeking to become registered nurses within the UK may not have the experience or have achieved the entry requirements to join and register with the profession (Baker, 2019).

The migration flows of both home and international nurses have significant economic implications for both the donor and host countries (Borjas, 2015). The donor countries lose a valuable form of labour, both in terms of labour hours available to be supplied, and a loss of skilled labour i.e., human capital, and a financial loss from, for example, taxation revenue and domestic consumption/activity. This is in light of the fact that the nursing crisis is a global phenomenon (RCN, 2019). This brain-drain however is to the benefit of the host country, who acquires a skilled nurse, without bearing the full economic costs. The host country however does not necessarily benefit entirely from the labour reallocation, as many international workers send remittances home, which in turn indirectly boosts the donor countries economy (Borjas, 2015). Additionally, many nurses choose to work and/or study in the UK, then once they have achieved the required level of education and/or experience return home, which represents a human capital loss to the UK economy. There is also further discussion on home workers becoming displaced as a result of the international migration flow of nurses, however given the changes in policy, and the proposed labour shortages, such labour inflow has not generated wide labour displacement.

F) Possible responses to demographics: Use of agency staff and changes in skills mix

There are a number of possible responses to the problems caused by demographic developments, changes in national and international recruitment and staff turnover. These include the use of agency and bank staff[10], as well as changes to skills mix, including the greater use of health care assistants (HCA's) and trainee nurse associates (TNA). As explored in Chapter 3, the role of TNA was introduced to help address what had been identified as a workforce shortage, and manage the skill gap between registered nurses (RN) and health care assistants (HCA's) (RCN, 2018).

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[10] Bank staff are defined as allied healthcare and administrative staff who are available to cover temporary workforce/labour shortages including sickness, maternity leave and absence (RCN, 2018).

Agency and bank nurses have played, and continue to play, a significant part in the delivery of care within the NHS and overall healthcare market. They represent a temporary and flexible form of labour to help meet the care needs of the local population when shortages occur (McIlroy *et al*., 2016). Agency nurses are typically supplied by a private agency to help cover individual shifts due to, for example, unforeseen staff illness and maternity leave, as opposed to providing cover for permanent vacancies. Bank nurses on the other hand are provided by locally organised 'nurse banks' or NHSP (NHS Professionals) who manage the banks on behalf of the hospitals who have signed up to use its service, and often hold permanent contracts at the trusts they elect to work in (RCN, 2018).

As identified in Chapter 3, in 2016, the NHS introduced a cap on the amount that could be spent on employee agency staff (McIlroy *et al*., 2016). In 2018, NHS England calculated that

> '*the NHS could free up £480m[11] to reinvest into NHS services and improve patient care if trusts filled temporary vacancies with workers from a 'staff bank' instead of using expensive staffing agencies. Temporary staff […] supplied by agencies, cost on average 20% more than those from the NHS's own 'staff banks' despite doing the exact same job'* (NHS England, 2018).

Comparatively, a significant proportion of nurses work for the bank or agency as their main nursing job, and in 2019, 80% of all NHS nurse vacancies were filled by either bank or agency staff (Rolewicz and Palmer, 2019). Several reasons are given for why nurses become agency or bank nurses. The main reported driving factors include flexibility in working hours and job settings, dissatisfaction associated with workload and work-life balance found whilst employed on permanent contracts, and financial remuneration (Ranstad, 2019; Hudson-Sharp and Rolfe, 2017). Hudson-Sharp and Rolfe (2017, p26) reflect upon the demographics of agency workers in particular, and found that there

> '*were some indications that agency workers working in the NHS tended to be more experienced, typically with many years' employment within the NHS behind them. Foreign nationals are a significant group, who tend to use agency work as an entry and introduction into the UK labour market and to the NHS. Conversely, British nationals tend to value more the stability and security associated with permanent work'*.

There has however been significant discussion within the literature between the use of temporary staff and care quality. Hudson-Sharp and Rolfe (2017) conclude that research has

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[11] In real value terms.

identified a link between the number of temporary staff employed, and negative patient outcomes. This is attributed to, for example, lack of knowledge of local conditions, from the hospital setting to local procedures *(ibid)*, and the '*increased potential of spreading bacteria due to temporary staff's high mobility between different hospitals*' (*ibid*, p106). It is widely acknowledge however (NHS England, 2018) that temporary staff, either bank or agency, do provide flexibility in light of staff and skill imbalances for short-term periods.

Wanless (2002) envisioned that within a 20-year period, there would be an increased reliance on Health Care Assistants (HCAs) as a result of extending the role they play within the delivery of healthcare. This has come to fruition. It was hoped that these HCA's would undertake routine nurse based tasks in both primary and secondary care, and this reallocation of resources would help aid the mobility of labour within a given care setting to enable nurses the opportunity to undertake routine doctor-based tasks. The desire, and perceived need (Gilburt, 2016) to extend the skill-mix change beyond the nurse-doctor boundary continues to be of importance in the drive to help support healthcare organisations in adapting to the changing user demands, both in quality and quantity. New roles have developed within the NHS to help support '*the delivery of integrated care*. *These roles aim to enable more holistic care, and facilitate continuity and co-ordination of care across organisational boundaries*' (*ibid*, p3). This now includes the newly introduced TNA. There are however concerns that the blurring of job boundaries may create challenges associated with individual identities, at both a professional and organisation level, and dissatisfaction with workloads *(ibid)*. In addition to the more practical barriers of delivering integrated care and consequent accountability *(ibid)*.

G) Labour market disequilibrium within the healthcare sector.

As identified above, there continues to be ambiguity over whether the NHS is currently experiencing a nursing labour shortage. The debate is on-going over how such notions are defined, and there remains no common definition on which researchers and policy makers agree.

Buchan and O'May (1998) argued that shortages within the healthcare labour market can be geographical, organisational or speciality/discipline specific. They present 5 key indicators which can be used to assess and measure whether a labour shortage exists within the healthcare labour market generally (Buchan and O'May, 1998, p168). These are:

1. the rate of, and duration at which, job places become available;
2. turnover or wastage rates;
3. the number of agency or bank nurses employed;

4. the amount and level of overtime that has been worked;

5. the number of registered nurses unemployed within the nursing labour market.

The first key indicator is commonly used in the labour market for nurses to reflect the extent to which the organisation is able to recruit individuals to fill the available posts. This measure however needs to be used with caution, as not all available data accurately depicts the current situation, and can under report the actual rate due to, for example, suppressed vacancies. Additionally, as Meagher *et al*., (2014, p4) stress *'unfilled vacancies by themselves are NOT measures of shortages'*.

The second key indicator is argued to reflect the extent to which the organisation is able to recruit and/or retain staff. This information can be a key signal when exploring employee behaviour and satisfaction, within both internal and external labour markets. Such rates also need to be interpreted with caution as they can be influenced by a variety of factors. For example, an ageing workforce may result in an increasing number of retirements, which is not necessarily the result of poor employee satisfaction.

Movements within the healthcare sector more generally are categorised within the literature under three broad categories; turnover, wastage and new entrants. In should be noted however that disparity continues to exist between how such labour imbalances and occupational/job exit are defined within the NHS and the healthcare sector more generally, and the direction of causation between them.

In an attempt to standardise these notions ***turnover*** is more frequently defined, both within the NHS and within the healthcare sector more generally, as the movement of an individual between employer/organisation or job role within the healthcare sector. Such rates vary by geographical region. Within England, the most recent data available from NHS digital (2020) on **turnover rates**[12] in England between 2010 and 2018, illustrates a steady increase the turnover rate. From 2010 to 2011, 27,788 nursing and health visiting staff were reported to have left (8.81% turnover rate), increasing to 32,300 during the period 2014-2015, and finally to 33,520 from 2017-2018 (10.58% turnover rate). This is also reported to reflect an element of ***wastage*** within the sector, more specifically, if the nursing qualified individual chooses to leave the healthcare sector in its entirety (Buchan, *et al*., 2018).

When exploring wastage rates within both the NHS and healthcare sector more generally, a distinction is commonly made between 'controlled' wastage and 'voluntary' wastage. The

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[12] For a definition of turnover please refer to chapter 1, section 1.1. NHS Digital (2018) note that *'turnover data are based on headcount and shows people leaving or returning to active service, this would include those going on or returning from maternity leave or career break, for example'*.

former it is argued, reflects retirement, redeployment and redundancies. The latter is argued to reflect individual decision making, for example, an individual seeking employment elsewhere due to improved career prospects or pay, or as a result of being dissatisfied with an aspect of their current role. Within the NHS, the earliest available data on the attrition rate was reported, between July 2016 and July 2017, to be 7% (Department of Health and Social Care, 2020; NHS PRB, 2019). Such data needs to be explored with caution, as information on the destination of leavers is not always reported or accurate in its description;

> '*At an organisational level employers often do not distinguish between turnover and wastage. They often use the term staff turnover and measure the number of employees leaving their organisation irrespective of their destination. This makes it difficult to use data collected by employers to provide a picture of movement across a sector as a whole*' (Skills for Health, 2008, pi).

The third key indicator of shortage is the number of agency or bank nurses employed, which reflect temporary staff injections into the organisation. In 2015, a cap was introduced to limit NHS spending on agency or bank nurses (NHSPRB, 2019). In the UK more generally, the NHS

> '*relies on a consistent source of temporary staffing enabling trusts to flex the workforce according to demand. Approximately 90% of AfC vacancies were covered by bank and agency staff [in 2019]. Since the introduction of the ceiling [on temporary staff spending] in 2015, agency spending has been more effectively controlled and there has been a shift towards bank arrangements*' (NHSPRB, 2019).

Within England, there has been a growing dependence on filling unfilled vacancies with temporary bank and agency staff (RCN, 2018). A key caveat with measuring shortages based on the use of temporary staffing, however, is the accuracy and availability of data. Such information is not always readily available centrally, and a number of organisations report employment figures only as the number of whole-time equivalent permanent staff employed, excluding temporary staff, which does not accurately reflect employment levels. Furthermore, such reports do not always identify how many individuals are temporarily employed within specific care specialisms, and the position they were covering. Thus, it does not help identify the areas where the greatest shortages lie.

The fourth key indicator of shortage, which is commonly used within the literature, is the amount and level of overtime that has been worked. An important proxy for the level of staff shortage is the extent to which nursing staff are required to work above and beyond their

contracted hours. This may be the result of: healthcare funding cuts, leaving employers unable to employ new recruits; recruitment difficulties; temporary staff sickness; or unexpected heavier workloads. Within England, from the 2018 NHS Staff survey,

> '*the percentage of staff working paid overtime [in comparison to 2017] had increased by 1.0 percentage points to 33% while the percentage working unpaid hours decreased by 0.7 percentage points to 56%*' (NHSPRB, 2019).

The final indicator used to quantify the level and size of a shortage/surplus is the number of registered nurses unemployed but still wanting to work within the nursing labour market. This signals the level of tightness or slack within the market.

2.3 Modelling of the labour supply decision

A) Female labour supply decision

The neo-classical female labour supply model is determined in two stages - initially by an individual's decision to engage and participate in a given labour market (Condliffe *et al*., 2019). This, in turn, influences an individual's hours of work decision, i.e., how many hours they are willing to work in a given labour market for the current wage rate (Killingsworth and Heckman, 1986; Blundell and MaCurdy, 1999; Shields 2004; Hanel *et al*., 2014; Condliffe *et al.,* 2019). In many instances the classical female labour supply model is intertwined with models of family labour supply, and

> '*family membership and its obligations seem to be very important correlates of levels of and trends in labour supply among women […] the level of labour supply is generally lower but the positive trend in labour supply has usually been much stronger for married women than for single or other women*' (Killingsworth and Heckman, 1986, p126).

Nursing, as identified above, still continues to be a female dominated profession, and a significant proportion of labour market participants make their labour supply decisions based on their household composition. A variety of studies into the area of nursing labour supply therefore begin their theoretical foundations from a family-based static approach, i.e., an individual hours of work decision is correlated not only with the hours of work decision and derived income from other individuals in the household, but also other variables including the number of dependents. Regarding the influence of dependents, the ONS (2019, p2) highlight that '*the rate of mothers in employment has overtaken the employment rates of women without dependent children*', and males with children, are more likely to participate and work than

those without *(ibid)*. Furthermore, the 2019 RCN Employment survey found that over half of all nursing staff identified as the primary earner in their household, with 55% of respondents stating, '*their earning represented most or all of household income*' (McIlroy, 2019, p39).

Shields (2004) and Killingsworth and Heckman (1986) explore the notion of family labour supply in order to model the labour supply of women, where those females who chose to participate in the labour market are second wage earners in the household. Thus, their labour supply decisions are directly influenced by the labour supply of the family unit. Shields (2004, p470) and Blundell and MaCurdy (1999) '*adopt a family based 'static' approach, [and] do not allow for any inter-temporal substitution, no direct consideration of the influence of tax or welfare systems or incorporate intra-household bargaining*'. It is assumed that individuals that constitute the family unit are utility maximisers, which depend on the consumption and leisure decisions of the family unit. This can be represented as follows (Shields, 2004, pF470):

$$U = u(C) + a_i l$$

$$C = y_p + y_{ni} + w_i (T - l)$$

Where:

l = hours of leisure, $l < T$ $\qquad$ $u'(c) > 0$ $\quad$ $u''(c) < 0$ (leisure is a normal good)

C = household consumption

y_p = income of partner

y_{ni} = household non-labour income (incorporating the partner's wage)

a_i = individual-specific degree to which leisure is valued

This model has a number of implications for the labour supply of an individual. Firstly, an individual will participate in the labour market if the utility they receive from working and earning a wage outweighs how much they value their leisure time i.e., $u'(y_p + y_{ni})w_i > a_i$ is satisfied, thus if it is observed that $a_i > 0$ the individual spends all their time available (T) working. The degree to which leisure is valued however will vary by individual, thus there will be a wide spectrum of values for a_i for which individuals would choose to supply their labour and participate in a given labour market if the wage (w_i) was to increase.

Secondly the decision over how many hours to work out of the total time available to the individual (T), is deduced when the following constraint $u'[y_p + y_{ni} + w_i(T - l)]w_I = a_i$ is solved by l i.e., the utility they receive from working a given number of hours is equal to the

utility they would receive from a given number of leisure hours. At the other extreme when $u'[y_p + y_{ni} + w_i(T-l)]w_I > a_i$, $l = T$, the individual is at the boundary with all the hours available spent consuming leisure.

The third implication the model has for labour supply is the influence a change in wage has on the number of hours chosen to be worked, which can be illustrated by the income and substitution effects as follows:

$$\frac{dl^{13}}{dw} = \frac{u'[y_p + y_{ni} + w_i(T-l)]}{u''[y_p + y_{ni} + w_i(T-l)]w_i^2} + \frac{u''[y_p + y_{ni} + w_i(T-l)]w_i(T-l)}{u''[y_p + y_{ni} + w_i(T-l)]w_i^2}$$

= Substitution effect + Income effect

The income effect is usually positive, as a rise in an individual's income causes them to 'purchase' more leisure, and consequently work less. The substitution effect on the other hand is negative, as a rise in the individuals wage causes them to 'purchase' less leisure and work more. Which effect ultimately dominates depends on the individual's utility function. If it is concluded that for a given individual, the substitution effect outweighs the income effect, less leisure time is taken, and more time is dedicated to supplying hours of labour to the market. In this instance the labour supply function has a positive slope. If on the other hand the income effect outweighs the substitution effect, more leisure time is taken, as an extra hour of leisure has comparatively become less expensive with regard to the opportunity cost trade off.

Consequently, it will be seen that the individual chooses to take more leisure time and dedicate less labour hours to the market. In this instance the labour supply function has a negative slope[14]. For those individuals who work a small number of hours, it is expected that an increase in the wage offered will increase the number of hours chosen to be worked. In addition, the strength of the substitution effect will diminish as the wages offered increase and the number of hours dedicated to leisure time decrease. The individual will begin to value leisure more relative to earning an income, when leisure time become scarcer, and the individual is able to work fewer hours and maintain an income level when the wage offered increases).

Fourthly, if it is assumed that the income of the individual's partner is substitutable for their own income, and a subsequent rise in their partner's income would generate only an income effect, and thus the individual will work fewer hours or cease working altogether, i.e.

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[13] *dl* represents the effect on leisure
[14] The labour supply curve is backward bending (Borjas, 2015).

$$\frac{dl}{dy_p} = \frac{1}{w_i} > 0$$

On the other hand, Cahuc and Zylberberg (2004) note that, if the spouse's income was to fall, it induces not only more hours of work but also participation in the labour market.

The fifth implication is based on the influence of children and marriage. An increase in the number of children in the family unit and change in marital status causes leisure time to become more valuable, which aims to encapsulates the notion of non-market work. Therefore, if the value of leisure time to an individual increases (a_i), due to changes in the demands placed on them as a result developments in non-market work, participation in the labour market is expected to decrease. Thus, for those individuals who do work, the following is maintained:

$$\frac{\partial l}{\partial a_i} = \frac{1}{-u''[y_p + y_{ni} + w_i(T - l)]w_i^2}$$

This basic model, however, does not consider a vital element of female labour supply, namely household production, which is distinguishable from leisure time (Cahuc and Zylberberg, 2004; Killingsworth and Heckman, 1986). This model can be easily modified to take into account this other potential allocation of time, and

> *'the total endowment of time available breaks down into paid working time, household working time and leisure [...] and the efficiency of household tasks is represented by a "production function" linking the amount of the good produced to the time spent on household work'* (Cahuc and Zylberberg, 2004, p15).

There are a number of methods and techniques used to model female labour supply, and Skåtun *et al*., (2005, p58) stress that these techniques are exposed to a variety of methodological issues, namely as a result of sample selection bias, and endogeneity of the wage. The sample selection bias is as a result of only being able to analyse and monitor those individuals who choose to self-select themselves to work in the labour market i.e., they have made that occupational choice decision to engage and participate in the marketplace. Therefore, labour supply models that explore an individual's hours of work decision (i.e., the intensive margin) only represent those individuals who have received a wage offer greater than their reservation wage. Therefore, it can be argued that such labour supply models do not replicate the decisions of all females in the population, but only those who have chosen to enter the labour force. Consequently, a problem that arises when modelling female labour supply is that the market wage of those women who do not participate in the labour market is unobservable.

'Thus, even if correctly specified the labour supply function could not be estimated using data on the entire female population [...] in this case using conventional least squares regressions to fit the model to data on working women will yield a biased estimate of the exogenous income parameter due to the correlation between exogenous income and the error term' (Killingsworth and Heckman, 1986, p180).

The same problem arises if, for example, the wage is dependent on observable and unobservable characteristics. If unobservable wages are correlated with both labour supply and the individual's reservation wage, the wage coefficient will also be biased. In addition to potential bias created by the correlation between a husbands and wife's labour supply function, as a result of inter-dependence between the two when making participation decisions.

Killingsworth and Heckman (1986, p182) suggested that the solution to overcome these potential issues was to estimate not only the labour supply function that determines the hours of work chosen, but also to model other

'behavioural functions relevant to work effort e.g., the discrete choice of whether to supply any work at all, as given by the participation criterion [...] measurement problems can be minimised, specification questions are addressed directly and the econometric bias problem can be avoided'.

One key approach, which remains at the forefront of modelling female labour supply, is the Heckman (or Heckit) procedure, which is a three-step procedure. The first step involves formulating a model containing the variables that govern an individual's decision to work or not, and then to estimate the individual's participation decision (the extensive margin), '*using probit analysis, i.e., maximising the probit likelihood function*' (*ibid*. p183). This function takes a value equal to one if the individual works and zero otherwise, and provides estimates for the structural parameters, which is used in turn to compute estimates of λ (i.e., the Mills ratio) for each individual who works. Once an estimate for the Mills ratio for each individual has been obtained, it is then used to compute '*the reduced form hours and wage equations*' (*ibid*, p184). The approach aims to overcome the identified biases, to provide a clearer and more accurate reflection of the female labour supply decision.

Much of the literature focuses upon the notion of family labour supply, and married females (Benham, 1971; Shields, 2004; Rice, 2005). In contrast, there are fewer investigations into the labour supply decision of those individuals who are single. Gazioglu and Tansel (2006) investigated British employees through the Workplace Employee Relations Survey. They concluded that job satisfaction and overall labour supply was linked to marital status. It was

highlighted that single individuals have greater levels of job satisfaction than their married counterparts, thus positively affecting their labour supply decision making.

This is further supported by the findings of Kong (2009), who explored the relationship between employee characteristics and engagement with the job role. Once again, unmarried/single individuals were found to have a greater engagement and dedication to the job role than their married equivalent. Devi (2015) in addition explored the attitudes of teachers towards their profession, and concluded that single individuals had a more positive attitude than their married equivalent. Consequently, teachers who are of a single marital status appear to be more dedicated to the job role, and thus pursue greater achievements within the job role and profession.

B) Economic modelling of Nursing Supply

Economic modelling within the field of female labour supply, and more recently female nursing labour supply has developed considerably since the 1970s. The debate continues over which functional form of the female nursing labour supply model is representative, and which econometric modelling technique allows for greater accuracy. Previous research however places significant emphasis on key factors that drive female labour supply decisions, as illustrated and summarised in the appendix, Table A.2.1. The changing economic status of females and changing socio-economic factors that influence female labour supply however calls for review of both the modelling techniques, and also the functional form of the model. Greater focus needs to be placed on other non-monetary factors that may influence the labour supply decision. A key methodological challenge when estimating labour supply more generally, is the complexity of modelling the labour force participation decision together with the individual decisions on how many hours of work they wish to supply. The endogenous nature of the participation decision has previously resulted in a broad spectrum of techniques and methods, ranging from two or three stage least squares, to Tobit and Heckman selection models.

In 1971, Benham (1971) used US census data from 1950 to 1960 to model the demand and supply conditions for registered nurses. In order to model these market conditions Benham (1971) used a three-stage least squares estimation method. During the estimation Benham (1971) assumed that a nurses labour supply would be positively affected by the wages paid. The wage rate was identified as being negatively affected by the number of female registered nurses available (i.e., the size of the labour market pool), and the number of registered nurses who chose to participate in the labour force. It was further assumed that labour force

participation, which was a proxy for labour supply, in this instance was positively affected by the average income of female registered nurses, but negatively affected by the average income of the figure head of the household, and the number of dependants/married women.

Following the estimation, it was concluded that an increase in the income per capita of the consumer population not only increases the earnings of registered nurses (RNs), but also increases participation into the labour force and thus the potential supply of registered nurses as expected. Secondly it was found that a rise in the income received by the head of the household caused the labour force participation of female RNs to fall. This is in light of the findings that the labour supply equation was negatively related to nurses' wages, and that the participation equation was positively related to the nurse's wage. The presence of dependent children under the age of 5 had a negative impact on the participation of female RNs, which was as predicted. It was also concluded that there was a positive relationship between nursing qualified graduates (lagged by 10 years) and the size of the nursing pool. However, this relationship was found to be declining in magnitude during the 1950s and 1960s, given that the overall stock of nurses would only increase by approximately 9% following a 100% increase in the number of nursing graduates. This finding posed further questions for the transition rate between nurse training and employment. It should be noted that one key caveat with such model to date, however, is the simplistic nature of its assumptions on what drives labour supply and demand, given the complex nature of the behavioural economic variables that drive and influence both aspects of the market (Hanel *et al.*, 2014).

Following the developments by Benham (1971) on the labour market for registered nurses, Link and Settle (1985) investigated the wage elasticity of labour supply for licensed practical nurses (LPN) that were either married or single, using US census data from 1970. The research aimed to model the labour supply of LPNs using a Tobit model in order to estimate the hours of work decision. The latter included explanatory variables for annual hours worked, including the individual's region of residence, their non-labour income, for those who were married the wage of their spouse, their health status, ethnic origin and the number of children who lived in their household.

Such developments within the field of female labour supply reflected a greater understanding of the non-monetary and behaviour variables which influenced and determined both the participation decision and hours of work decision. Link and Settle (1985) concluded that for those who were married in the sample, the own-wage elasticity of LPNs was significantly greater than that found for registered nurses (RNs) and was considerably lower (1.12 versus 0.67) for those LPNs who were single. Therefore, any attempt to increase wages to alleviate the nursing shortage would have a greater impact on the labour supply response for LPNs who

were married than for married RNs. The authors did stress however, that even though LPNs potentially lie on the same labour supply curve as RNs, but at a wage level considerably lower, any potential differences could be attributed to RNs generating a higher income than LPNs, and thus having a different family income. Therefore, the income effects caused by changes in the individuals own wage would be greater for those RNs than LPNs.

Further research developments by Link (1992) into the labour supply behaviour of registered nurses focused on, once again 1960s and 1970s US census data, but in addition combined the data series with the US National Sample Surveys of Registered Nurses (NSSRN) from 1970 to 1980. This data aggregation was in an effort to ensure the determinants that would be used for modelling were stable given the surge from the 1960s to 1990s in the labour force participation of females. From the research it was concluded that considerable heterogeneity existed across the sample used (Bognanno *et al.*,1974; Phillips, 1995).

The wage rate paid to RNs was concluded to be a significant and positive variable in predicting the labour force participation of RNs in 1960, 1980 and 1984. However, in 1970, 1977 and 1988 it was concluded to be insignificant. In 1988, the impact of the wage paid on the hours of work decision was negative and only significant for this given year. The given wage elasticity with respect to hours worked varied over the period, however, was considerable in size, with a wage elasticity figure of 1.33, in 1960 only. This result implied that the if wage offered to registered, married women was to increase by 10% there would be an increase in the number of hours worked by just over 13%. Therefore, it was deduced, from a policy perspective, that increasing the wages offered to RNs in order to induce the existing stock of working RNs to increase their hours worked would not be an efficient way to help alleviate the shortage.

With regard to the effects the explanatory variables had on the participation decision and hours of work chosen, it was concluded that their spouses' wage reduced participation, but did not, as was expected, reduce the hours of work chosen for those already participating in the labour market. Furthermore, those RNs who had a significant amount of non-labour income were less likely to participate (Blundell and MaCurdy, 1999), and a registered disability reduced participation, but had no significant bearing on the hours of work decision for those already participating. Comparatively it was found, that if an individual was a foreign-born RN, not only was their participation rate higher, but the number of hours worked was significantly greater than those worked by native born workers. A key unexpected conclusion was that labour supply was not affected by an individual possessing a nursing qualification, nor the age of the individual. However dependent children did have a significant impact on both participation and hours worked. This implied, from a policy perspective, that if facilities were

provided to care for young dependents below the age of 6 years, the overall participation and hours worked of registered female nurses would increase, by 13% and 21% respectively (Link, 1992).

Given the relative paucity of studies within the UK, Rice (2005) offered a key contribution to the investigation of the supply of RNs. Rice (*ibid*) collated data from the British Household Panel study from 1991-1999 (the first nine waves) and adopted 'a simple OLS model' (Shields, 2004, pF490). It was concluded that being married and having young dependent children (or caring responsibilities) was related to those individuals who chose to work fewer hours, and the hours worked were negatively affected by non-labour income, if the individual nurse worked night shifts and if the individual did not have any responsibilities, be it in a managerial or supervisory capacity. Furthermore, it was found that '*the elasticity of hours supplied with respect to wage is 0.40 suggesting that moderate increases in nurse hours supplied could be achieved by increases in wage rates*' (Rice, 2005, p1). These findings consequently aided questioning into previous findings, and the previous econometric techniques used. More importantly with regard to the influence and estimation of the computed wage, it identified that wages should be treated as endogenous, and that the calculations for the wage elasticity in respect of both the likelihood of labour market participation and on hours worked should be used to inform policy.

Following from Rice (2005), Skåtun *et al*., (2005) explored the classical model of labour supply in order to model the supply of qualified nurses in the UK, using the LFS data from 1999-2000. The '*study sets out to estimate a classical model of labour supply for British qualified married or co-habiting nurses and midwives*' (*ibid* p57). It was concluded that it remains unclear how altering the wages offered to qualified nurses will maintain or increase the size of the workforce, which has vital implications for policy recommendations. It was found that '*participation and hours of work are inelastic with respect to own wage. These results suggest that increasing the wage would only have a moderate effect on labour supply*' (*ibid* p35). One unexpected finding was that there was no significant statistical difference between the impact of having children aged between 3 and 4, and 5 and 15 on either participation or hours worked. In addition, Skåtun *et al*., (2005) compared nursing labour supply in the public and private sector and found that the number of hours an individual is willing to supply in the public sector is unresponsive to wages i.e., completely inelastic (*ibid* p35).

Further contributions have been comparatively infrequent. Hanel *et al*., (2014) explored further the elasticities of nurse labour supply but stress the need to explore not only the hours

of work, and thus the participation decision, but also the occupational choice decision. Previous research fails to explore the latter, which suggests a significant gap in the literature. Thus, it is can be argued that:

> 'given the number of nurses leaving the occupation, understanding how these nurses can be attracted back to the profession and how current nursing staff can be prevented from leaving will inform policy makers [...] What is needed to keep nurses from leaving specific shift types may well differ. A better understanding of this latter aspect is also crucial' (*ibid*, p96).

The authors use the annual household survey HILDA (Household, income and labour dynamics in Australia), and pool the data from the nine waves between 2001 and 2009. Hanel *et al.,* (2014) upon estimation concluded that the labour supply elasticity of a nurse is much greater than has previously been suggested This poses significant implications for policy, as it suggests that nurse labour supply can be increased by altering the wages paid. For those who possess a nursing qualification, the wage elasticity could be as significant as 1.37. This result implies that a 10% increase in the wages offered to qualified nurses, could increase labour supply by just under 14%. The authors attribute this result to including within the estimation the occupational choice decision, as opposed to just modelling the participation decision of those individuals who have already elected to work in nursing. However, it is noted that the level of responsiveness varies between different groups of individuals i.e., low qualified and/or childless.

Furthermore, it highlights the need to target those individuals who hold a nursing qualification, but who are currently not employed within the nursing labour market and consider as a result the wages offered in non-nursing occupations. In contrast to previous research, the authors stress the need to acknowledge that observed work hours are determined by both demand and supply forces simultaneously, and policy should in addition consider how altering wages for a given shift type can lead to significant changes in labour supply in alternative shift types. This could be an effective tool if there exists an imbalance of labour demand and supply between different shift types.

More recent research by Condliffee *et al.,* (2019) explored the participation decision and hours of work decision (full-time versus part-time) of female registered nurses in the United States. The authors used the National Sample Survey of Registered Nurses (NSSRN) to contrast labour supply models of those registered female nurses who lived in metropolitan statistical areas (MSA's). The labour supply models were estimated using '*a selection corrected bivariate probit model where the outcome measures of interest are whether the nurse works,*

and if she does, is it on a full-time basis' (*ibid*, p127*)*. It is found that wage was only statistically significant for influencing the likelihood of participation for full-time nurses, and the likelihood of participation decreases as the wage offered increases[15]. An interesting finding was that '*job dissatisfaction reduce[d] married RNs incentives for working full- time [...] So too [did] the presence of young children at home'*. Furthermore, the wage elasticity[16] with regard to the amount of labour a registered female nurses would be willing to supply was found to be small or negative[17]. Thus, overall, the authors

> '*find higher wages are not a significant factor to (a) increase the likelihood of working nor (b) to encourage full-time work. Another key factor is age which, given the aging of the RN population, foreshadows dwindling labour supply'* (*ibid*, p127*)*.

It is concluded that policy makers need to consider the impact of an ageing workforce on the results, and what incentives could be introduced to retain an ageing workforce, and encourage, where possible, individuals to postpone retirement. Suggestions include greater flexibility in the hours worked, offering where possible, part-time shifts to older workers. In addition, the need to attract more men into the profession was also addressed, highlighting the problems associated with gender segregation, as discussed in Section 2.4 (B) below.

2.4 Qualitative studies

A) Definition of a nurse: A form of emotional labour?

There remains ambiguity surrounding how a nurse and their associated tasks are defined. Borsay and Hunter (2012, p3) note that:

> '*the Royal College of Nursing (RCN) conclude that the answer to the question "what is the proper task of a nurse" remains open [as] [...] a variety of groups describe themselves as nurses'*.

Consequently, the RCN (2003) define a nurse's role within the broader definition of nursing, which is

> '*the use of clinical judgement in the provision of care to enable people to improve, maintain, or recover health, to cope with health problems, and to achieve the best possible quality of life, whatever their disease or disability, until death.'*

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[15] Participation is the extensive margin, and hours worked represents the intensive margin.
[16] The wage elasticity for participation however is undisclosed in the research findings.
[17] Evidence of a backward bending labour supply curve.

Nursing as a job description encompasses a variety of job roles within the Health and Social Care sector, and the nurse-doctor boundary with regard to job role and tasks is set to become less discrete (Wanless, 2002). Within the UK, nurses are deployed/employed in a variety of different sectors and job types. Within the NHS in England, qualified nursing, midwifery and health visiting staff are employed within a variety of areas, fulfilling different job roles. For example, within the field of paediatric nursing, a qualified nurse could be employed as a nurse consultant or a children's nurses.

The move to nursing being identified as a graduate profession, as explored in Section 2.2 (C) has been fundamental in helping to shape how a nurse and their associated tasks are defined, along with an individual's professional identify (Arnott *et al*., 2019).

Nursing is classified as a caring profession, and nursing "care" is central to the job role; however, its interpretation varies between different clinical areas. There is a general consensus (Delgado *et al*., 2017; Blasdell, 2017) however that there is a

> *'moral ideal of nursing whereby the end is protection, enhancement, and preservation of human dignity [...] All of human caring is related to inter subjective human response to health-illness; environmental-personal interaction; a knowledge of the nurse caring process; self-knowledge, knowledge of one's power and transaction limitations […] A nurse is required to perform certain acts for her patient which are legally and ethically binding[…] [and] involves emotionally connecting with the patient'* (Blasdell, 2017, p1, cited in Watson, 1988, p901).

This emotional component of nursing as a profession has led to the role being defined as a form of "emotional labour" (Williams, 2013; Hochschild, 2012). Hochschild (2012, p7) identifies that emotional labour is

> *'the management of feeling to create a publicly observable facial and bodily display […] [and is] the introduction or suppression of feeling in order to sustain an outward appearance that produces in others a sense of being cared for in a convivial safe place [...] and is the occupational equivalent of emotion work/management which is done in a private context. It is sold for a wage and has an exchange value'*.

Hochschild (2012) stresses that how an individual's emotions are managed and expressed are governed by social norms, referred to as "feeling rules", and are influenced by the context and situation. Individuals manage and express their emotions through "deep" acting and "surface' acting (RCN, 2019). The RCN (2019) note that

'*surface acting means that employees change their outward expressions, voice and gestures, but do not attempt to feel the emotions that they are displaying. In contrast, deep acting involves employees attempting to regulate their inner feelings in order to actually feel that what they are displaying*' (RCN, 2019, p58).

It is argued that nursing can be defined as a form of emotional labour because it exhibits three distinctive characteristics. Firstly, it requires '*face-to-face or voice contact with the public*', secondly the job role '*requires the worker to produce an emotional state in another e.g., gratitude, fear*', and thirdly the job role '*allows the employer through training and supervision to exercise a degree of control over the emotional activities of the employees*' (Williams, 2013, p6). It is argued that this emotional dimension of the profession is a key motivator in an individual's decision to enter into the nursing profession, and which forms their social identify (Seery and Corrigall, 2009; Dudau and Brunetto, 2020). The RCN (2019, p58) note that

'*when genuinely-felt and organisationally-required emotions are not aligned, employees regulate both feelings and expressions in order to conform to organisational requirements*'.

The concept of "emotional labour", and the application and association with nursing was further developed by Theodosius (2008), who identified that there are three distinct types of "emotional labour". These are: instrumental, therapeutic and collegial (Delgado *et al*., 2017, p72). "Instrumental emotional labour" relates to the individuals communication skills, inter-personal skills, and confidence in the command of performing and carrying out clinical tasks and duties '*to minimize patient's pain or discomfort, or patients/ families' concerns relating to clinical processes and procedures*' (*ibid*). "Therapeutic emotional labour" refers to 'interpersonal communication skills' and relationships that exists between a nurse, a patient and their family (*ibid*). "Collegial emotional labour" '*refers to interpersonal relationships and interactions between nurses and their colleagues where the exchange of information informs and promotes effective nursing care*' (*ibid*).

All forms of "emotional labour" ultimately require the individual to manage their emotions, through both deep and surface acting '*to display behaviours that are conducive to others feeling cared for*' (*ibid*), which can be emotionally draining and lead to emotional dissonance.

Emotional dissonance is defined as the detachment between an individual's real feelings, and the emotional expression they display (Karimi *et al*., 2013; Dudau and Brunetto, 2020). Emotional dissonance is associated with nurse well-being, job stress burnout, and having an overall negative impact patient care delivery, team moral and individual well-being (Delgado

et al., 2017). Employers of health care professionals more generally, are becoming increasingly aware of the need to help support and develop emotional resilience, particularly when managing job satisfaction and turnover intent, especially in new recruits into such professions (Kinman and Leggetter, 2016; Dudau and Brunetto, 2020). The RCN 2019 employment survey (RCN, 2019; Mcllroy, 2019) explored the impact the emotional demands placed on a nurse had on overall satisfaction and turnover intent, and in particular focused on an individual's strategies when "surface" acting and "deep" acting. From those participants surveyed, it was found that there was a greater propensity towards "surface" acting than "deep" acting, with many reflecting upon the need to positively manage their emotions *(ibid)*. However, a significant proportion of respondents

> '*described the emotional demands of nursing in highly negative terms, in relation to the impact on themselves, colleagues, patients and services users and the broader future of nursing […] [and] put forward the need for support, as well as the need for nursing staff to support each other in emotional and practical ways*' (RCN, 2019, p60).

In addition, over 52% of respondents identified that the feelings they showed and portrayed were different to what they felt inside (RCN, 2020), further adding to the increasing discussion on poor workforce satisfaction. Further discussion on the impact of poor satisfaction on labour supply is discussed in Section 2.4 (D).

Liu *et al.,* (2019, p1) note that encouraging and developing an individual's professional identify (see Section 2.4 (C)) is linked to their use of deep acting and their ability to manage the associated emotions:

> '*healthcare managers may consider workshops or training and development programs that promote nurses' professional identify to promote nurses' use of deep acting and consequently reduce their level of emotional exhaustion, which has been associated with a variety of negative consequences, such as low quality of patient service, high medical accidents, and turnover rate*'.

The RCN (2020) however continue to stress that

> '*real support must go beyond individual solutions towards a broader recognition that emotional labour is both a role requirement and a valued component of nursing. And this needs to be understood and properly supported in management practice*'.

More generally, there is also a general consensus that societal perceptions of the emotional labour requirements of a nurses role need to be brought to the forefront of discussions in the wider public arena (RCN, 2020).

B) Gender, occupational choice and segregation

Nursing, and becoming a nurse, has historically been perceived as "women's work", and '*suffers from a historical construction as a vocation, where individuals – usually women – enter its gates as a calling and some inherited notions persist that have consequences for modern nursing*' (Clayton-Hathway *et al*., 2020, p5). Furthermore, there are

> '*unrealistic and outdated perceptions of the role persist in the public image and nurses' own self- concept, which undermines their professional identity. 'Old-fashioned' perceptions remain, of nursing as a job carried out by women for whom caring is 'natural', which lead to it being de-skilled and devalued*' (*ibid*, p58).

Such perceptions continue to foster a mainly female dominated workforce (Section 3.1) that has resulted in, by its very nature, an environment where wages and working conditions are supressed (*ibid*), and as such reflect significant gender gaps (Punshon *et al*., 2019), as discussed in Section 2.4 (B). In addition, it is felt that the emotional labour (Section 2.4 (A)) required to carry out the role of a nurse is devalued as a result. It is perceived that such emotional labour is taken '*for granted as a natural ability rather than one that should be rewarded*' (*ibid, p5*).

Given the female dominance of the nursing labour market, and in particular within the NHS, women account for one third of senior job positions, and these positions are mainly within human resources and directorships (NHS Digital, 2018). The RCN stress that the reasons for such gendered segregation in job roles are in part, attributable to, '*individual contributory factors [including]; childcare needs, lack of confidence, employers' attitudes, maternity leave and career breaks, and the high propensity of part-time working*' (Clayton-Hathway *et al*., 2020, p14), as explored in Section 2.4 (B).

Vertical job segregation (Acker, 1990) is predominant in the nursing labour market, and by definition and construct '*maintains that even when institutions are dominated by women, men benefit from an organisational logic which privileges the characteristics associated with masculinity, such as assertiveness, leadership and rational thought*' (Clayton-Hathway *et al*., 2020, p14).

As a consequence,

> '*men who enter the nursing profession benefit from the 'glass elevator' phenomenon, with disproportionate access to high-level positions and higher pay […] exacerbated by highly specialised work contexts, including mental health nursing, being particularly attractive to men with the resulting role advancement serving to alter gendered constructions of nursing as men find opportunities at higher pay bands while remaining in clinical roles*' (Clayton-Hathway *et al*., 2020, p14).

The existence of a glass ceiling (Woolnough *et al*., 2019), as a result, has created significant gender segregation in nursing in terms of pay, working conditions and job roles/progression. Consequently, within leadership-positions more generally within the healthcare sector, women are under-represented. Clayton-Hathway *et al*., (2020, p13) stress that:

> '*in a profession where women largely predominate, they should arguably occupy greater numbers of senior roles, negating the effect of vertical gender segregation seen in many other sectors*' (Clayton-Hathway *et al*., 2020, p13).

Furthermore, efforts to address the existence of segregation by ensuring equal representation of both men and women would remove a gender pay gap of 19%, equating to £68.20 per week (*ibid*, p37).

C) Occupational choice - Why choose nursing education?

Throughout the literature, a key distinction is made between qualification and occupation, and an individual's labour supply decision and occupational choice decision (Cortés and Pan, 2016; Dolton, 2006). An individual chooses to obtain a given qualification as a potential route into a given occupation. This human capital decision, however, does not imply that the individual will choose to use the qualification to enter that given occupation (*ibid*). The individual may elect to take their human capital acquisitions and graduate status elsewhere within the wider labour market. For example, an individual may choose to study for a nursing degree, which provides a route way into the nursing profession, however, they may choose to use their qualifications to enter the teaching profession. Therefore, an individual's qualifications do not predetermine which occupation they will choose to enter. Glerean, Hupli, Talman and Haavisto (2019) concluded that perceptions of nursing and becoming a nurse influence an individual's qualification choice, career choice, and their later entry into and

retainment in, the profession. Furthermore, it has been identified that potential applicants to nursing degree programmes,

> '*perceive nursing through characteristics of a nurse, content of nursing work, nature of nursing work and career possibilities in nursing. According to applicants, nursing requires suitable attitude and character with knowledge, theoretical competence and good general education. Nurses were seen to work in multi-professional teams and tasks of a nurse were described through caring role of a nurse […] Nursing was considered as secure job with versatile career options although the career options or the further educational possibilities were not fully recognised among applicants. Personal factors, family and friends, media and career counselling at school influenced applicants' perceptions' (ibid*, p390*).*

This occupational choice decision is also differentiated from the individual's labour supply decision. An individual's occupational choice decision reflects their ability and willingness to enter a given profession. Their labour supply decision on the other hand, reflects their ability and willingness to supply a given number of hours to carrying out their job, after the occupational choice decision has been made (Cortés and Pan, 2016).

Multiple reasons are cited for choosing to study for nursing related qualifications and enter nursing as an occupation. The key reasons include: intrinsic and extrinsic motivational factors (for example, the opportunity to care for others and make a difference); monetary rewards; potential for career development; job security; previous experiences of health care; work experience; and advice from significant others (Glerean *et al*., 2019; Glerean *et al.,* 2017; Eley *et al*., 2012; Hickey *et al*., 2012; Price, 2009). Price *et al.,* (2018, p97) found when investigating the factors that influence student applications for nursing degree programmes, that

> '*the pre-entry stage demonstrated that career choice was initially framed around a traditional and stereotypical understanding of nursing as a virtuous profession: altruistic, noble, caring, and compassionate. As the students moved closer to entering nursing school, their stories evolved to reveal a desire for autonomy, respect and quality of life and they emphasize pragmatic considerations such as lifestyle, job security, salary and social status'.*

A common underlying motivational factor throughout the literature, however, continues to be the desire to help and care for others (*ibid*). However, the changing public perception of nursing, to reflect an image of, for example, workers who are burdened by increased

administration and constrained by resources and targets, has created a less favourable environment for new recruits (Glerean *et al*., 2017). Furthermore, Glerean *et al*., (2017, p95) found on investigation of younger people's perceptions of nursing that they

> '*described the nature of nursing work with poor working conditions, shift work and a limited level of autonomy. Nursing work was mainly seen as caring for and helping patients which was considered inferior to doctors' work. Young people did not recognise the educational requirements or the career pathways in nursing and described the status of nursing as low in society. Nurses were considered as kind and caring people who work hard and are less intellectual. The factors influencing the perception were family and relatives, friends, media, significant others and personal factors*'.

A particularly interesting aspect of the nursing labour market is that it has previously attracted both school leavers and mature entrants. This calls for care in handling changes to workforce policy and planning.

The RCN (2019) stress

> '*to begin to address the nursing workforce crisis, the Government needs to commit to significant investment to incentivise people to study nursing and support them while they do so*'.

The key changes in policy relating to both incentives and the structure of entry to nursing are considered in Chapter 3.

Nursing continues to be a female-dominated profession, and as identified in Section 2.4(B), the profession continues to be associated with issues of gender segregation and pay gaps. There is a growing body of research (RCN, 2019; Nursing Times, 2019) that looks to explore recruitment into the profession, and how the transition from graduation to employment can be aided. Many hospitals have introduced "transition programmes" to help support graduates in their transition, given an increasing volume of newly qualified nurses feel unprepared for their new roles, and feel they have insufficient levels of support (Nursing Times, 2019). These "transition programmes" cover a variety of areas including '*resilience and coping mechanisms; [and] core skills and competencies in communication, management, leadership, medicines management (including aseptic technique, preparation of intravenous therapy and antibiotics)*'. In 2018, the NMC published revised proficiency standards which reflected upon

how future nurses are prepped for practice, and how they are supervised and assessed (NMC, 2018). Additionally,

> '*the term 'mentor' will be phased out, students will be supervised by practice supervisors, and all registered staff will be responsible for contributing to the supervision and support of student nurses in practice*' (ibid).

NHS England in 2018 published the RePair report (reducing pre-registration attrition and improving retention) to help explore and address the reported high attrition rates on pre-registration nursing programmes, and retention and attrition more widely. For adult nursing programmes at degree level for example, the calculated RePair attrition rate, from the latest available data, in 2014/15 was 31.75% (NHS England, 2018). More generally, on investigating student turnover, it was found that

> '*the main reasons for student nurses leaving the programme strongly related to the education and training programme, most notably the lack of support from mentors and the team in the clinical placement […] [in addition to] family obligations, clinical model of practice (including culture) and associated lifestyle*' (NHS England, 2018, p12).

Three key areas were concluded to be significant in aiding retention and assisting graduate transition. The first was the role of "practice learning" and the role of mentoring to help support this learning process, and the wider impact on standards of care/care delivery. The second was the "transition into practice", and the need to increase awareness that

> '*newly qualified practitioners have a rollercoaster of experiences and confidence levels during their first year of employment. This relates to professional self-identity; clarifying their place in the workplace hierarchy, and developing an awareness of perceived power*' (NHS England, 2018, p16).

One proposed recommendation is the future introduction of a "passport for transition" that provides a variety of support from a student's final year of study until the end of their preceptorship period (*ibid*). A key focus will be on equipping students '*for a nursing career that is built on values for compassionate care*' (*ibid*). The final area was "preceptorship" and the guidance of a preceptor during their period of transition to help support an individual's development in practice, from refining their skills to developing their confidence. Preceptorship programmes should be encouraged, and the resources and training to support staff in carrying out these roles be provided, given there is

> 's*trong evidence that the newly qualified nurse benefits from a period of supported and structured preceptorship, which translates to improved recruitment and retention for the employing organisations'* (ibid, *p17).*

Furthermore, Health England (2018, p17) stress that there are four different generations applying to, and working within, the healthcare sector, and

> '*it is important to understand the effect of generational differences on workforce satisfaction and retention […] The key differences are: Baby Boomers (1946 -1964) are ambitious and will question everything; Generation X (1965 -1979) like structure and direction, work/life balance is important; Generation Y (1980 - 1994) expect support to achieve [and] Generation Z (1995 – 2010) are digital natives and self – directed'*.

In relation to the economic modelling of occupational choice, Dolton and Mavromaras (1994) and Dolton (2006) explore extensively the occupational choice decision of graduate teachers. This is an occupation which can be argued shares significant parallels with nursing. Dolton (2006) focused on the factors influencing the supply of teachers within the UK, exploring both occupational choice and turnover within the profession. When exploring the occupational choice decision, they consider that there are two possible outcomes i.e., the individual can elect to become a teacher, or not. It is assumed that individuals choose a given career based on their '*expected discounted future lifetime earnings*' (*ibid*, 1105). Initially the occupational choice decision is modelled after graduation (ex-post human capital acquisition), which is conditional on the predicted starting salary and earnings growth. The model encompasses '*the information on current employment (i.e. 6-7 years after graduation) in order to model the current status as the result of the choice to become/remain a teacher or not, conditional on the first choice as well as the current relative earnings*' (Dolton *et al.*,1994, p842).

It is argued that consideration of the current occupational choice, as opposed to the first career choice, is more reflective in helping to predict the long-term career strategy of the individual, and of their lifetime choices. By considering the occupational choice decision of an individual several years on from graduation, the models allow for the exploration of aggregate market conditions on the individual, as opposed to the initial graduate labour market conditions, and the consequent transitional process involving job placements and interim posts, which are non-representative of graduate careers.

Dolton (2006) stressed the importance of three key factors that influence the occupational choice decision of such workers, and from which policy should be informed. The first key factor in determining occupational choice relates to the potential transaction costs, and human capital retraining costs associated with changes in career direction. This "occupational inertia'" is created from the initial career decision, and the developments that were required to secure the position, thus in this instance it helps to understand why nurses and teachers are more likely to remain as nurses and teachers, and why non-nurses and non-teachers are more than likely to remain outside of the occupation.

The second key factor relates to remuneration and monetary reward, and the incentive individuals have to gravitate mid-career to better paid positions. The third key factor is the significant and direct influence of other factors (non-monetary based) relating to the behavioural economic aspect of occupational choice, for example individual characteristics and preferences, which are above the indirect influences of remuneration and "occupational inertia".

D) Motivations and sources of job satisfaction

Eley *et al.,* (2012, p1546) have previously stressed that the causes and consequences of any potential labour shortages cannot be forecast and explained by economic models alone, and

> *'the worldwide nursing shortage prompts research into a better understanding of why individuals enter nursing, through semi-structured interviews measuring temperament and character traits. Recruitment and retention strategies whilst promoting multiple benefits for the profession should not forget that the prime impetus for entering nursing is the opportunity to care for others […] [and] caring for others is a consistently recognized factor and supports the long-held stereotype that nursing is a "caring profession"'* (*ibid*).

Numerous studies point to the need to understand that nurses are not motivated and satisfied solely by monetary reward (Mcllroy, 2019). Given that nurses are commonly motivated to enter the occupation as it enables them to care for others, as explored above, it is important that nurses feel they have the correct resources needed to carry out their job to a standard that fulfils their personal aspirational standards. Marangozov *et al.,* (2017, p1) conclude that over half of all nursing staff employed within the UK feel they are unable to provide the level and quality of care they would like due to increased work pressures associated with paperwork, targets, and resource constraints. Consequently, many nurses work beyond shift hours in order

to provide the quality of 'care' they feel needs to be delivered (NHSPRB, 2019). As identified in Section 2.2 (G), the 2019 NHS staff survey found that '*the percentage of staff working paid overtime [in comparison to 2017] had increased by 1.0 percentage points to 33%*' (NHSPRB, 2019).

As discussed in 2.2 (G), there is a growing body of literature exploring the transition of graduates into the profession to help aid both recruitment and retention. It is imperative that policy addresses those non-monetary factors that impact on nurse turnover, which include physical and psychological responses to work (i.e., work-related stress and work engagement), organisational support and practices (i.e., development opportunities and work-life balance), current relationships with patients, managers and colleagues, and job content (Glerean *et al*., 2019; Price *et al*., 2018; Carter and Tourangeau, 2012).

The causes of nurse turnover and intentions to leave the profession are well documented. Lee and Kim (2020, p6) conclude that over 40% of turnover intent is driven by "stress factors", and

> '*among the nursing stress factors, stress from patients and their families, workload stress, stress from conflicts with supervisors, and stress from conflicts with peers were associated with turnover intention in hospital nurses*'.

Marangozov *et al*., (2017, p1) identify that increased work pressures is also negatively correlated with both staff shortages and patient care delivery. As previously identified, the 2019 RCN employment survey (McIlroy, 2019) found that nurses are becoming increasingly frustrated with the growing pressure, demand and expectations placed on them as a result of staff and skill shortages, resource constraints and cuts, and increasing patient demand. Furthermore, it was felt that

> '*these pressures are undermining the job of nursing staff, and patient safety [...] two thirds of nursing staff feel they are unable to provide the standard of care they would like and half are dissatisfied with their work-life balance. This demonstrates the cost to nursing staff as professionals, with serious implications for patient safety*' (*ibid*, p4).

Section 2.2 (E, ii) above identifies both turnover rates and vacancy rates, and explores the implications for healthcare delivery. From the 2019 RCN Employment Survey (McIlroy, 2019) it is clear that focus should be placed on the provision of resources (both physical and monetary) that allow nurses to carry out their roles to the benchmark standards they aspire to,

and those that are also set by the profession. Furthermore, Holland *et al.*, (2019, p75) stress that

> '*for policy makers […] priority should be given to initiatives that enhance organisational support aimed at improving wellbeing of nurses. As such, more research needs to be undertaken in how to balance these often-competing needs of cost efficiency and employee well-being and the continued enlightenment of management in these issues*'.

Previous research by Van Dam *et al.*, (2012) and Wilde *et al.*, (2018) proposes several additional areas that also relate to satisfaction and turnover intentions for nurses, which policy and workforce planning should consider as imperative in the process. These relate to individual characteristics and work environment characteristics and were identified following an intensive round of individual interviews with, and observations of, intensive care nurses. With regard to individual characteristics:

- Age is key, given that older nurses are reported to be more satisfied with their job and consider leaving their current job position less frequently.
- Ability to deal with night shifts, and encompasses the impact such shifts have on, for example health and social aspects is also crucial - if nurses find difficulty in dealing with night shifts, they are more likely to feel dissatisfied with the job, and more likely to leave.
- Technical orientation i.e. person-job fit which reflects the individual's ability to cope with and adapt to changing technology, and the impact it has on their duties and job role is also important - difficulties with adapting to technological change and facing challenges with using technology is negatively related to job satisfaction and turnover intention.

With regard to work environment characteristics, it is argued that emotional demands must be considered, which encompasses the emotional strains on a nurse when carrying out their job, for example patient deaths. Such demands can become a burden on an individual and may lead to an individual perceiving the role as one with intense work pressure.

The second work environment characteristic that should be explored is the physical demands being asked of a nurse and becomes more of a concern with an ageing workforce, given that the research suggests that nurses '*thought it would be physically impossible to keep working with patients in this way, until the official retirement age*' (Van Dam *et al.*, p3).

The third area that requires greater focus is the threat from relatives, and the impact it has on individual satisfaction and turnover intent. Several nurses in the research sample reported that they commonly had to address relatives who were aggressive. The respondents felt this exposed them to violence and threats, both physically and psychologically, and had a negative impact on job satisfaction.

The remaining environment characteristics that Van Dam *et al.,* (2012) stress need to be addressed are that of social support, autonomy and development opportunities. Wilde *et al.,* (2018, p26) stress that overall, nurses appear to be

> '*satisfied with teamworking, CPD and autonomy, which challenges the perception that nurses in NHS England are dissatisfied with these satisfaction determinants […] [However] a large minority of respondents were dissatisfied with their ability to carry out duties as they see fit*'.

Marangozov *et al.,* (2017) furthermore, found that in addition to confirmed reports of dissatisfaction with both staffing levels and workload, many nurses employed within the UK nursing labour market are also experiencing additional job pressures. These include reported abuse and harassment by patients and their immediate family, limited job progression opportunities and insufficient appraisal structures.

Furthermore, many nurses are experiencing financial struggles, with many being the primary household earner, and struggling to maintain a basic standard of living (Mcllroy, 2019, p39). Consequently, it is reported that many nurses employed within the UK labour market are relying on secondary job to maintain income levels. This is having a detrimental impact on both personal and professional wellbeing.

Currently HR policy is aiming to explore and address these key themes and integrate them into staff surveys and workload models for example (RCN, 2019). However, the nursing workforce is not homogenous, and what motivates one nurse may not necessarily motivate or satisfy another, thus further research is required to delve deeper into the underlying motivations and satisfactions of individual nurses. In addition, such qualitative data is not readily available within the UK. For example, the Labour force survey (LFS) collects minimal information on levels of job satisfaction, and there is a relative paucity of research on nursing satisfaction within an NHS hospital setting, which restricts the impact of policy to address a variety of the issues raised. Lu *et al.,* (2012, p1017) previously concluded that

'*more research is required to understand the relative importance of the many identified factors relating to job satisfaction of hospital nurses. It is argued that the absence of a robust causal model reflecting the moderators or moderator is undermining the development of interventions to improve nurse retention'*.

When reflecting upon the progression of econometric investigation into the factors that drive nursing labour supply, the relative paucity of research in the area has been and still is partly attributable to the:

'*incomplete and eroding data on nurses working in non-NHS sectors, inadequate data on flows of nurses between sectors and regions, inconsistent data on attrition of nursing students, and diminishing information on NHS temporary nurses in England. The effectiveness of planning, locally and nationally, is undermined by weak information, and policy is made on the basis of inadequate evidence*' (Buchan and Seccombe, 2012, p41).

Buchan and Seccombe in 2010 (2010, p39) argued that in order to inform workforce policy on nursing labour supply the following information data gaps needed to be addressed:

- '*Comparable UK-wide attrition rates for pre-registration nursing and midwifery education: critical for effective commissioning and planning but there is currently no UK-wide complete and comparable data*',
- '*How many newly-qualified nurses and midwives take up employment in the NHS or elsewhere*',
- '*Retirement behaviour of nurses*',
- '*How many re-entrants stay working in the NHS after refresher training, where are they working, and the hours they work*',
- '*Flows of joiners and leavers in the NHS to assess the current sources of recruits and destinations of nurses leaving the NHS*'.

These gaps a decade on however, are still to be addressed (Buchan *et al.*, 2019), and going forward, taking into consideration the changing political and economic landscape.

2.5 Conclusions

This chapter has explored previous research focussed on understanding developments in the UK labour market for nursing, and in particular on the occupational choices and labour supply decisions of nurses in England.

The demand for nurses is derived from patient healthcare requirements. These are growing for a number of reasons, including: national ambition for continual improvements in healthcare, the ageing demographics of the UK population; advancements in medical sciences, technological enhancements which not only substitute capital for labour but also generate complementary demands for new skills, and the need to evolve organisational structures and the roles of and boundaries between different healthcare professionals.

The supply of nurses to fulfil the growing demand for healthcare provision within the UK is under considerable strain. As a direct consequence of the ageing demographics of the UK population, the age profile of the nursing workforce is also ageing. This coincides with a variety of policy changes that have, and will potentially, impact on the supply side of qualified nurses. These include the introduction of *Project 2000* to "graduatise" the profession; the proposed removal of degree programme funding; the expected consequences of Brexit on the mobility and migration of skilled labour, and tighter processes to help manage liability and litigation within care delivery. Furthermore, satisfaction among the nursing profession is reported to be under strain, which is both a cause and consequence having a direct impact on turnover intent and retention in the workforce. Several reasons have been identified as driving this level of dissatisfaction, including the blurring of job roles and boundaries; barriers to care delivery, including increased levels of paperwork and skill shortages; and inflexible contractual arrangements. The RCN conclude that

> '*the registered nursing role is being diluted and overwhelmed by the increasingly diverse range of tasks being carried out by nurses – contributing to confusion about what nurses do and further devaluing the role […] an increasing number of nurses are choosing flexibility over career development (either by remaining in lower AfC band roles or moving to bank contracts) in reaction to a lack of choice/control over working patterns or working hours, a paucity of care provision, and the lack of support for training and development*' (Clayton-Hathway *et al.*, 2020 p6).

The labour market for nursing consequently remains complex, and ever-changing policy reforms have refashioned how it operates. Workforce planning within the NHS is being confronted with a variety of uncertainties, amidst a backdrop of high nursing labour wastage, turnover, recruitment challenges, perceived shortages and Brexit. The causes of this disruption can be attributed to a variety of factors, including misaligned expectations of new recruits, dissatisfaction among individuals within the workforce, and complexities with how motivational factors and occupational choice decisions can be incorporated into workforce planning.

The key issues that arise within the current body of literature are the perceived skill and labour shortages present within the UK nursing labour market and in the healthcare market more generally. In addition to the high levels of reported turnover and associated wastage of skilled labour. Within the literature, there is a relative paucity of econometric research into the labour supply decision of nurses in England. It is clear that several areas continue to warrant investigation.

From the initial exploration of occupational choice, it is clear that research into this particular area of the nursing field lacks development. Previous research has attempted to explore and examine through qualitative research, the factors that drive individuals to choose to study nursing through further education, and then choose to utilise the qualification to enter the nursing profession. However, the research in many instances is limited in scope, and does not explore the interim decision of the individual to remain on the degree programme until graduation, following a variety of apprenticeship style work-based placements. This is in light of the previous research, which stresses that the expectations, experience and realisations of an individual once they have graduated and entered the profession are key in explaining current turnover rates of new recruits.

This literature review has identified a number of areas for further research. The remainder of this thesis focuses on two of them.

The first area which the thesis explores is the modelling of an individual's labour supply decision to enter into the nursing profession using econometric methods. Previous research within this field is more developed internationally, but there remains a relative paucity of such analysis in the context of the UK nursing labour market. Skåtun *et al.,* (2005) provide the most recent attempt to modelling nursing labour supply in the UK econometrically. However, this is significantly dated. Thus, building on previous research by Skåtun *et al.,* (2005), this thesis explores the potential for new modelling for the UK, using the LFS from 2004 to 2019. The focus is on the exploration of the factors that drive the market entry decision and hours of work decision of a nursing qualified individual within the UK nursing labour market.

The second is the identification and examination of the factors that influence an individual to choose to study nursing at degree level, and to remain on the degree programme until graduation. A mixed method approach to collecting primary data is used to identify these factors, and includes the use of survey questionnaires, focus groups and interviews. It is hoped that such findings will help to explain the reported high turnover of new graduates into the profession and, even earlier, on degree-programmes. In addition, it can provide a deeper

understanding of the decision-making behaviour of individuals choosing to enter the profession and help inform recruitment and retention strategies.

Appendix to Chapter 2

Table A.2.1: Previous studies which have econometrically modelled nursing labour supply

Author(s)	Year	Data used	Key research aim	Econometric method adopted	Variables	Conclusions drawn
Benham	1971	1950 and 1960 cross-sectional data by US states.	To model both labour force participation rates and earnings of registered nurses	Three-stage least squares (3SLS)	Dependent Variable: Labour supply decision/participation decision Independent variables: • Average income of female registered nurses • Total number/stock of female registered nurses • Female registered nurses labour force participation rate • Per Capita personal income • Average earnings of hospital workers with a known income • Average income of male heads of the family • number of dependent children under the age of 5/number of married women between the ages of 15 and 49 • Total graduation from nursing schools 10 years prior, per 100,000 current population	• An increase in the income per capita of the consumer population not only increases the earnings of registered nurses (RNs), but also increases participation into the labour force and thus the potential supply of registered nurses as expected. • A rise in the income received by the head of the household caused the labour force participation of female RNs to fall. This is in light of the findings that the labour supply equation was negatively related to nurses' wages, and that the participation equation was positively related to the nurse's wage. • The presence of dependent children under the age of 5 had a negative impact on the participation of female RNs, which was as predicted. • There existed a positive relationship between nursing qualified graduates (lagged by 10 years) and the size of the nursing pool.
Link and Settle	1985	US Census data from 1970	To model the wage elasticity of labour supply for licensed practical nurses	Tobit model	Dependent Variable: Labour supply decision/participation decision Independent variables: • LPN wage • Husband's wage • Family nonemployment income	The own-wage elasticity of married LPNs was significantly greater than that found for registered nurses (RNs) and was considerably lower (1.12 versus 0.67) for those LPNs who were single. Therefore, any attempt to increase wages to alleviate the nursing shortage would have a greater impact on the labour supply response for LPNs who were married than for married RNs.

Appendix to Chapter 2

Table A.2.1: Previous studies which have econometrically modelled nursing labour supply

Author(s)	Year	Data used	Key research aim	Econometric method adopted	Variables	Conclusions drawn
			(LPN) that were either married or single.		• LPN education: 13-14 years; 15 years; 16 or more years • Age: 35-55; 45-54; 55-64 • Husband worked last year • LPN foreign born • Region: East; Midwest; West; Non-South • LPN Disabled • LPN non-white • Number of children at home aged: less than 2; 2-5; 6-8; 9-11; 12-15; 16-19; older than 19	
Link	1992	1960s and 1970s US census data, combined with the US National Sample Surveys of Registered Nurses (NSRN) from 1970 to 1980	To model the labour supply behaviour of registered nurses	Heckman procedure	Dependent Variable: Labour supply decision/participation decision Independent variables: • Total annual hours • Real hourly wage rate of the individual • Real hourly wage rate of the spouse • Nursing qualification • Age • Ethnicity • Region • Number of dependents • Age of dependents • Disability • Foreign-born • Percentage of the local labour force who are female • Level of medical availability in the Small Metropolitan Statistical area	• The wage rate paid to RNs was a significant and positive variable in predicting the labour force participation of RNs in 1960, 1980 and 1984. However, in 1970, 1977 and 1988 it was concluded to be insignificant. In 1988, the impact of the wage paid on the hours of work decision was negative and only significant for this given year. • The given wage elasticity with respect to hours worked varied over the period, however, was considerable in size, with a wage elasticity figure of 1.33, in 1960 only. This result implied that the if wage offered to registered, married females was to increase by 10% there would be an increase in the number of hours worked by just over 13%. Spouses' wage reduced participation, but did not, as was expected, reduce the hours of work chosen for those already participating in the labour market. • Those RNs who had a significant amount of non-labour income were less likely to participate • A registered disability reduced participation but had no significant bearing on the hours of work decision for those already participating. • If an individual was a foreign-born RN, their participation rate higher, and the number of hours worked was significantly greater than those worked by native born workers. • Labour supply was not affected by an individual possessing a nursing qualification, or the age of the individual, but dependent children did have a

Table A.2.1: Previous studies which have econometrically modelled nursing labour supply

Author(s)	Year	Data used	Key research aim	Econometric method adopted	Variables	Conclusions drawn
						significant impact on both participation and hours worked. Implied that if facilities were provided to care for young dependents below the age of 6 years, the overall participation and hours worked of registered female nurses would increase, by 13% and 21% respectively (Link, 1992).
Rice	2005	British Household Panel study from 1991-1999 (the first nine waves)	To model the labour supply of RNs	A variety of models including: OLS models and fixed effects models	Dependent Variable: Labour supply decision/participation decision Independent variables: • Usual weekly hours worked, including overtime • Hourly wage • Age • Whether the respondent's care for others in the household • Whether the respondent works in a hospital/nursing home • Whether the respondent works for the private sector or an agency • Whether the respondent manages/supervises other staff • Whether the respondent works at night • Whether the respondents time of work varies • Whether the respondent rotates their times of work • Married or living as a couple • Number of dependent children in the household: 0-4; 5-11; 12-18 • Whether the respondent is qualified as a midwife • Households yearly income excluding respondents • Non-labour income • Ethnic status	• Individuals who were married, and have young dependent children (or caring responsibilities) was related to those individuals who chose to worker fewer hours • The hours of worked chosen was negatively affected by non-labour income, if the individual nurse worked night shifts and if the individual did not have any responsibilities, be it in a managerial or supervisory capacity. • The given wage elasticity with respect to hours worked *was concluded* to be 0.40, suggesting a positive elasticity i.e. increasing the wage would lead to a 'moderate' increase in hours worked.

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Table A.2.1: Previous studies which have econometrically modelled nursing labour supply

Author(s)	Year	Data used	Key research aim	Econometric method adopted	Variables	Conclusions drawn
					- Whether the respondent holds a degree or higher degree - Whether the respondent holds a HNS, HNCT or A-level (equivalent) - Whether the respondent holds O-Levels of CSE (or equivalent) - Duration of current job in years - Whether the respondent has been employed in the year previous to interview - Number employed at the workplace - Weeks employed in year of interview - Whether the respondent has childcare and if it is provided free of charge - Whether the respondent has childcare and if it is paid for - Labour Force Participation rate in region of residence - Whether the respondent participates in the labour force as a nurse/midwife	
Skåtun, Antonazzo, Scott & Elliott	2005	LFS data from 1999-2000	To model the supply of qualified nurses in the UK	Heckman procedure	Dependent Variable: Labour supply decision/participation decision Independent variables: - Whether the respondent has a higher degree or equivalent as their highest qualification - Whether the respondent has a first degree or equivalent as their highest qualification - Whether the respondent has a teaching qualification or equivalent as their highest qualification - Whether the respondent has nursing as their highest qualification	'Participation and hours of work are inelastic with respect to own wage. These results suggest that increasing the wage would only have a moderate effect on labour supply' (p35). - No significant statistical difference between the impact of having children aged between 3 and 4, and 5 and 15 on either participation or hours worked. - Comparison of nursing labour supply in the public and private sector concluded that the number of hours an individual is willing to supply in the public sector is unresponsive to wages i.e. completely inelastic.

Appendix to Chapter 2

Table A.2.1: Previous studies which have econometrically modelled nursing labour supply

Author(s)	Year	Data used	Key research aim	Econometric method adopted	Variables	Conclusions drawn
					• Ethnic origin • Whether the respondent is working as a nurse or midwife • Gross hourly wage • Total weekly hours worked including overtime • Gross hourly wage of the partner • Whether the respondent's partner is not employed • Whether the respondent's partner is employed but wage is missing • Interest and other unearned income of the family • Potential years of experience in the labour market • Square of potential experience • Number of dependent children < 16; if age of youngest dependent is < 3; if age of youngest dependent is between 3-5 • Region of residence	
Wilde	2009	LFS from 2007-2009	To estimate and model the labour supply of nursing in Great Britain	Heckman selection model	Dependent Variable: Labour supply decision/participation decision Independent variables: • Whether the respondent has a higher degree or equivalent as their highest qualification • Whether the respondent has a first degree or equivalent as their highest qualification • Whether the respondent has a teaching qualification or equivalent as their highest qualification • Whether the respondent has nursing as their highest qualification	• Experience has a negative impact on an individual's wage: for every additional year of potential experience, the wage is reduced by 1%. • Human capital investments above the standard nursing qualification leads to higher wages, of approximately 4%. • Regions of residence do not significantly influence earnings. • Age has a significant positive impact on wages. • The number of dependent children does negatively impact on participation within the labour market, however the variable is insignificant in determining labour supply. • Wage with regard to hours worked was estimated to be -0.5, thus implying a wage increase would reduce hours worked.

Appendix to Chapter 2

Table A.2.1: Previous studies which have econometrically modelled nursing labour supply

Author(s)	Year	Data used	Key research aim	Econometric method adopted	Variables	Conclusions drawn
					- Ethnic origin - Whether the respondent is working as a nurse or midwife - Gross hourly wage - Total weekly hours worked including overtime - Gross hourly wage of the partner - Whether the respondents partner is not - employed - Whether the respondents partner is - employed but wage is missing - Interest and other unearned income of - the family - Potential years of experience in the - labour market - Square of potential experience - Number of dependent children < 16; if - age of youngest dependent is < 3; if age - of youngest dependent is between 3-5 - Region of residence	- Hourly wages, ethnic origin, region of residence, the number of dependent children under the age of 16, partners income and partners employment status significantly impact on the hours supplied decision. - A 1% increase in the wage offered causes the hours of work per week to increase by 2.5 hours. - The number of dependent children under the age of 16 negatively effects the hours of work supplied i.e. for each additional dependent, the individual chooses to reduce the hours they supply by just under 2 hours. - The ethnic origin of the respondent has a significant impact on the hours of work decision, for which it is positive for ethnic backgrounds which are not white. - Whether the respondent has a partner who is employed, and generates an income has a significantly positive impact on the hours of work supplied.
Hanel, Kalb & Scott	2014	Pooled data from nine waves (2001-2009) of the Household, Income and Labour Dynamics in Australia	To estimate and model the labour supply of nursing qualification holders in different occupations	Multinomial logit model followed by a two-stage Heckman selection model	Dependent Variable: Labour supply decision/participation decision Independent variables: - Gender - Age - Whether the respondent holds a bachelor's degree - Whether the respondent holds a bachelor's degree in nursing - Whether the respondent is working as a registered nurse or midwife	- The wage elasticity was estimated to be as significant as 1.37 (nursing qualified individuals in relation to the wages in nursing jobs), which implies wage increases are more effective in increasing labour supply than previous estimations. The authors attribute this result to including within the estimation the occupational choice decision, as opposed just modelling the participation decision of those individuals who have already elected to work in nursing. However, it is noted that the level of responsiveness varies between different groups of individuals i.e. low qualified and/or childless. - Furthermore, it highlights the need to target those individuals who hold a nursing qualification, but who are currently not employed within the nursing labour market and consider as a result the wages offered in non-nursing occupations.

Appendix to Chapter 2

Table A.2.1: Previous studies which have econometrically modelled nursing labour supply

Author(s)	Year	Data used	Key research aim	Econometric method adopted	Variables	Conclusions drawn
		Survey (HILDA)			• Whether the respondent is enrolled as a nurse or mothercraft nurse • Whether the respondent is working as nursing support or as a personal care worker • Number of hours worked per week *Family Situation* • Number of dependent children ≤ 4 • Whether the respondent has a partner • Number of dependent children ≤4 with no partner *If respondent has a partner* • Whether the respondent partner is employed • Partner's annual net income • Whether the respondents partner holds a bachelor's degree *Personality variables (scale 0-7)* • Extroversion • Emotional stability • Agreeableness • Openness to new experiences • Conscientious *Social relationships* • Satisfaction with relationship to partner (0: completely dissatisfied; 10: completely satisfied) • Whether the respondent often needs help but cannot get it (0: strongly disagree; 7: strongly agree)	• The authors stress the need to acknowledge that observed work hours are determined by both demand and supply forces simultaneously, and policy should in addition consider how altering wages for a given shift type can lead to significant changes in labour supply in alternative shift types, which could be an effective tool if there exists an imbalance of labour between different shift types.

Appendix to Chapter 2

Table A.2.1: Previous studies which have econometrically modelled nursing labour supply

Author(s)	Year	Data used	Key research aim	Econometric method adopted	Variables	Conclusions drawn
Condliffee, Link and Martinez	2019	National Sample Survey of Registered Nurses (NSSRN)	To estimate the participation decision and hours of work decision (full-time versus part-time) of female registered nurses in the United States	Selection corrected bivariate probit model	Dependent Variable: Labour supply decision/participation decision Independent Variables: • Employed in nursing • Not employed in nursing • Full-time • Part-time • Age • Ethnicity • Qualification • Full-time student • Part-time student • Dependents • Position prior to being a nurse	• Wage was only statically significant for influencing the likelihood of participation for full-time nurses, and the likelihood of participation decreases as the wage offered increases. • Job satisfaction impacted on individual incentives on whether to work full-time or part-time. • Wage elasticity with regard to the amount of labour a registered female nurses would be willing to supply was found to be small or negative. • Policy makers need to consider the impact of an ageing workforce on the results, and what incentives could be introduced to retain an ageing workforce, and encourage, where possible, individuals to postpone retirement. Suggestions include greater flexibility in the hours worked, offering where possible, part-time shifts to older workers. • There is a need to attract more men into the profession was also addressed.

Chapter 3: The nursing labour market and related policy issues: 2004-2019

3.0 Introduction

This chapter sets out the broad labour market context relating to nurses in England and the key issues faced by policy makers. It mainly covers the period from the early 2000s onwards. Section 3.1 begins by exploring the overall UK nursing labour market pool from 2004 to 2019, with particular focus and emphasis on England, and in doing so identifies migrant flows from within and outside the EU. Section 3.2 follows by exploring, over the period 2004 to 2019, the changes and developments in pay and the conditions of employment, and how they have influenced and impacted upon the nursing labour market, and the healthcare market more broadly. Section 3.3 explores the impact of previous and current, government reform and other related policies, including NHS specific reforms and investment. Finally, Section 3.4 concludes by reflecting upon the implications these changes will have for the research.

3.1 The Labour Market Pool

The nursing labour market pool is made up of a diverse range of individuals from a variety of different employment and related categories, these include individuals who hold a nursing qualification, individuals registered with MNC, individuals employed in different sectors of the economy, including the NHS and private employers, and those individuals who work as bank or agency staff. Within England, the NHS recorded 32,213 full time equivalent staff (FTE) in nursing, midwifery and health visiting in 2019. Between 2004 and 2019, there was a 16% increase (Figure 3.1) from 286,841 in 2004 (NHS Digital, 2020) to 332,213 in 2019. Between 2010 and 2012, however, there was a decline of about 3 per cent in FTE nurse/midwifery and health visiting staff. This, was attributed in part to fiscal policy responses to the 2008 financial crisis, and in part to the austerity programme of the new coalition government elected in 2010 , in which there was '*an unprecedented slowdown in NHS funding*' (Ham, 2014).

Figure 3.1: 2004-2019 Trends in registered nursing and midwifery NHS staff (FTE) in England
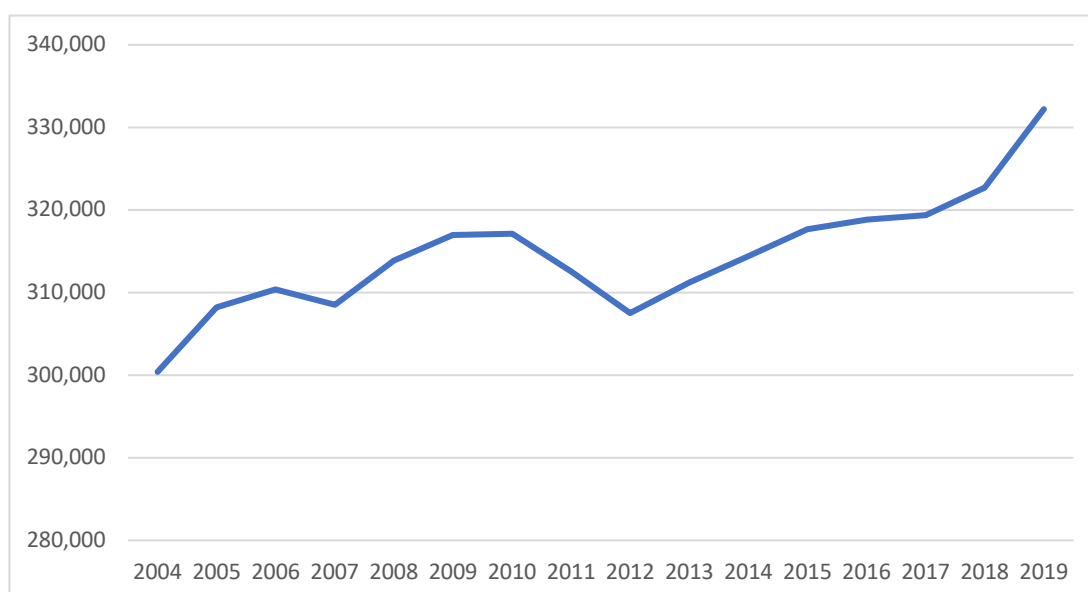
Source: NHS Digital 2020

With regard to how these numbers compare to the number of FTE **unfilled nursing vacancies in England**, in 2004/2005 there were 5,801 positions available (a vacancy rate of 1.9%), increasing to 8,153 in 2010 (2.5%) and 29,251 in 2016 (8.8%) (NHS Digital, 2005; NHS Digital, 2018). In 2019, the number of unfilled nursing positions reached its highest peak of 43,617 positions available (a vacancy rate of 12%) (Mitchell, 2019). Between the first quarters of 2017 and 2018

> *"the total number of vacancies among the nursing workforce [had] risen by 9% to 41,722 […] it [was] estimated that 80% [were] being filled by a combination of bank (64%) and agency staff (36%), leaving over 8,300 vacancies unfilled. Over this period, the vacancy rate [had] grown from 10.9% to 11.8%"* (RCN, 2018)

Specifically, with regard to FTE positions in comparison to other staff groups within the healthcare sector in England, in 2019, the number of vacancies advertised was highest among nursing and midwifery staff (NHS Digital, 2019), and has been, on average, increasing since 2004 (NHS Digital, 2005; NHS Digital, 2018).

Comparatively, the most recent data available from NHS digital (2020) on **turnover rates[18]** in England between 2010 and 2018, illustrates a steady increase in the number of leavers and the turnover rate. From 2010 to 2011, 27,788 nursing and health visiting staff were reported to have left (8.81% turnover rate), increasing to 32, 300 during the period 2014-2015, and finally to 33,520 from 2017-2018 (10.58% turnover rate) (NHS Digital, 2018). How these figures compare to the number of joiners over the same period can be found in Figure 3.2 below, which illustrates similar flows in the number of joiners and leavers over the period. It is worthy of note that between 2013 and 2015, the NHS in England was in a position of net-inflow, with more joiners than leavers for the nurse and health visiting staff group (NHS Digital, 2018). This is partly attributed to the 2013 Francis Report (Marangozov *et al*., 2016, p0), and the '*emphasis on safe staffing'*, which resulted in an increase in the demand for nursing staff.

Figure 3.2: Joiners to and leavers from the NHS for the Nurses and Health Visitors staff group 2010-2018
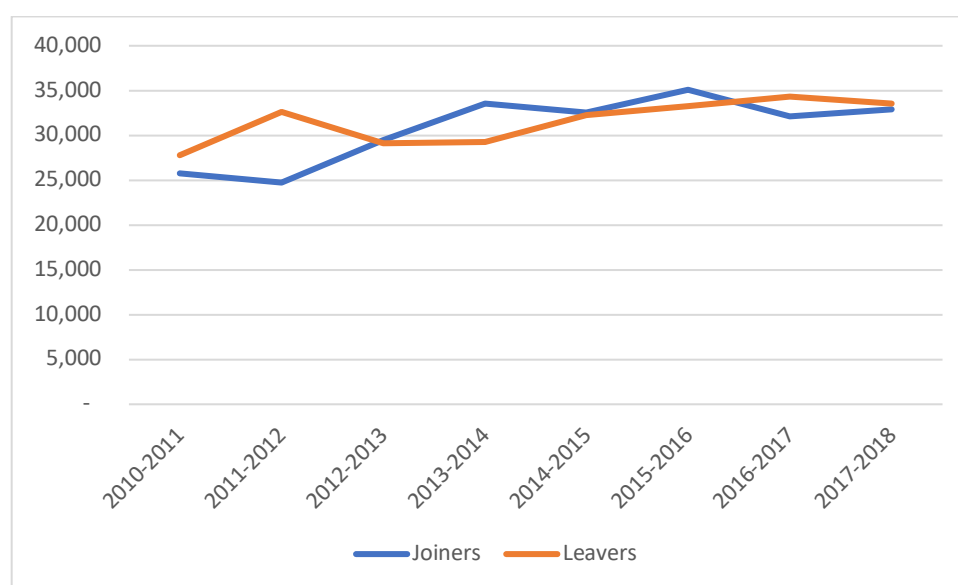
Source: NHS Digital (2018)

More recently, in 2018, the turnover rate had increased to 12.5%, but then proceeded to decline to 11.9% during the second quarter of 2019. This fall was attributed in part to the introduction of the National Retention Programme (NRP) in June 2017 (NHS England, 2019). The NRP programme (linked to the NHS Long Term Plan) allows NHS staff from

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[18] For a definition of turnover please refer to chapter 1, section 1.1. NHS Digital (2018) note that '*turnover data are based on headcount and shows people leaving or returning to active service, this would include those going on or returning from maternity leave or career break, for example'*.

nursing, midwifery and other clinical settings to move between different areas of practice within the NHS, whilst developing and enhancing their skills. In addition, the programme provides further retention incentives, which include discounted gym memberships in local areas and mentoring programmes for new recruits. In July 2019, it was reported that 800 fewer nurses had left the NHS as a consequence of the programme being introduced (NHS England, 2019; NHS Improvement, 2019). Despite the success of the programme however, the turnover rate could be negatively affected post-Brexit, with up to 10,000 EU nurses potentially withdrawing from the labour market (RCN, 2019). This is coupled with the ageing demographics of the nursing population, with 1 in 3 nurses looking to retire from 2018 onwards and a predicted rise in future demand for NHS staff (NHS England, 2019). This situation has been anticipated for some time, in which there continues to be a

> *'disproportionate loss of more senior and specialist nurses in England. Clinical settings need both, the appropriate number of nurses and skill mix […] evidence that in many cases the current gap is being plugged with less experienced nurses […] [impacting] on the clinical decisions that can be made and the care that can be provided to patients'* (RCN, 2014).

As a consequence, '*the total spend on agency nursing staff in 2017/18 due to staffing shortages was £927million.[19] [This] expansion of agency workers [was perceived to be] a reflection of insufficient workforce planning and poor work rewards'* (NHS England, 2019*).*

It is worthy of note however, that in 2016, the NHS introduced a cap on the amount that could be spent on employee agency staff due to government cuts, concerns over skill-mix and consequent care delivery, and budgetary restrictions (McIlroy *et al.*, 2016). NHS England and NHS Improvement (2019, p2) stress that the fundamental aim of the cap was to develop '*a more sustainable level of temporary staffing'*. The price cap

> '*means that NHS providers should not spend more than 55% above the basic rate for a staff member, taking into account 'on costs' such as pension and national insurance contributions. Any agency shift which costs more than £100 an hour must be signed off by the trust's Chief Executive and be reported to us'* (NHS England, 2018).

Since the cap was introduced in 2016, NHS England has reduced spending on agency staff by £1.2 billion, and in 2017/2018, for the first time, the financial outlay on bank staff was greater than that for agency staff, with a reduction of £528 million on agency staff recruitment (*ibid*).

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[19] Total spend is reported in real terms.

However, in 2019, the spending on agency staff has started to rise once again, namely due to increased activity. Agency prices, as a result of the price cap, however, have also fallen in response to the government initiative *(*NHS England and NHS Improvement, 2019).

Looking forward, beyond 2019, it is predicted that NHS in England will be running a FTE staff deficit of over 250,000 by 2029/2030 (Charlesworth *et al*. 2019, p19). More specifically, it is predicted that by 2023/2024 there will be a deficit of 66,500 nurses in the UK, up from 32,500 in 2018/19 *(ibid)*. In order to address this shortage, it is predicted that by 2021, 5,000 nurses will have needed to have started training (Beech *et al*., 2019).

With regard to **gender** categorisation, nursing continues to be a female dominated profession, however the number of males joining the NMC register had steadily increased between 2004 and 2017. In 2004, there was 11% male and 89% female registrants within the UK more generally (RCN, 2019). This has steadily increased with 10.7% male registrants (89% female) in 2008, and 11.4% male registrants (88.6% female) in 2016 *(ibid)*. However, between 2019 the number of male registrants fell to 10.7% (89.3% female) *(ibid)*. Given the gender construction (Section 2.4B), there is evidence that

> '*a substantial gender pay gap exists among all health care professionals (nurses, doctors, managers and allied health professionals), with women receiving an average of 30% less than men per week, or 16% less per hour as a result of two factors: men working on average more hours than women and sex discrimination*' (Clayton-Hathway *et al*., 2020, p5).

To give an example, between 2017 and 2018 alone (*ibid*, p5), an RCN audit of its members concluded that the average gender pay gap within the nursing and midwifery profession had reduced from 12.6% to 7.8%. For part-time employees (*ibid*, p12), the average salary[20] (per hour) was £20.42 for females, and £21.32 for males (evidence of a 4.2% gender pay gap). This is in comparison to their full-time equivalents who earnt £24.64 and £25.63 respectively (evidence of a 3.8% gender pay gap). Part-time working arrangements are significantly dominated, in this instance, by women (31.4%[21]) as opposed to 7.6% of men (*ibid, p13)*. In the UK healthcare sector more generally in 2018, the RCN reported that gender segregation and discrimination accounted for a 27% pay gap (£93.49 per week) (*ibid*, p37), and is evident in both the public and private sector. It is worthy of note however, that in 2018 the majority (75.9%) of qualified nurse and midwifery staff in the UK were

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[20] Real value.
[21] This is in comparison to employees more generally in the UK, in which 25% of employees were reported to be working part-time.

employed within a health authority or NHS trust, followed by 16.6% in a private firm or business (RCN, 2019, p5; LFS, 2018), a trend that continued into 2019.

The total number of nurses and midwives joining the NMC register for the first time in the UK from the **EEA** (European Economic Area) and **outside the EEA** has fluctuated considerably between 2004 and 2019, and *'the proportion of migrants working in the NHS varies across staff groups and different regions' (*Alderwick and Allen, 2019). The number of registrants declined from 15,152 EEA and non-EEA entrants in 2003/04 to 2,519 in 2009/10, rising again to 6,228 in 2013/14 (RCN, 2014). The number of registrants however then started to decline from 2016 onwards to 4,670 in 2018. This decline is heavily attributed to the decline in EEA entrants as a result of Brexit (RCN, 2019; NMC, 2020). The most available data from the NMC (2020) on UK, EEA and non-EEA registrants, which covers the period 2012 to 2018, is shown in Figure 3.3, and illustrates the breakdown of EEA and non-EEA nurse and midwives joining the NMC register to practice in the UK for the first time.

Figure 3:3 The number of Nurses and Midwives from the EEA and outside the EEA joining the NMC Register for the first time 2012-2018
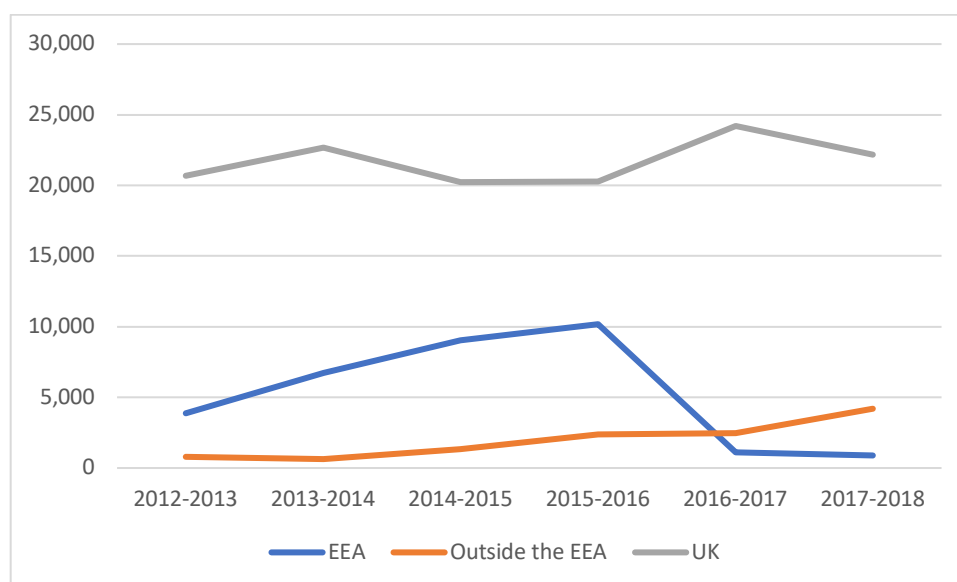
NMC (2020)

From Figure 3.3 it can be seen that the most marked increase is in EEA registrants between 2012/2013 to 2015/2016, with the largest rise from 3,879 in 2012/2013 to 10,178 in 2015/16, declining significantly to 1,107 in 2016/2017. This significant decline is attributed to the UK's referendum on Brexit (NHS Digital, 2018) and has resulted in the UK

witnessing a net outflow of nurses to the EEA *(ibid)*. Comparatively, the number of registrants outside the EEA increased from 791 in 2012/2013, to 2,389 in 2015/2016, further rising to 4,196 in 2017/2018. This increase has been driven namely by four nationality groups: Philippine, Indian, Zimbabwean and Nigerian (A.3.1) This is attributed to the '*changes to NMC processes, and the type of evidence that the regulator accepts from nurses and midwives in order to demonstrate their English language capability*' (NMC, 2018).

The significant decline in the number of new EEA NMC registrations to practice in the UK is also coupled with an increasing number of UK registrants leaving the NMC register. The most available data from the NMC (2020), which covers the period 2012 to 2018, reports that between 2012/2013 28,878 individuals left the NMC register, rising to 22,094 in 2014/2015, and peaking at 29,019 registrants in 2016/2017. This was then followed by a small reduction in the number of leavers to 24,360 registrants in 2017/2018. The rise in the number of registrants leaving the register between 2012 and 2017 has been attributed to a variety of factors, including non-NHS specific reforms[22] of government austerity measures, and Brexit. With regard to the four main host countries i.e., those who accommodate the outflow of qualified UK nurses, since 2004, these have been the USA, Canada, New Zealand and Australia (RCN, 2020). In some instances, these outflows represent nurses who are returning to their donor country, however a significant imbalance between such inflows and outflows exists *(ibid)*. It has been estimated that between 2019 and 2023/2024 *'the NHS will need to <u>recruit an additional 5,000 international nurses a year until 2023/24</u> just to stay afloat'* (Alderwick and Allen, 2019).

The number of applicants to nursing related degree programmes in the UK has fluctuated considerably over the period 2004-2019. In 2004, there were 24,527 applicants to UK nursing degree programmes (Marangozov *et al*., 2016), and '*since 2007, the largest growth has been observed, [with numbers] rising from 58,435 in 2007 to 103,550 applications in 2008, when the admissions system was centralised and unified, to 237,990 in 2014*' (Gershlick and Charlesworth, 2019). This increase reflects the rise in the number of NHS commissioned places through workforce planning over the period, and increased acceptance rates onto the nursing degree programmes (RCN, 2019; Gershlick and Charlesworth, 2019; Hitchcock *et al*, 2018, p6). However, during 2011, there was a 10% reduction in the number of commissioned training places due to government austerity measures implemented by the then, newly appointed coalition government *(ibid)*. Furthermore, between 2017 and 2018, it is worthy of note that the drop-out rate of students on nursing related degree programmes

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[22] Austerity measures and Brexit are both non-NHS specific reforms which have also had a wider impact on the UK's labour market and more generally.

was 21% (RCN, 2019; Gershlick and Charlesworth, 2019). This rising level of degree programme attrition is attributed to a variety of factors, including the financial burdens associated with being a full-time student given '*nursing students tend to be older, have more financial commitments, and NHS training precludes undertaking other part-time work*' (Gershlick and Charlesworth, 2019).

Between 1968 and 2017 the UK government provided a nursing bursary[23] for successful applicants to fund their higher education study (Department of Health and Social Care, 2016), which included the financial provision for both tuition fees (of up to £9,000 per year) and living costs (£1,000 non means-tested maintenance grant and a means tested grant of up to £3,191 per year) during placements (Hitchcock *et al,* 2018, p8). However, in 2017, in order to foster a nursing labour market that was driven by supply and demand pressures, and redirect spending elsewhere within the NHS, the government removed the nursing bursary. Between 2017 and 2018, this resulted in a 32% decrease in the number of applicants registering for nursing courses in England. In March 2018, UCAS data showed a '*35% overall reduction in the number of applications for nursing from those living in England between 2014 and 2018*' (NHS England, 2018, p9), and 1,360 fewer acceptances than in 2016 (RCN, 2019). Furthermore, this change impacted significantly on mature applicants, over the age of 25, with applications, since 2016, down by 40%, and further decreasing in 2020 (RCN, 2020). The Nuffield Trust (2019, p5) stress that

> '*the government's efforts to increase the number of nurses and allied health professionals in training by up to 10,000, by removing the NHS bursary for students starting courses from August 2017, have so far not been successful […] The number of placed applicants for nurse undergraduate training in 2018 was 4 per cent lower than in 2016*'.

It is worthy of note that in 2019, UCAS figures continued to show a decline in the number of applications and acceptances onto undergraduate nursing degree programmes. This decline is in addition to a 40% reduction in the number of mature applicants to nursing degree programmes (NHSPRB, 2019). In light of this, consequently, a part reversal of this policy was introduced in September 2020, with all student nurses in England receiving a £5,000[24] per year maintenance grant (Clayton-Hathway *et al.,* 2020).

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[23] Starting from September 2020, a nursing maintenance grant of £5,000 was paid to all nursing students in England per year (RCN, 2020).
[24] Reported in real value terms.

With regard to the qualification routes that enable an individual to practice as a qualified nurse within England and the UK more generally, from 2018, the role of nursing associate was introduced in NHS England. This role was developed to help address what had been identified as a workforce shortage, and manage the skill gap between registered nurses (RN) and health care assistants (HCA's) (RCN, 2018). Graduates of the newly developed training programme, which is studied over a 2-year period, will be awarded with a level 5 qualification, which is '*equivalent to a foundation degree and will join a new nursing associate* [Trainee Nurse Associate (TNA)] *section of the NMC register' (ibid,* p20). There were approximately 20,000 students registered on the programme in 2018, with 7,500 applicants registered to join in 2019 (*ibid)*. In addition, the nurse apprenticeship was also introduced a year earlier, in 2017 to help manage the transition to a self-funded nursing degree, with a focus on a 50/50 split between university study and employer engagement *(ibid)*. The House of Commons Education Committee *'reported that there were around 30 starters across two universities in 2017. The Government's target [was] for 400 nursing associates to progress to degree apprenticeships from 2019'* (RCN, 2018, p20).

Given the challenges presented above, it is clear to see why the role of adult nursing continues to be placed on the Migration Advisory Committee's shortage occupation list (Migrant Advisory Committee, 2019; Rafferty *et al*., 2016). This is a direct consequence of: the change in the commissioning and funding of education places; ageing workforce demographics; Brexit; lack of workforce planning and associated models; and an ageing customer base with increasingly complex healthcare demands (NHPRB, 2019). The UK Home Office (2018) have consequently removed the cap on tier 2 visa places for doctors and nurses, given that 40% of these places are taken up by NHS staff.

The Royal College of Nursing identify poor workforce planning, increasing demand on the current nursing workforce and pay restraints

> '*which both failed to recognise the need to match the demand for with the supply of nursing staff and the inevitable impact of entirely predictable staff shortages. However, the solutions being offered are focused almost entirely on supply […] These will not fill the gaps of over 40,000 registered nurse vacancies […] There are not enough nursing staff to provide care and patient safety is at risk […] This crisis has been created by a failure to invest in the nursing profession by providing sufficient funding for pay, conditions, career pathways and training'* (RCN, 2019, p5).

3.2 Pay and Conditions of Employment

The UK nursing labour market, and healthcare market more generally are governed by a variety of health and safety regulations, with a significant proportion of these originating from the EU. EU Working Time Regulations (WTR), which are adopted in the UK, provide a benchmark to help manage working hours, holidays and rest breaks to help address issues of fatigue and burn-out, protecting individual welfare. However, post-Brexit, it is unclear whether WTR's will be maintained in the UK labour market overall, and how such safeguards will be amended (RCN, 2019). Currently, under the directive NHS employees are not expected *'to work over 48 hours a week, over a standard averaging period of 17 weeks'* (RCN, 2019). In the instance that a nurse wishes to work above and beyond 48 hours a week, there must be a signed written agreement with the employer which acknowledges the individual's willingness to work above and beyond the directed hours (*ibid*). Furthermore, *'employees on Agenda for Change contracts and working on-call are entitled to receive an on-call payment'* (*ibid*).

The standard working week across the NHS consists of 37.5 hours, and employees in pay bands 1-7 are entitled and eligible for overtime pay (RCN, 2019). However, more senior staff members who are in pay bands 8-9 are not eligible or entitled to overtime payments (*ibid)*. Overtime payments are currently standardised across the NHS at a rate of time-and-a-half, and on bank holidays are paid at a rate of double time (*ibid)*. Staff who are employed part-time are only entitled to these over-time payments until their accumulative hours within a given week are above 37.5 hours.

Annual leave is also standardised across the NHS and is allocated in accordance with the individual's length of service. Those individuals who are newly appointed (identified as those who have under 5 years of service with the NHS) are entitled to 35 days annual leave, plus public holidays (RCN, 2019). Those individuals who have worked for the NHS for over 5 years are entitled to 37 days annual leave, plus public holidays, and those who have 10 years of service and over are entitled to 41 days annual leave, plus public holidays (*ibid*).

Pay and conditions with the NHS are reviewed annually, and are fashioned on a 9 band pay scale, with pay spines within each band (RCN, 2018). These bands cover all staff employed within the NHS, with the exception of those individuals employed as doctors or senior management. The introduction of these pay bands and spine was to ensure greater transparency and equity within the NHS, and was implemented on the 1st December 2004

(NHS Employers, 2018), and is outlined in Table A.3.1[25]. Since the Agenda for Change (AfC) was introduced in 2004, '*nurses who are newly qualified start at Agenda for Change Band 5. Prior to Agenda for Change they started at Whitley Grade D*' (UK Parliament, 2014). Over the period 2004 to 2019 the starting salary for a newly qualified nurse has been relatively stagnant. In 2004, the starting salary for a newly qualified nurse was £22,397[26], rising to £22,663 in 2007/2008, declining to £22,492 in 2010/2011, and further declining to £21,388 in 2013/2014 *(ibid)*.

In March 2018, the reported starting salary, at band 5, for a newly qualified nurse (Table 3.1) was £22,128 (RCN, 2018). This is expected to rise to £24,970 (12.84% increase) by 2020/21 as a result of the 2018 New Pay deal (NicheJobs, 2018). Furthermore, all nursing staff who are employed by the NHS will receive a pay rise of atleast 6.5%, with a 30-60% increase for shifts worked at weekends, nights and bank holidays between 2018 and 2021 (RCN, 2018). The NHS Pay Review body (2019) identify that the increase, as a result of the 2018 Agenda for Change (AfC) deal, helped to compensate for both increased general costs of living and the previous fall in the value of a nurses salary between 2009 and 2017 (Mitchell, 2019). This is in contrast to the pay and rewards within the private sector, where, on average, a nurses pay is reported to be paid £5,000 less per year (Mir, 2018).

The RCN (2019, p5) highlight that

> '*this is a workforce which is predominantly female, and one in which around half are the main or primary breadwinner in their household, indicating both the dependence on their wages and high level of vulnerability among many UK households to depreciating pay. Most nursing staff are in a fragile financial position when it comes to their employment*'.

Table 3.1 outlines all the pay scales for the NHS in England which were effective from the 31st March 2018 (NHS Employers, 2018). These pay bands are reviewed yearly, and Table A.3.2 documents the changes. In addition, Table 3.2 that follows, highlights and provides examples of how these bands are matched to nationally pre-determined job titles and roles (NHS Careers, 2019). In order to progress up the pay spine, or move into a higher pay band, individuals must achieve and fulfil given pre-determined criteria for promotion, based on both human capital and experience acquisition.

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[25] Table A.3.1 (appendix) provides an overview of the key pay reviews since 2004/2005 up to, and including 2019.

[26] For the purposes of this research, this starting salary in 2004 will be the price base.

Table 3.1: NHS pay scales in England (effective from 31st March 2018)

	Basic salary (£)	Equivalent hourly rate (£)	Spine point		Basic salary (£)	Equivalent hourly rate (£)	Spine point
Band 1	15,404	7.88	2		31,696	16.21	26
	15,671	8.02	3		32,731	16.74	27
Band 2	15,404	7.88	2		33,895	17.34	28
	15,671	8.02	3		35,577	18.20	29
	16,104	8.24	4	**Band 7**	36,612	18.73	30
	16,536	8.46	5		37,777	19.32	31
	16,968	8.68	6		39,070	19.99	32
	17,524	8.97	7		40,428	20.68	33
	18,157	9.29	8		41,787	21.38	34
Band 3	16,968	8.68	6		40,428	20.68	33
	17,524	8.97	7		41,787	21.38	34
	18,157	9.29	8	**Band 8a**	43,469	22.24	35
	18,333	9.38	9		45,150	23.10	36
	18,839	9.64	10		47,092	24.09	37
	19,409	9.93	11		48,514	24.82	38
	19,852	10.16	12		47,092	24.09	37
Band 4	19,409	9.93	11		48,514	24.82	38
	19,852	10.16	12	**Band 8b**	50,972	26.07	39
	20,551	10.52	13		53,818	27.53	40
	21,263	10.88	14		56,665	28.98	41
	21,909	11.21	15		58,217	29.78	42
	22,128	11.32	16		56,665	28.98	41
	22,683	11.61	17		58,217	29.78	42
Band 5	22,128	11.32	16	**Band 8c**	60,202	30.79	43
	22,683	11.61	17		63,021	32.23	44
	23,597	12.07	18		67,247	34.40	45
	24,547	12.56	19		69,168	35.38	46
	25,551	13.07	20		67,247	34.40	45
	26,565	13.59	21		69,168	35.38	46
	27,635	14.14	22	**Band 8d**	72,051	36.85	47
	28,746	14.71	23		75,573	38.65	48
Band 6	26,565	13.59	21		79,415	40.62	49
	27,635	14.14	22		83,258	42.58	50
	28,746	14.71	23		79,415	40.62	49
	29,626	15.16	24		83,258	42.58	50
	30,661	15.69	25	**Band 9**	87,254	44.63	51
	31,696	16.21	26		91,442	46.77	52
	32,731	16.74	27		95,832	49.02	53
	33,895	17.34	28		100,431	51.37	54
	35,577	18.20	29				

Source: NHS Employers (2018)

Table 3.2: Examples of nurse job roles and associated pay bands within the NHS

Pay Band	Job Role	Pay Band	Job Role
Band 2	Clinical support worker (community)	Band 7	Health visitor specialist
	Clinical support worker nursing (hospital)		Health visitor team manager
Band 3	Clinical support worker nursing higher level (community)		Advanced Nurse Practitioner
	Clinical support worker nursing higher level (hospital)		Advanced Nurse (schools)
	Clinical support worker nursing higher level (mental health)		Nurse team manager
Band 4	Nurse associate practitioner acute		Nurse team manager (learning disabilities)
	Nurse associate practitioner (community)		Nurse team manager (mental health) community
	Nurse associate practitioner (mental health)		Nurse team manager (NHS Direct)
	Nursery nurse (community)		Nurse team manager (schools)
Band 5	Nurse		Nurse team manager (community)
	Nurse community		Nursing health visitor specialist (community practice teacher)
	Nurse GP practice	Band 8A-C	Modern matron/consultant Band 8a-c
	Nurse mental health		Chief Nurse
	Nurse schools		
	Nurse learning disabilities		
	Theatre nurse		
Band 6	Health visitor		
	Nurse team leader (learning disabilities)		
	Nurse specialist		
	Nurse specialist (community)		
	Nurse specialist (GP practice)		
	Nurse specialist (learning disability)		
	Nurse specialist (NHS Direct)		
	Nurse specialist (schools)		
	Nurse specialist (special schools)		
	Nurse specialist mental health (community)		
	Nurse team leader		
	Theatre nurse specialist		

Source: NHS Careers (2019)

More generally exploring relative trends over time, in the wider job market, a nurses starting salary in 2018 is comparable to that of a newly qualified police constable at £23,000, which represents a reduction in their relative starting salary of 16% from 2010, and a teacher at £22,900, which represents a reduction in their relative starting salary of 10% since 2010 (Rahman, 2018).

3.3 Government Reforms and other policies

A. NHS Specific Reforms and Investments

Recognition of the significance of the nursing profession for healthcare delivery is longstanding. Policymakers have structured and re-structured both the profession and the public healthcare system many times over the last 65 years.[27] The various policy changes over the years have impacted on a variety of actors on both the demand side and supply side, including customers, existing health care providers and healthcare professionals[28].

In 2004, total expenditure on healthcare in the UK was £96.1 billion (8% of GDP[29]), and increased further to £127 billion (8.8% of GDP) in 2008 (ONS, 2011). More generally, over the period 1997 to 2009, the '*annual average growth rate of 8.1% in total healthcare expenditure*'(ONS, 2015). Between 2009 and 2013 however, there was a 2% decrease in the total healthcare expenditure in the UK due to the economic downtown (ONS, 2015). In 2013, total expenditure was reported to be £150.6 billion (8.8% of GDP), and in 2018 had increased further to £214.4 billion (10% of GDP) (ONS, 2020).

In 2019, the NHS introduced the "NHS Long Term Plan" aimed at addressing a variety of issues (NHS, 2019) including: staff recruitment and retention to tackle the increasing turnover and vacancy rates; greater integration of community services; improved integration and utilisation of digital technology to help manage patient information and service planning; changes to working practice to improve staff satisfaction and skill-mix; and training and education, including more clinical placements and more diverse routeways into the profession, with a greater focus on apprenticeship schemes.

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[27] Table A.3.3 illustrates the key policy changes that have significantly altered the nursing labour market in UK.
[28] A number of these policy interventions also apply to the wider healthcare market in the UK, and are not just NHS specific.
[29] In real term changes, as are the reported figures that follow in this section.

The NHS Pay Review Body in 2019 provided further reflection on the "NHS Long Term Plan", and further consideration to the challenges the NHS faced. It was recognised that resources need to be secured and made available solely for the purposes of workforce training and development. Furthermore, workforce planning needs to consider service requirements, and the need for enhancements in productivity and NHS budgetary constraints (*ibid*). Productivity enhancements are a direct impact of implementing the "NHS Long Term Plan", and were identified, in order to be successful, as requiring the workforce to be involved in both planning and delivery. Additionally, with regard to workforce planning, the current trends in degree applications, vacancy rates and turnover rates was identified as being critical.

> "*The workforce gap […] persists and continues to create unsustainably high levels of vacancies, work pressures and potential risks to patient care. There are plans in place to bridge the gap but these contain significant recruitment and retention risks. The recruitment risks are pre-registration entrants, EU recruits and the development of new roles, such as nursing associates and apprenticeships. The retention risks to the plans are workload, flexible working opportunities and leadership capacity. Despite current economic uncertainty, a tightening labour market is increasing the competition for talent. The NHS has a reformed AfC pay structure which needs to be supported by effective entry routes, new roles and career pathways and by ensuring that existing staff work in a supportive and well-managed environment and so are able to act as advocates for AfC roles*. (NHSPRB, 2019, pvii)

Since 2002, there has been significant investment within the NHS as a consequence of the Wanless (2002) report. In 2018, the Conservative Government proposed that NHS England would receive a substantial increase in their budget by £20.6 billion pounds over the period 2018-2024 under "*The NHS Long Term Plan*". This would generate an approximate increase in NHS England's budget of 3.3% per year (The Health Foundation, 2019). Comparatively, this growth in budget is below that reported in 2017 of 3.7% per annum. Overall however, this proposed level of growth exceeded that witnessed on average, annually, over the past 10 years of 2.1% (*ibid*, 2019). This budgetary increase is in-line with predicted resource requirements and challenges over the next 6 years given the ageing demographics of the population in England, the need to maintain (and enhance) standards of care and the rising costs of treating chronic diseases (RCN, 2019).

Spending on healthcare as a share of GDP continues to increase annually, and government cuts in other areas of public spending have allowed these increases to be sustained (The Health Foundation, 2019).

With increasing demand for healthcare services, acute hospitals have seen a 3% annual increase in care provision and delivery (The Health Foundation, 2019) between the years 2010 and 2017, increasing by 3.6% in 2016/17. Given more recent predictions in the level of demand for healthcare service provision over the coming years, hospital activity will need to increase by a minimum of 2.7% to fulfil the increasing demand (*ibid*). The proposed investments, however, would only be sufficient to fund growth in such activity by 2.3% annually (*ibid*). The ability to manage demand and service delivery within these budgetary constraints is significantly influenced by pay, with the 2019 Agenda for Change (AfC) resulting in the majority of NHS staff seeing their pay increase in real terms until 2020/2021(*ibid)*.

The newly introduced NHS England funding represents a substantial budgetary injection, the largest of which is proposed to be invested in 2023/24 (The Health Foundation, 2019). This unequally distributed investment, however, poses a challenge for NHS England given the need to steadily maintain demand in service care and delivery, against a backdrop of increasing patient demand; labour supply and demand challenges; changes in care practice and delivery; and a 24% reduction in Health Education England's budget for training and education (*ibid*).

The health service in the UK more generally however has been, and continues to be, plagued by government spending cuts. Regarding the wider impact of austerity[30] measures (Robertson, 2017; Robertson *et al*., 2017; Roberts *et al*., 2012), health services in the UK are

> '*midway through a decade of austerity that has been characterised by real-term reductions in budgets and increasing patient demand […] National bodies, commissioners, providers and individual clinicians are increasingly faced with tough decisions about patient care as they try to prioritise funding and balance their budgets […] referred to as 'rationing decisions'* (Robertson, 2017).

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[30] Austerity, by definition, is where the government implement change, reform and/or policy to help reduce budgetary deficits. In this instance, austerity measures have resulted in reductions in government spending within the UK healthcare sector (Robertson, 2017; Robertson *et al*., 2017; Roberts *et al*., 2012).

There continues to be debate on how the resulting financial pressures are affecting patient care within the NHS (Robertson, Wenzel, Thompson, Charles, 2017), and it is perceived that

> *'the growing gap between demand for services and available resources means that staff are acting as shock absorbers, working longer hours and more intensely to protect patient care […] pressures on staff were reported to be leading to higher levels of stress and, in some cases, increasing absence due to sickness. This is particularly worrying given the well-established link between staff wellbeing and the quality of patient care […] Many of the cuts that have been made – such as cuts to staff and preventive services – are storing up problems for the future'* (ibid, p4).

The link between financial performance and care quality however is complex, and it is *'difficult to attribute cause and effect'* (ibid, p6).

B. *General UK Reform*

Brexit, as previously identified, has had, and has the potential to have, a significant impact on the current employment conditions of the nursing workforce, and health and social care more generally. This is in light of the impact previous austerity measures, as discussed above, have had, and continue to have on healthcare delivery in the UK.[31]

In this climate, the RCN (2018, p2) identified five priority areas for action, and identified the need to:

1. Develop a workforce strategy that encourages and fosters inward labour migration, and protects those EEA nations currently employed within the UK nursing labour market;
2. Continue *'with appropriate EU education and professional regulatory frameworks for nursing and close alignment with other single market legislation supporting health'* (ibid);
3. Proactively identify and tackle threats to public health, with focus upon potential threats entering the UK from overseas;
4. *'Safeguard decent working conditions, health and safety at work and employment rights, many of which were adopted EU wide'* (ibid,);
5. Continue to foster and develop international research collaborations.

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[31] This situation has been and will be further compounded by COVID-19, the effects of which are still to be realised when writing this thesis.

Major concerns during the interim period of Brexit, and post-Brexit are that the UK will not be able to deliver a given standard of healthcare to the population due to consequentially further staff shortages; limited or denied access to systems that flag public health alerts; withdrawal of EU funding for public health, restricted access to drugs and clinical trial results. Such concerns are already coming to fruition, with the number of new entrants joining the NMC register from the EEA falling dramatically since September 2016. This is coupled, as identified above, with an exodus of EEA nurses leaving the UK to practice elsewhere.

c. Inflows, outflows, and Brexit[32]

In 2016, following a referendum, it was eventually decided that the UK would be leaving the EU. The UK officially left the EU in January 2020. The withdrawal agreement, which established the *process* for leaving, envisaged a transition period which would end on the 31st December 2020.

Brexit is predicted to have a significant impact on the UK economy, and notably on the migration of labour, particularly between UK and EU member states (Wilson *et al.*, 2020, pii). The impact on migration, for the short to medium term, however, is predicted to be moderate (*ibid*). The long-term impact on migration will be dependent upon the final terms agreed for the future of the UK-EU relationship, i.e., on how the UK will engage with the EU. One potential item on the agenda that may be included in the withdrawal deal is the UK securing the '*ability to reduce EU migration*' (*ibid*, p13). This agreement, if approved, would have significant implications for the nursing labour market in the UK more generally, given the volume of nurses migrating into the nursing labour into the UK (Section 3.1). This potentially could impact on labour supply and demand and international recruitment. In addition, regarding the health service more generally, Brexit could potentially impact on the regulations that govern professional standards, from training to qualification recognition; the '*development and approval of medicines*' and collaborative research (RCN, 2019, p3); and the governance of a workers' legal rights. Furthermore, there is concern about a lack of clarity and interim support/arrangements for the maintenance of the health service in the UK during the transition, which

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[32] The COVID-19 pandemic has had, and will have, a significant impact on the nursing labour market in England, and the wider healthcare market more generally. The thesis was drafted prior to the pandemic - for discussions on the potential impact that the pandemic will have on the nursing UK's workforce see the RCN (2020) publications on 'COVID-19 Building a better future for nursing'.

'*risks the UK not being able to effectively deliver the health services it needs due to more significant workforce shortages, lack of swift access to EU wide systems on health alerts to protect the public, new drugs, or clinical trials*' (RCN, 2019).

The RCN (2019, p2) identified five key areas for prioritisation and concern given the potential negative impact Brexit could have on health services within the UK, and include:

- '*a coherent domestic health and social care workforce strategy, which includes preserving the rights of EEA nationals working in the sector and allows for future migration*';
- '*continuing with appropriate EU education and professional regulatory frameworks for nursing and close alignment with other single market legislation supporting health*';
- '*continuing to address public health threats collaboratively – particularly those crossing borders*';
- '*safeguarding decent working conditions, health and safety at work and employment rights, many of which were adopted EU wide*';
- '*maintaining important opportunities for collaboration across Europe on research and between nursing organisations to share and learn*'.

Overall, the key concern is that a potential '*collapse of the EU workforce presents a huge challenge for the sustainability of the UK's health and social care sector*' (RCN, 2019, p3).

3.4 Conclusions

Over the period 2004-2019 the nursing labour market within England has seen a variety of changes, from both macroeconomic and microeconomic perspectives. The number of FTE nursing and midwifery staff has increased by just over 16% between 2004 and 2019, but has experienced periods of fluctuation, notably, due to the onset of the 2008 financial crisis and the Coalition Government's austerity policy following the 2010 general election. The number of unfilled nursing vacancies over this period (2004-2019) has risen 5,801 positions in 2004/2005 to 43,617 in 2019. Furthermore, the latest available data on turnover rates for nursing and health vising staff, has increased from 8.8% in 2010/2011 to 12.5% in 2018. This is attributed to a variety of factors including staff dissatisfaction and the ageing demographics of the nursing workforce.

The nursing labour market in England continues to be dominated by more mature female participants, and there is growing concern over the widening of gender-pay gaps within the

workforce. Furthermore, regarding the demographic composition of the nursing workforce in the UK more generally, the total number of nurses and midwives joining the NMC register for the first time in the UK from the EEA and outside the EEA has fluctuated considerably between 2004 and 2018. On average over the period, there has been a growing number of EEA registrants, however post 2016, this has declined rapidly, and in 2018 the number of registrants outside the EEA were greater than those from the EEA. This is attributed heavily to the UK's referendum on Brexit.

Over the period 2004-2019, the number of applicants to nursing related degrees in the UK has also fluctuated considerably, rising between 2004 and 2011, then declining from 2011 onwards. The former rise was attributed to a increase in the number of NHS commissioned places through workforce planning, and the latter due to government austerity reducing the number of commissioned places and the removal of the nursing bursary. It is worthy of note that the decline since 2011 has been coupled with an increasing number of nursing students dropping out of the study programme before graduation. It is hoped that the introduction of TNAs and the nurse apprenticeship will help address these associated challenges.

Looking forward, the NHS Pay Review Body (2019) identified that there have been and are going to be, significant challenges that need to be explored and addressed within the NHS. These focus upon: availability of resources, including those relating to staff training, development, and satisfaction; service requirements, productivity enhancements and budgetary constraints; and workforce planning, relating to gaps in the workforce; and the impact of Brexit.

Appendix to Chapter 3

A.3.1 Nationality of Nurses and Health Visitors 2010-2019

Nationality	2010	2013	2016	2019
British	224,332	237,962	247,642	257,544
Philippine	9,082	7,890	8,721	12,483
Indian	6,513	5,981	6,106	7,771
Irish	4,278	4,492	4,643	4,568
Portuguese	299	1,448	3,725	3,074
Spanish	402	1,159	4,817	2,962
Zimbabwean	3,574	2,951	2,448	2,448
Italian	195	248	2,799	2,351
Romanian	336	419	1,575	1,777
Nigerian	1,716	1,457	1,218	1,471
Polish	454	737	1,289	1,462
Ghanaian	1,083	962	809	881

Baker (2019), NHS Digital (2018)

A.3.2: Key pay reviews since 2004/2005 through to 2019

Pay Review	Summary
Pay rates 2004/2005	• Agenda for Change incorporated a three year pay deal. The first of three 3.225% payments were awarded on 01 April 2003. The second took effect from 01 April 2004 and the final increase on 01 April 2005. • Clinical grading continued to apply until Agenda for Change was rolled out across the UK from 01 December 2004. (Although Agenda for Change pay, terms and conditions were backdated to 01 October 2004).
Pay rates 2006/2007	• From 1 December 2004 the new NHS pay system Agenda for Change (AfC) was introduced across the UK - pay and terms and conditions are being backdated to 1 October 2004. • All employers are expected to have moved their staff to the new pay bands, by the end of 2006 at the very latest.
Pay Rates 2008/2009	• The Government proposed a three year pay deal worth 7.99 per cent over three years for staff in the NHS. For the first year of the deal 2008-09 there was an uplift of 2.75 per cent on the 2007-08 pay scales and high cost area supplements for nurses on Agenda for Change (AfC) terms and conditions. • The RCN recommended that employers outside the NHS should award a minimum uplift of 2.75 per cent to the current pay rates for all nurses and health care support workers • The minimum starting salary for a registered nurse is £20,225.
Pay Rates 2009/2010	• The second year of the three-year deal awarded an uplift of 2.4 per cent on the 2008/09 pay scales and high cost area supplements for staff on Agenda for Change terms and conditions. • The RCN recommended that employers outside the NHS should award a minimum uplift of 2.4 per cent to the current pay rates for all nurses and health care support workers. • Overtime is payable for staff in bands one to seven when excess hours are worked over full-time hours (37.5). Overtime should be agreed with your line manager in advance of working excess hours. Overtime is payable at time and a half with the exception of overtime on a public holiday which is paid at double time. As an alternative to overtime pay staff can request time off in lieu instead. • Nurses who are employed on non-NHS (AFC - Agenda for Change) contracts of employment do not automatically benefit from the annual Pay Review Body award. Nurses in this group might be practice nurses, or those nurses working in the independent or private sector. In the past such nurses may have had their annual pay increase linked to 'Whitley rates'. Since the start of AfC in October 2004 there has been no mechanism to uplift these rates. Since 2004, the RCN has recommended that those on Whitley rates should have their pay uplifted by the same rates as those staff employed on AfC in the NHS. For 2009/10 this means that pay and any leads and allowances should be uplifted by 2.4 per cent from 1 April 2009. • For previous years the recommended increases are as follows: ○ 2006/07 - 2.5% 2007/08 - 2.5% 2008/09 - 2.75%.
Pay Rates 2010/2011	• The Government had proposed a three year pay deal worth 7.99 per cent over three years for staff in the NHS. For this, the third and final year of the deal, there was an uplift of 2.25 per cent on the 2009/10 pay scales and high cost area supplements for nurses on Agenda for Change terms and conditions. There was also a flat rate increase of £420 to pay spine points [1-12]. • The RCN recommended that employers outside the NHS should award a minimum uplift of 2.25 per cent to the current pay rates for all nurses and healthcare support workers. • Nurses who are employed on non-NHS (AfC - Agenda for Change) contracts of employment do not automatically benefit from the annual Pay Review Body award. Nurses in this group might be practice nurses, or those nurses working in the independent or private sector. • In the past such nurses may have had their annual pay increase linked to 'Whitley rates'. Since the start of AfC in October 2004 there has been no mechanism to uplift these rates. Since 2004, the RCN has recommended that those on Whitley rates should have their pay uplifted by the same rates as those staff employed on AfC in the NHS. • For 2010/11 this means that pay and any leads and allowances should be uplifted by 2.25 per cent from 1 April 2010.

Pay Review	Summary
Pay rates 2011/2012	• A two-year pay freeze was applied to all NHS staff earning over £21,000 from 1 April 2011. A £250 uplift was awarded for staff earning less than £21,000.
Pay rates 2012/2013	• A two-year pay freeze was applied to all NHS staff earning over £21,000 from 1 April 2011. For the second year, a £250 uplift was awarded for staff earning less than £21,000.
Pay rates 2013/2014	• A 1% uplift was awarded to all pay bands for 2013-14.
Pay rates 2014/2015	• England only: Staff who are on the top point of their pay band receive a 1% non-consolidated payment paid over 12 months from April 2014. This means it is given as an additional sum and is not be added on to hourly rates or count for unsocial hours or overtime payments. • Staff who are not on the top point do not receive this 1% pay rise but do continue to have access to incremental points i.e. they will move to the next point in the pay band during 2014-15 providing that they satisfactorily perform during the year. • The minimum starting salary for a registered nurse is £21,478
Pay Rates 2015/2016	• A 1% uplift was awarded to all bands
Pay Rates 2016/2017	• A 1% uplift was awarded to all bands
Pay Rates 2017/2018	• Agenda for Change (AfC) framework announced for 2018 • A 3% uplift was proposed for the majority of bands, with many seeing an uplift of 1.5%
Pay Rates 2018/2019	• All nurses on AfC (Agenda for Change) contracts will be awarded, a minimum, of a 6% pay rise over a 3 year period. • The current starting salary, at band 5, for a newly qualified nurse is £22,128. This is expected to rise to £24, 970 (12.84% increase) by 2020/21 as a result of the 2018 New Pay deal.

Source: RCN, 2018; NHS Digital, 2019; NHS, 2019

Table A.3.3: Policy Change/Reform 1944-2019

Year	Policy Change/ Reform	Impact on the Nursing Labour Market
1944	The White paper, a National Health Service (NHS) is published.	
1946	The National Health Service Act is published.	
1948	The NHS is created.	• A government established public employer is created: potential employment opportunities are created.
1949	The Nurse Act 1949 is introduced: A framework for the role of nursing within the NHS.	• The role of nursing within the NHS is defined, creating a job description, development opportunities/career progression and structure for wage determination.
1973	The NHS Reorganisation Act is introduced: The NHS is restructured.	• The process of consumer complaints was restructured: Fair and recorded procedures. Complaints could have implications for future career progression.
1982	NHS Reorganisation: NHS restructuring abolishes Area Health Authorities (AHAs).	• Potential redeployment and relocation of nurses between Health Authorities.
1986	Project 2000 is implemented: Nurse training in universities is introduced.	• A minimum standard of education is required to enter the nursing profession - potential to prevent/disincentives individuals to choose to enter the profession. • The profession moves towards becoming all graduate. • Qualification standards are established both for pre-2000 nurses and international labour, and skill transferability.
1987	The White Paper, promoting better health is published: Improvements in patient choice and widening of services provided by pharmacists and nurses.	• Up-skilling/re-skilling of nurses. • New posts created: greater flexibility and options to specialise.
1989	The White Paper, working for patients (NHS Reforms) is published: Proposals to introduce a split between purchasers and providers of care, GP fund holders and a state financed internal market, in order to drive service efficiency.	
1990	NHS Reorganisation: Creation of an internal market is facilitated through the introductions of the NHS and Community Care Act 1990.	• The nursing labour market is reformed: increased competition among health authorities for nursing labour - increased competition provides potential for more competitive remuneration packages.
1994	NHS Reorganisation: The number of regional Health Authorities is reduced to eight.	• Potential redeployment and relocation of nurses between Health Authorities.

Table A.3.3: Policy Change/Reform 1944-2019

Year	Policy Change/ Reform	Impact on the Nursing Labour Market
1996	Three White papers are released: Choice and opportunity; Primary care; Delivering the future and the NHS - a service with ambitions.	
1997	The NHS Primary Care Act is introduced: Increasing choice in primary care. DOH (1997) The White Paper, the new NHS: Modern, dependable is published.	
1998	The National Institute for Health and Clinical Excellence (NICE) is established.	• Guidance is created to help aid the delivery of health services: evidence led to provide the best level of care available.
1999	Agenda for change: Modernising the NHS Pay System NHS Reorganisation: GP fundholding is abolished; new Primary Care Groups (PCGs) are established.	• The pay band structure is developed to provide transparency and benchmarks and harmonises pay scales across Health Authorities: Existing nurses now face different benchmarks and requirements to progress within the band structure, pay increments, sick pay and holiday entitlements are altered.
2000	The NHS Plan is announced: A 10-year modernisation programme of investment and reform.	
2001	The commission for healthcare improvement is created: the first organisation to formally assess the performance of NHS hospitals. The Health and Social Care Act 2001 is implemented: Formalises the NHS plan.	
2002	NHS Reorganisation: District Health Authorities are replaced by Strategic Health Authorities (SHAs) and Primary Care Trusts (PCTs). The concept of Foundation Trust is investigated: introduced in an attempt improve efficiency, delivery and administration of health care at the local level. The Wanless review paves the way for unprecedented increases in NHS funding. The NHS Reform and Health Care Professions Act 2002 is introduced: The act legislates for the redistribution of power from Regional Health Authorities into Strategic Health Authorities (SHAs).	• The aim to improve efficiency, delivery and administration potentially impacts on the role and duties of nurses, and how they carry out day-to-day their tasks.
2003	The Agenda for change is implemented: Standardisation of pay and conditions for the majority of NHS staff. NHS Reorganisation: The Health and Social Care (Community health and standards) Act 2003 is implemented.	• The pay band structure is created/established to provide transparency and benchmarks and harmonises pay scales across Health Authorities: Existing nurses now face different benchmarks and requirements to progress within the band structure, pay increments, sick pay and holiday entitlements are altered.

Table A.3.3: Policy Change/Reform 1944-2019

Year	Policy Change/ Reform	Impact on the Nursing Labour Market
	Spending on the NHS in the UK, as a proportion of GDP: 5.9%.	
2004	The first 10 Foundation Trusts (FTs) are established with more control over their budgets and services: Introduced in an aim to improve efficiency and address shortages within the healthcare sector. Spending on the NHS in the UK, as a proportion of GDP: 6.3%.	• Employers with greater autonomy over finances and resources offers the potential to advertise more favourable employment contracts with greater financial incentives.
2006	NHS Reorganisation: Strategic Health Authorities (SHAs) are reduced from 28 to 0. The number of Primary Care Trusts (PCTs) fall from 303 to 152. Extended patient choice: patients have the choice of 4 healthcare providers on referral for planned hospital care. Spending on the NHS in the UK, as a proportion of GDP: 6.4%.	• Potential redeployment and relocation of nurses between Health Authorities.
2007	The White Paper, NHS autonomy and accountability proposals for legislation is published. Spending on the NHS in the UK, as a proportion of GDP: 6.5%.	
2008	Free Choice introduced: Patients are given the freedom to choose from any hospital or clinic that meets NHS standards. Spending on the NHS in the UK, as a proportion of GDP: 7%.	
2009	The NHS constitution is published, outlining a revised set of rights and responsibilities for patients and staff. NHS Chief executive warns the NHS to prepare for the need to release unprecedented efficiency savings of between £15 billion and £20 billion between 2011 and 2014. Spending on the NHS in the UK, as a proportion of GDP: 7.6%.	• Potential impact upon the role and responsibilities of nurses: changes in the job description
2010	The White Paper, equity and excellence: liberating the NHS is published Spending on the NHS in the UK, as a proportion of GDP: 7.5%.	• Movement towards community care settings: integrated training for nurses, transparent procedures between acute and secondary care settings: seamless transition process to reduce the strain
2011	NHS Reorganisation: The Health and Social Care Bill 2010/11 proposes significant reforms to increase the influence of GP's on commissioning, increase competition and abolish Strategic Health Authorities (SHAs) and Primary Care Trusts (PCTs). Spending on the NHS in the UK, as a proportion of GDP: 7.4%.	

Table A.3.3: Policy Change/Reform 1944-2019

Year	Policy Change/ Reform	Impact on the Nursing Labour Market
2012	The Health and Social Care act is passed. Spending on the NHS in the UK, as a proportion of GDP: 7.3%.	
2013	Potential creation of consortia of healthcare professionals. Agenda for Change: PayScale's 2012/13. Spending on the NHS in the UK, as a proportion of GDP: 7.3%.	• The RCN accepts Agenda for Change proposals: Automatic pay rises are abolished. including the removal of double increments for band 5 nurses once qualified (within the first 12 months of qualification), sick pay is altered.
2014	The Care Bill receives Royal Assent. NHS England publishes it's 5-year forward view. Autumn Budget announces injection of £2 billion into the NHS. Spending on the NHS in the UK, as a proportion of GDP: 7.3%.	• Potential changes to services and care delivery as a consequence of the five-year plan to reduce health inequality, improve the quality of care provided by the NHS, provide greater service integration between, for example, integrated hospital and primary care providers ('Primary and Acute Care Systems'), and to bridge the funding gap, estimated to stand at £30 billion.
2015	10-year Health and Care Plan announced by the Labour-led Government Conservative Party form a majority government. 2015 Spending Review sees increased spending on the NHS. Spending on the NHS in the UK, as a proportion of GDP: 7.3%.	• The 10-year plan proposed a budget to enable the recruitment of 36,000 new staff into the NHS, and the repeal of privatisation laws, which had potential to impact on skill-mix and workforce composition. • Conservative party proposed a seven-day access to GP's, resources to recruit 5,000 more GPS;s and a £8 billion financial injection into the NHS by 2020, with the potential to impact on the current nursing workforce and the demands they face. • Potential resource injection into the nursing workforce.
2016	The Cities and Local Government Devolution Bill is passed. NHS Improvement launches. Draft Sustainability and Transformation Plans (STP's) are submitted. New contract agreed for junior doctors. UK votes to leave the EU – Brexit. NHS Finance control measures are announced. Sustainability and Transformation Plans (STP's) published. Spending on the NHS in the UK, as a proportion of GDP: 7.3%.	• The Bill had potential to change accountability of different service providers, and remove levels of autonomy within different providers, which had the potential to impact on resource allocations and care practice and delivery. • Funding made available for STP, which had the potential to impact on resources. • Brexit had significant implications, impacting on the mobility of labour, funding availability/constraints and legal requirements of practice and care delivery. • Plan to recover the £2.45 billion NHS deficit had direct implications for hospitals placed on special measures, impacting on care delivery and practice. The removal of fines for exceeding the benchmark for a&e waiting times, which was introduced to help aid in improving care delivery, helped to manage the resource pressures faced by nurses delivering front-line care, and helps to address a noted factor driving dissatisfaction among the nursing workforce.

Table A.3.3: Policy Change/Reform 1944-2019

Year	Policy Change/ Reform	Impact on the Nursing Labour Market
2017	NHS England publishes "Next steps on the Five-Year Forward View'. Spending on the NHS in the UK, as a proportion of GDP: 7.2%.	
2018	Funding settlement announced for the NHS. Spending on the NHS in the UK, as a proportion of GDP: 7.1%.	• Funding made available to help meet increasing patient need and demand, with potential to have a direct impact on resources available, for both practice and care delivery.
2019	A new contract for general practice is agreed between the BMA and NHS England. NHS England publishes the Long-Term Plan. Spending on the NHS in the UK, as a proportion of GDP: 7.1%.	• The new contract and the Long-term plan has potential to help manage the strain on current resources by provided a more integrated service delivery, with clear patient pathways.

Source: Nuffield Trust, 2019

Chapter 4: Methodological approach

4.0 Introduction

This thesis aims to explore the decision-making behaviour of a variety of actors in the nursing labour market in England and address the research questions outlined in Table 4.1. A mixed methods approach is adopted using a combination of qualitative and econometric methods. This allows, where possible, triangulation of the data collected. Aspects of labour supply and occupational choice are thereby explored beyond econometric modelling techniques. Currently, research within the area of occupational choice and labour supply of nurses within the UK, more generally, lacks development (Section 2.3). Where available, there is normally significant separation between qualitative and econometric approaches.

Table 4.1 Research questions

Core research question:	Related sub-questions:
What are the key determinants and characteristics that motivate the occupational choice and participation decision of individuals in the nursing labour market?	1. What factors influence an individual to choose to study nursing at degree level? 2. What factors influence an individual to remain on the degree programme until graduation? 3. What are the determining factors that drive the participation decision of an individual to supply their labour to the nursing labour market in England once qualified? 4. What are the determining factors that drive an individual to choose to leave their current position/the nursing labour market in England? i.e. What drives nursing turnover? 5. What do nurses within the identified care settings perceive to be the causes of labour turnover? 6. What implications do the factors that drive turnover and retention have for helping to address labour shortages?

For the econometric analysis, a Heckit two-stage procedure is adopted[33]. The econometric analysis uses the Labour Force Survey (LFS) dataset for England over the period 2004-2019.

The qualitative approach taken echoes that of a critical theorist (associated with an interpretivist paradigm). As a result, the questions developed for the focus groups, interviews and survey questionnaires were used to explore and identify a variety of material situations and climates which influence the beliefs and behaviour of the participants in question. These material conditions include the current economy and labour market situation, and the current government and local policy. To align the geographical focus, the data samples and results

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[33] The Heckman correction model, referred herein as the Heckit two-stage procedure, was introduced by James Heckman as a method to correct for sample selection. For further discussions on the econometric approach and the two-step procedure, see Greene (2011), and Heckman (1976).

from the secondary data source (LFS), the primary survey questionnaires, focus groups and interviews focused upon England. Within this geographical region, to provide a meta/micro analysis, the survey questionnaires, focus groups and interviews were collected from participants within the West-Midlands region of England.

The discussion that follows explores the mixed methods approaches adopted and challenges faced in Section 4.1. Section 4.2 and 4.3 identify in further detail the econometric modelling techniques adopted and qualitative methods used, reflecting upon the implications the techniques used have for potential research findings. Section 4.4 explores the triangulation of the results. Finally, Section 4.5 concludes.

4.1 Mixed Methods Approach

The purpose of adopting a mixed methodological approach was to complement the findings from the econometric modelling in order to improve their interpretation and develop a broader understanding of the behaviour of a variety of actors. The participation and occupational decision-making process of nurses within the healthcare profession is complex, and there are a variety of factors that influence this process that cannot simply be explored through conventional econometric means. A primary aim of the research was to explore a broader range of factors that influence the decision-making behaviour of a variety of actors in the Nursing labour market.

Qualitative findings were used to provide depth to the factors explored in the econometric modelling process. The aim was to triangulate, where possible, the findings to provide a voice to the actors beyond the modelling process. Consequently, the foundations of the research, as outlined in Section 4.3, draw on those of a critical theorist, in that it '*identify[ed] ways in which material conditions (economic, political, gender, ethics) influence beliefs, behaviour and experiences*' (Ritchie *et al*., 2013, p19). Furthermore

> '*most qualitative research is associated with an alternative interpretivist paradigm. This argues that we need to understand people's interpretations of the world, and that research should attempt to understand the meaning and significance of the world from the perspective of those who live in it*' (Pope and May, 2020, p20)

As a consequence, the questions developed for the focus groups, interviews and survey questionnaires were used to provide an understanding of these "material conditions" and how they impact on the behaviour of the actors. This was felt to be of particular importance given the significance of the current economy and labour market situation, and current government and local policy. Furthermore, from an ontological position, it should be noted that with regard

to the perceptions of a social reality, a stance of material realism was adopted. The research as a consequence was '*based on the idea that there is an external reality which exists independent of people's beliefs about or understanding of* it' (Ritchie *et al.*, 2013, p5). Thus, the qualitative data collection methods used and the actors to be investigated had to be developed and identified with an awareness that '*there are physical and economic structures existing independently of the individual that constitute and organise the social world, and which place limits on individual agency' (Pope and May, 2020, p16).*

To encourage and enable where possible, the triangulation of the findings, several data collection and analysis techniques were adopted. From an econometric perspective, the research incorporated data from the LFS during the period 2004-2019. The purpose of the modelling process was to explore the factors that influence an individual's decision to initially enter and participate within the nursing labour market, and then to supply a positive number of hours. In tandem, a variety of qualitative data collection methods were employed to explore this decision-making process further. These included survey questionnaires, focus group and face-to-face interviews. The West Midlands region was selected to provide a platform illustrative of both a local and national labour market context, to access a variety of actors, including recent graduate nurses, nurses currently employed and management. Therefore, as identified in above, the econometric analysis provided a macro level perspective for England as a whole, and the qualitative analysis provided a more meta/micro level perspective.

Within the field of nursing research more generally (Chapter 2), several qualitative approaches were considered. The underlying scientific reasoning is one of abductive logic/analysis (Pope and May, 2020). Thematic analysis was used to analyse the qualitative data collected, to enable the analysis of common and contrasting perspectives and underlying themes (*ibid*). In all instances, this approach was driven by the data that were collected, allowing concepts to emerge that are grounded within the text (closely associated with abductive analysis), as opposed to imposing any *a priori* assumptions that could ultimately distort understanding (*ibid*). Thematic analysis was thus the foundation to support and operationalise the use of grounded theory for the purposes of the qualitative data analysis *(ibid)*.

There continues to be debate on the boundaries that differentiate thematic analysis and content analysis. However, for the purposes of this research, the aim of the analysis was to identify themes and patterns within the data (thematic analysis), as opposed to exploring the discourse surrounding different trends (content analysis) (*ibid*, p340). The process of thematic analysis for the research purposes outlined below, was to review the transcripts from each of the qualitative data collection methods to identify any patterns or themes among a variety of occupational and labour supply choice-based avenues.

As identified in Sections 2.3 and 2.4, there is a relative paucity of up-to-date econometric analysis that is combined with qualitative research to explore the participation decision to enter and engage with the nursing labour market. There is a need to accommodate multifaceted and dynamic motivational factors that influence this decision-making behaviour. Many of these factors are difficult to quantify econometrically, and are best collected and reflect upon through qualitative data collection methods. There is conflict within this area of research to develop models that are statistically testable, but that also are representative and informed by the study population. The data used to give effect to a mixed methods approach in this research are outlined below, in Table 4.2.

Table 4.2: Research methods to be employed

Data collection	Target participants	Sample size	Research questions addressed
Student questionnaire[34]	Recent nursing graduates from a variety of university nursing schools within the West Midlands[35]	n=76 : 96% response rate 3 Cohorts, with a total of 76 recently graduated nursing students enrolled on the 'newly qualified' training programmes for the year 2015-2016	1 - What factors influence an individual to choose to study nursing at degree level? 2 - What factors influence an individual to remain on the degree programme until graduation? 3 - What are the determining factors that drive the participation decision of an individual to supply their labour to the nursing labour market in England once qualified?
Employee questionnaire[36]	*Individual nurses* from the West Midlands (both pre-and post-*Project 2000*)	n=127 : 42% response rate Responses reflecting a variety of specialisms at UHCW, Warwick Hospital & QEH, GEH	1 - What are the determining factors that drive the participation decision of an individual to supply their labour to the nursing labour market in England once qualified? 2 -What are the determining factors that drive an individual to choose to leave their current position/the nursing labour market in England? i.e. What drives nursing turnover?
Employee focus groups	*Individual nurses* from the West Midlands (both pre-and post-*Project 2000*)	Focus group 1: 19 participants Focus group 2: 5 participants Focus group 3: 3 participants Inclusive of full time and part time practice nurses, across a variety of specialism's at UHCW & GEH[37]	1-What factors influence an individual to choose to study nursing at degree level? 2- What factors influence an individual to remain on the degree programme until graduation? 3- What are the determining factors that drive the participation decision of an individual to supply their labour to the nursing labour market in England once qualified? 4- What are the determining factors that drive an individual to choose to leave their current position/the nursing labour market in England? i.e. What drives nursing turnover? 5- What do nurses within the identified care settings perceive to be the causes of labour turnover? 6- What implications do the factors that drive turnover and retention have for helping to address labour shortages?
Management interviews	*Nursing ward managers and chief nursing officers* from the West Midlands (both pre-and post-*Project 2000*)	n = 3 Responses reflecting a variety of practice areas/care disciplines, at UHCW & GEH	1- What are the determining factors that drive the participation decision of an individual to supply their labour to the nursing labour market in England once qualified? 2- What are the determining factors that drive an individual to choose to leave their current position/the nursing labour market in England? i.e. What drives nursing turnover? 3- What do nurses within the identified care settings perceive to be the causes of labour turnover? 4 -What implications do the factors that drive turnover and retention have for helping to address labour shortages?
Econometric Analysis of Secondary Data	LFS: Pre-*Project 2000* cohort and Post *Project 2000* cohort	Dataset period: 2004-2019 Sample size: 7,473	1- What are the determining factors that drive the participation decision of an individual to supply their labour to the nursing labour market in England once qualified?

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[34] A copy of the student questionnaire, focus group agenda and interview agenda are available in appendix A.4.2, A.4.3 and A.4.4.

[35] The analysis aimed to explore initially the transition of graduates before they had elected to enter the nursing labour market in England and/or join the "newly qualified" training programme, as well as to provide a further avenue to explore the occupational choice decision and their perceptions. However full access was only granted to sample those individuals who had recently secured a job role within the NHS. See section 4.3 for further explanation.

[36] Gray, Wilde and Shutes (2018).

[37] See section 4.3.2 for the impact of the fluctuating sample sizes on the analysis.

The samples from the surveys, focus groups and interviews are rather different from the econometric samples. The qualitative findings include those individuals who have recently qualified, or are employed and working as nurses at a point-in-time. The econometric analysis on the other hand, relates to all workers with a nursing qualification, over a 15 year period between 2004-2019. It is consequently recognised that the ability to enhance directly the econometric modelling attempts through integrating insights from the qualitative data analysis is inherently limited, and this therefore does restrict the ability to triangulate the research findings. One way the research has tried to address this complexity is to focus only on the nursing labour market in England for the data samples. The approval of the data collection access granted by the NHS meant that only participants who worked within NHS England (and hence subject to a particular institutional and policy framework) could be used for qualitative data collection. Thus, in order to align, where possible the datasets, England was also the primary focus for the econometric analysis.

4.2 Econometric Modelling Techniques

The aim of the econometric analysis was to explore the key determinants of and characteristics that motivate the participation decision of individuals in the nursing labour market once qualified. Currently, there is a relative paucity of econometric research identifying the factors that are significant in the decision-making behaviour of those holding a nursing-related qualification in England, namely, the factors that influence their willingness to participate in the nursing labour market, and the number of hours they are willing to work.

The aim of the econometric research was to test the significance of a labour supply model for an individual nurse, using LFS data (LFS 2004-2019). The analysis explores the factors that influence an individual's participation choice in the nursing labour market within England, both with regard to positively or negatively affecting the hours of work supplied. As identified in Section 2.3, there is a paucity of literature that explores the decision-making behaviour of nursing actors of different marital status, and the impact this may have on the stochastic modelling process.

4.2.1 Econometric model specification

Within the literature there is an extensive discussion on how nursing labour supply can be modelled, both in terms of model specification and the variables to be tested, as explored in

Chapter 2's appendix. This research adopted a Heckit (or Heckman) two-stage procedure[38], which is aimed at overcoming the issues of sample selection i.e., truncation of the sample. This specification builds on previous research by Rice (2005), Skåtun *et al.*, (2005), and more recently Hanel, Kalb and Scott (2014), as outlined Section 2.3.

The procedure considers a key caveat of modelling within this field, namely that the supplied hours of work can only be observed for those individuals who have already taken the decision to participate in the labour market i.e., a self-selected sample, which consequently causes the data to be truncated, illustrated as follows:

$$H = \beta X + u \quad if \ w > w_r \quad (1a)$$

$$H = 0 \quad\quad otherwise \quad (1b)$$

Skåtun, Antonazzo, Scott and Elliott (2005, p58)

where H denotes the actual hours worked that are observed, which are influenced by the vector X which denotes characteristics specific to the given individual (for example, their wage and non-labour income which may include, if they are married, their partner's income if they are a wage earner, and the composition of the household they belong to). The variable w denotes the wage rate and w_r denotes the individual's reservation wage. Thus, the individual's hours are observed if the wage they command is greater than their reservation wage and 0 otherwise.

The individual's decision to work and participate in the labour market and thus select themselves into the observed sample, is determined by the comparison between the market wage offered to the individual and their reservation wage. This reservation wage represents the wage that is required to entice the individual into the labour market. The difference between the two, represented by z^*, and which is only observed by the sign it takes, '*is a function of both the determinants of the market wage and the reservation wage such as education, household composition and non-labour income including partners wage*' (Skåtun *et al.*, 2005, p58). An individual will choose to participate in the labour market, and thus selected themselves into the observed sample, if the wage they command is greater than their reservation wage i.e. $w > w_r$ and $z^* > 0$.

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[38] The Heckman correction model, referred herein as the Heckit two-stage procedure, was introduced by James Heckman as a method to correct for sample selection. For further discussions on the econometric approach, and the two-step procedure please refer to Greene (2011), and Heckman (1976).

This mechanism of selection can be represented as follows:

$$z^* = \gamma W + u \quad u \sim N(0,1)$$

$$z = 1 \quad if \ z^* > 0$$

$$z = 0 \quad if \ z^* \leq 0$$

With Prob(z =1) = Prob $(wage_{market} > wage_{reservation}) = \Phi(\gamma W)$ (2)

Skåtun, Antonazzo, Scott and Elliott (2005, p58)

This mechanism illustrates a basic probit type model, in which the dependent variable can either take a value of 0 or 1, where 1 in this instance identifies that the individual participates, and 0 identifies that the individual has chosen otherwise. The hours supplied by an individual can be represented as follows:

$$H = \beta X + \varepsilon \quad \text{observed if z==1}$$

With $(\varepsilon, u) \sim$ bivariate normal $(0,0,1,\sigma_\varepsilon, \rho)$ (3)

Skåtun, Antonazzo, Scott and Elliott (2005, p59)

'*with the sample-selection-corrected model having the following expectation*':

$$E(H|z = 1) = \beta X + \rho \sigma_\varepsilon \lambda(\gamma W)$$ (4)

Skåtun, Antonazzo, Scott and Elliott (2005, p59)

This functional form thus compensates for the sample truncation, allowing the analysis to explore the labour supply decision for both individuals working as nurses and those who are not. To estimate this model, a probit model (sourced from equation 2) based on the entire random sample of individuals (workers and non-workers) needs to be estimated, from which an inverse Mills ratio (λ) for each individual is calculated. This inverse Mills ratio is included to correct for the identified sample selection (sample truncation).

The inverse Mills ratio for each individual is thus calculated as follows:

$$\widehat{\lambda_i} = \frac{\phi(\hat{\gamma} W_i)}{\Phi(\hat{\gamma} W_i)}$$ (5)

Skåtun, Antonazzo, Scott and Elliott (2005, p59)

The selection regressor (λ) once computed, is then incorporated into the functional form which depicts the hours of work decision for those individuals in the sub-sample that have opted to

supply a positive number of working hours to the labour market. The model assumes that the individual has already taken the decision to positively participate in the labour market in England, either employed within or outside of the nursing labour market, and thus do supply a positive number of hours. The factors identified as being influential in nursing labour supply decision process, and which therefore drive the modelling specification are identified in Table 4.3 below:

Table 4.3: Model specification – Variables to be tested

Research questions	Variables included
What are the determining factors that drive the participation decision of an individual to supply their labour to the nursing labour market in England once qualified?	Age
	Ethnic origin
	Gender
	Native/non-native
	Number of dependent children under 16 years
	Geographical location
	Qualification – Vocational and/or degree
	Potential experience
	Partner's age
	Partner's economic activity
	Partner's income
	Partner's actual hours worked
	Hourly wage (logged)
	Year

The specification of the model, and variables identified above that influence the individual's decision-making process, will not only be statistically tested, but also explored, where, possible through qualitative means. A variety of qualitative factors cannot be quantified, and thus lack representation when econometrically testing the specification of the labour supply model.

4.2.2 Data used for the Econometric Analysis

LFS data for England from the years 2004-2019 is used as the core dataset for the econometric analysis. The rationale for the selection of this 15-year period is to ensure the data set captured those individuals who joined the profession pre-*Project 2000,* in addition to capturing those individuals transitioning through post-*Project 2000*. Therefore, 2004 represents a significant year with regard to fully capturing the impact on the nursing labour market as a result of *Project 2000*, but also allowing for the inclusion of those individuals who trained pre-*Project 2000*. In addition, a 15-year time frame provides a suitably large data set to capture significant policy and labour market changes that may impact on an individual's labour supply decision, providing a model more representative of exogenous influence.

The format of the survey is such that '*each household is interviewed five times at three monthly intervals. In every quarter 20% of the sample is new (who have their first interview) and 20% of the sample have their last interview*' (Skåtun *et al.*, *ibid,* p59). For the purposes of this research, the data from the first wave of each quarter is used to overcome the challenges with the data set and individual participation: firstly, due to the occurrence of individual households choosing to withdraw from the survey after the first few stages of interview; and secondly due to diminishing returns, individuals potentially pay less attention to accurately filling out the surveys the more times they participate. In each instance therefore, it can be deduced that there is a significantly high probability that the first wave includes more observations for each of the questions asked (ONS, 2017). There are however caveats associated with the use of such LFS data, namely the level of response rate and representativeness, as discussed further in Section 4.2.3 below.

4.2.3 Caveats on the use of the LFS data set

The LFS, as a dataset, has been heavily criticised for its level of representativeness due to declining response rates (Office for Statistics Regulation, 2017). For the third quarter of 2019 '*the total response rate for Great Britain excluding imputed cases was 38.6% [...] down 0.5percentage points on the previous quarter*' (ONS, 2019).

A common approach used '*to compensate for unit nonresponse is reweightings*' (Nguyen and Zhang, 2020). The LFS uses calibration weighting, '*formed using a population weighting procedure that involves weighting data to sub-regional population estimates and then adjusting for the estimated age and sex composition by region*' (ONS, 2015). However, it is worthy of note that with the majority of population-based surveys there is always a margin of uncertainty with the level of accuracy, representativeness and quality of the data (*ibid*). With the LFS

> '*the main threats to the accuracy of the data are sampling error and non-sampling error, where non-sampling error includes: coverage error, non-response error, measurement error and processing error […] many of the sources of non-sampling error are difficult to measure*' (*ibid*).

The LFS Performance and Quality Mentoring Report (PQM) does however attempt to address such issues of validity and accuracy by detailing the response rates for all waves of the published survey (*ibid*), and aims to '*provide estimates of population characteristics rather than exact measures*' (*ibid*). It is thus '*expected that in 95% of samples the range would contain the true value*' (*ibid*).

Another drawback of the LFS is the use of proxy responses. One third of the overall LFS responses are collected by proxy variables, which further compounds the issue of representativeness, and also introduces potential measurement error. The ONS (2019) report that for the third quarter of the LFS,

> '*the overall proxy response rate was 33.6%; the highest proxy response rates occur[ed] in the 16 to 17 years age group (89%), in males (39%) and in the non-white ethnicity group (41.8%)*' (ONS, 2019).

Such proxy response rates however, are also higher for those individuals who work irregular hours, typically associated with shift workers like nurses and doctors, and in the reporting of a partner's characteristics[39] i.e., in those areas that are more subjective (Ma *et al*., 2006). Measurement errors can also occur in the reporting of an individual's income and earnings, which again is also subjective (*ibid)*. Such caveats, however, are not just common to the LFS (ONS, 2015), and the ONS (2015) identify that the LFS provides '*good quality point in time and change estimates for various labour market outputs and related topics*'

Despite the inherent caveats above however, the LFS continues to be the primary source in the UK for labour market data, attributable to its overall size and scale (Office for Statistics Regulation, 2017), and continues to be the largest dataset collected from household surveys (ONS, 2019). The Office for Statistics Regulation (2017) stress, that

> '*the main headline estimates remain sufficiently robust, despite falling response, to continue to meet the highest standards of quality required of National Statistics'*.

Other UK based household datasets that are available and were considered for the purposes of this research include the UK Household Longitudinal Study (UKHLS) and the British Household Panel Survey (BHPS)[40]. The total response rate for the 9th Wave of the UKHLS for example, was 63.7% (Institute for Social and Economic Research, 2019), with 40,000 households surveyed. With reference to the BHPS and focusing on the specific sample of potential nursing qualified individuals, in wave 3 for example, only 9,583 individuals responded to the question exploring the attainment nursing related qualifications (Institute for

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[39] To investigate the impact such proxy responses could have on the analysis, the modelling process was carried out excluding the proxy responses related to partner characteristics as a trial exercise . It was concluded that the exclusion of proxy responses in this instance, had a minimal impact on the overall conclusions drawn.
[40] Now aggregated with the British Household Panel Survey (BHPS) (Institute for Social and Economic Research, 2019).

Social and Economic Research, 2019). Thus, a trade-off exists between the overall response rate, and the size of the sample in question i.e., nursing qualified respondents.

Consequently, for the purposes of this research, given the size of the dataset and availability of variables from nurse respondents, the LFS was preferred for the purposes of the econometric modelling. The results do, however, need to be considered in light of these inherent caveats, and efforts made where possible to address the implications for the following analysis.

4.2.4 Challenges faced in modelling using the LFS data

Regarding the challenges faced during the modelling process, the capturing of an individual's marital status was complex, both in the reliability of an individual's declaration, and how relationship statuses are categorised. Adopting two broad categories - married/co-habiting and single - will not be representative of all relationship statuses, but it is likely to represent roughly the income situation and decision-making context found in a joint or single unit household, respectively. For the purposes of this research, the two groups were modelled separately. Consequently, those individuals who were married and co-habiting were mapped against their partner within the household, which presented several data mapping issues. The first challenge with such mapping was the declaration of the partner's earnings, which by nature of the data collection is not always reported. For all those individuals who held a nursing related qualification, and who identified themselves as married and co-habiting, a variety of key influential characteristics of their partners were mapped. These characteristics included the overall earnings of the partner and their associated economic activity, the age of the partner, and the actual hours declared to be working by the partner, which are imperative when exploring the household labour supply decision of individuals (Skåtun *et al.*, 2005; Ortiguerira *et al.*, 2013).

The second challenge faced when exploring the data was defining what qualifications were within the remit of a nursing qualification, including pre-and post-*Project 2000*[41] qualification attainments. *Project* 2000 was introduced in 1986 (Section 2.2C), and the last cohorts for the

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[41] The minimum requirement post *Project 2000* for new entrants to the nursing labour force was a degree in a healthcare related discipline, inclusive of midwifery, child and adult nursing, general practice nursing, and health visiting and school nursing (Fulbrook *et al.*, 2000; Ousey, 2011).

Project 2000 curriculum were inducted in 1997-1998 (Fulbrook *et al*., 2000; Ousey, 2011), with full-time students graduating from the curricula in 2001, and part-time students in 2004.

To capture both pre- and post-Project *2000* cohorts, the LFS dataset period from 2004-2019 was used. In addition, to capture those older individuals re-entering the profession, vocational based healthcare qualifications were also included in the modelling process.

With regard to the age of the individual, the sample included those aged 65 years and under. From the qualitative data collection phase, it was noted by nursing managers that typically, many nurses choose to retire between the ages of 55 and 65, with very few remaining within the profession afterwards due to the physical nature and demands of the job (confirmed in Figure A.4.1.1), and the structure of the state pension scheme. It is worthy of note however, that there is a spike in the distribution, with a small number of older nurses re-entering the profession at the age of 68. This spike may be due to

> *'a combination of health and lifestyle advances enabling nurses to continue to work. Other factors may include nurses retaining a sense of vocation and satisfaction from their work, social trends such as having children later in life and economic reasons such as a desire for a better quality of life in retirement'* (Ryan *et al*, 2017, p42).

Generally, however, it can be seen that the largest decline is from the age of 55 for those qualified, and economically active individuals actively engaging with the nursing labour market in England.

4.3 The qualitative methods employed

The focus of the more qualitative analysis was to explore further the key determinants and characteristics that motivate the occupational choice and participation decision of individuals in the nursing labour market in England. The aim was to explore beyond the econometric results to provide a more holistic view of this decision-making process, encompassing, for example, the factors that influence an individual to choose to acquire the necessary training to enter the profession, and the further factors that influence their decision to enter and/or exit the nursing labour market. In addition, it sought to identify what certain stakeholders perceive to be the causes and consequences of the reported labour and skill shortages. In order to explore these different aspects of occupational choice and labour supply, three different qualitative methods are explored, using a criterion-based sampling approach. These were: survey questionnaires; focus groups; and face-to-face interviews. The methods to be employed, the actors involved, and the analytical techniques to be employed are as presented in Table 4.2 above.

4.3.1 Qualitative analysis techniques

The qualitative analysis combines information from surveys, focus groups and interviews, which provide different types of qualitative data. The purpose of using three different data collection methods was to generate confirmatory and/or contrasting results (Harris and Brown, 2010). In principle, a strength of combining surveys, focus groups and interviews is the potential ability to access the larger samples used for the survey as a framework within which to conduct focus groups and interviews, which lead to being able to explore and investigate topics in depth. However, this ideal process cannot necessarily be followed in practice. Moreover, it may not be achievable with all actors of interest where conditions of access and/or resources offer no such neat strategies.

In the present doctoral project, a significant weakness is the alignment of data from these different collection mechanisms (Harris and Brown, 2010). Therefore, where possible, the topics for discussion and questions asked, were developed together and closely aligned to ensure all participants reflected upon the same areas.

Other methods were considered, including the use of one method of qualitative data collection, which for the purposes of this research would have been focus groups. The benefits of using just focus groups across all participants would have helped to address the issues of data alignment, and would have provided further opportunities to explore topics and themes in depth. However, the ethics committee advised and guided which data collection methods they felt would be most appropriate given the research participants and the existing demands placed on them. Therefore, on reflection of the methods that were available, the constraints presented, and the actors that were felt would be beneficial in providing a narrative in answering the research questions identified, the choice was taken to use a combination of surveys, focus groups and interviews.

The study population for the qualitative research is represented by those individuals registered within England who meet the identified sample selection criteria. It focuses on several key practice settings within four key hospitals, and a variety of University Nursing schools within the regional labour market of the West Midlands. This enables creation of a database incorporating a variety of aspects that can be linked to nationally based data. This sampling strategy is purposive/criterion based and is guided by the complexity of the healthcare market, and the need to gain access to actors who can be observed and interviewed in-depth.

It expanded on previously established contacts and networks at: University Hospital Coventry and Warwickshire (UHCW) George Elliot Hospital (GEH), Queen Elizabeth Hospital

Birmingham (QEH) and Warwick Hospital. It addresses participants from this geographical region due to a variety of factors, primarily because such selection allows for the collection of detailed and in-depth data. However, this selection does raise issues of whether such a sample would be representative, as

> *'when we think of "nurses" we have to begin thinking about discrete groups under a broad umbrella, educated and trained differently, with discrete working practices, skills and ideologies and often with different aspirations'* (Hart, 2004, p12).

However, the ability to explore a variety of areas and specialisms exposed to similar internal and external environmental factors arguably encourages a more representative and comparable account.

In addition, to prevent sample truncation, the research does not target a discrete specialism which experience different shortages and financial constraints. It thus provides a more comparable reflection of nursing labour supply under the broader umbrella of the profession. The research placed significant consideration on how to recruit the identified agents to ensure the regional labour market sample is roughly representative, it was made up of bodies of volunteers from individuals at various stages of career progression, and who have been previously contacted through existing networks. Each chosen hospital represents a different employer size with regard to the average number of nursing, midwifery and health visiting staff, as illustrated in Table 4.4. Of course, each geographical area is exposed to different labour market and economic conditions, population and patient compositions, and health authority agendas, but the sample collected does provides a useful platform for comparison and reflection.

Table 4.4: Employee size (2018/19) by hospital - Nursing, midwifery and health visiting staff

Hospital	Total number of nurses employed (average)	Total number of employees (average)
QEH (University Hospitals Birmingham NHS Foundation Trust, 2019)	6,439	19,459
UHCW (University Hospitals Coventry and Warwickshire NHS Trust, 2019)	2,851	8,179
Warwick Hospital (South Warwickshire NHS Foundation Trust, 2019)	1,459	4,382
GEH (George Eliot Hospital NHS Trust, 2019)	711	2,307

With regard to the ethical considerations of the research, access was granted upon request from the NHS, for which a research passport was granted for all hospitals within NHS England, to conduct individual survey questionnaires, focus groups and management interviews. In the process, all the relevant data collection agendas were submitted, and all suggested amendments from the ethic review panels adopted. It was stipulated that all interviews had to be of a maximum of 40 minutes given the time constraints faced by management. The research had to be sympathetic to a variety of aspects including the privacy, confidentiality and anonymity of all actors involved directly or indirectly, the emotional aspects of the questions to be asked and the associated level of intrusiveness, how to ensure both accuracy and truthfulness in both the data collection and presentation, and how to ensure an individual's rights and integrity are protected.

All research methods employed were adapted to local conditions, considering types of participants, the nature of the research and its political, social and cultural contexts. Participants at all stages of data collection were able to express their views in a safe and confidential environment, under Chatham House rules. The participants involved in the research were not classified as vulnerable or minors; informed, voluntary written consent was obtained from all participants, who are anonymous in the research process and had the option to withdraw at any time.

Several obstacles had to be addressed during the various stages of the qualitative data collection with regard to the student and employee survey, the focus groups, individual interviews and thematic analysis. With reference to the student survey[42], a challenge faced was with regard to the distribution and collection of student survey questionnaires from the 2015/16 student cohort at Coventry University. This cohort represented final year degree students who were progressing towards or had recently become newly qualified graduate nurses. Despite previous discussions with the various heads of the nursing school at Coventry University (CU), several obstacles were encountered which, despite extensive negotiation, ultimately could not be surmounted[43].

In view of the above situation, an alternative approach was devised, drawing on previously established links at UHCW to gain access to recently graduated nursing students enrolled on a "newly qualified" training programmes at UHCW. These students originated from a variety of nursing schools within the West-Midlands, including Coventry University and Birmingham University. This sample provided several benefits above and beyond the initial sample explored, as the cohort included students from a variety of nursing schools within the West Midlands region, not just Coventry University, encouraging greater representation. In addition, 76 students actively participated in the survey questionnaire, which was more than double that proposed at Coventry University[44].

With reference to the focus groups, a challenge faced was the organisation of the **focus groups** for a particular date and time. The aim was to give individuals the opportunity to participate

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[42] The National Student Survey (NSS) was considered as a source of secondary data, however it was limited in providing an understanding to, for example, an individual's changing perceptions of 'nursing', the factors that influence labour market entry, and areas of specialism once qualified which were felt to be key areas of investigation for this research.

[43] CU had approved that a student survey could be distributed to the student cohort, and the documentation submitted for review, but then raised various objections. The initial feedback focused on the number of questions the students were being asked due to time constraints, and it was thus agreed that the number of questions would be reduced to 15. These amendments were submitted for further ethical approval but were rejected on the grounds of student fatigue and over exposure to qualitative data collection. The timing of the data collection as a result had to be extensively reviewed, and several data collection points were proposed, at staggered dates throughout the semester. These were once again rejected. The feedback process was time intensive over a period of 12 months. The final submission was lost by CU and required re-submission at a later stage. Several attempts were made to overcome this barrier using a third party mediate from within the school, however each proposal was rejected.

[44] The UHCW ethics committee, on review of the questionnaire requested that question 11 was to remain amended as suggested by the CU in-house ethics committee. It is worthy of note however, that the UHCW ethics committee were happy for the question to be changed to prompt respondents to comment on, if expressed, why they felt their degree programme was not suitable for the job role. However, given the professional links with CU at that time it was felt best to progress with their agreed amendments, and to encourage the students to think retrospectively about their time on the degree programme.

across a variety of wards, to allow for the representation of more than one specialism, while remaining sympathetic to the needs of the ward and care delivery. Consequently, during the proposed period of data collection the number of participants in each focus group fluctuated, mainly as a result of staff shortages in the majority of hospital specialisms. Dates and times were suggested by members of the management structure, as the most suitable at that point in time, given the constraints, to allow several participants to be released in parallel. Consequently, the overall sample size for the focus group data collection stands at 27 participants. As with any organised focus group, with optional participation, the sample is self-selected and, when combined with small numbers, representativeness cannot be achieved.

With reference to the **employee survey,** the response rate also varied, given the challenges faced by those individuals delivering front-line care on an hour-by-hour basis. However, the aim from the outset, was not to provide a sample representative of every agent, but to sample a diverse range of participants to obtain a range of views on a variety of issues related to them (Liamputtong, 2015).

The number of **management interviews** was also restricted, due to the daily demands and challenges within the care settings, which is a significant caveat of this research. However once again, for the purposes of this research the varied roles and management positions of those interviewed allowed for observations to be drawn from the findings, and important generic issues identified (Lichtman, 2014).

As previously identified, thematic analysis was used to analyse all varieties of qualitative data collected, to enable the analysis of common and contrasting perspectives and underlying themes. In all instances, this approach was driven by the data that was collected, allowing concepts to emerge that were grounded within the text (grounded theory), as opposed to any *a priori* benchmarks, which can cause bias and selection truncation.

4.3.2 Caveats regarding the qualitative analysis

There are a variety of weaknesses associated with the ontological and epistemological approaches adopted for the purposes of this research. One strength of the critical theorist paradigm is that it combines both theory and practice together, to provide a reflective representation and give voice to the actors beyond the modelling process. This stance however does rely on a subjective interpretation by the researcher in relation to social values and the norms that govern "material conditions". Furthermore, the desire to *'favour participatory or action research designs that cede control to, or encourage greater input from, research participants' (*May and Pope, 2020, p24*)* can lead to potential bias and confliction of values and perceptions between the researcher and participants. Thus, the pursuit of an objective

reality, and how it defines, for example, the definition of a nurse and their associated roles and how they are influenced needs to be open to different ideological values (*ibid*). An alternative theoretical perspective, at an ontological level, that was considered was constructivism, in which the researcher reflects upon how

> ' *"reality" is socially constructed and focuses attention on research questions about how this 'construction' happens, and who makes and sustains particular versions of reality. This theoretical approach often uses open-ended interviews, sometimes doing multiple interviews with the same people to uncover these versions of reality and their making'* (*ibid, p23*).

The strength to this theoretical perspective is that there is potential to overcome the subjective bias stemming from the view that there is an external reality (critical theorist). It focuses on multiple realities, and thus accommodates for a variety of individual constructs of reality (*ibid*). However, the purpose of the research was not to '*uncover these versions of reality and their making'* (*ibid, p23*), but to identify how "material conditions" impact on a variety of participants, taking into account that an external reality influences such conditions. Thus, every effort was made to be objective in both the development and delivery of the research questions, and the interpretation of the results.

In addition, the fundamental differences in sample does arguably restrict the ability for the results of the qualitative research to inform the econometric research and *vice versa*. However, the purpose of the mixed methods approach was to '*encourag[e] a more reflexive analysis of the data' (*May and Pope, 2020, p217) in order to '*consider how the findings from one method help to explain or illuminate [the other]'* (May and Pope, 2020, p174). Furthermore, by collecting data from individuals at different stages of their labour supply decision, from education to labour market entry, it helped to provide a holistic view to enhance the econometric findings.

The qualitative results were explored using thematic analysis to explore patterns and identify themes to help evaluate existing theory. Thematic analysis was chosen as it enabled the analysis of common and contrasting perspectives (May and Pope, 2020). NVIVO was used to identify underlying and common themes from the qualitative results collected, and generate 10 themes identified in Chapter 6. The emergence of underlying themes, grounded within the data, to give actors a voice was a key aim of the research, as opposed to imposing any *a priori* assumptions that could ultimately distort understanding (*ibid*). Thematic analysis was thus the foundation to support and operationalise the use of grounded theory for the purposes of the qualitative data analysis (*ibid*), and allowed for themes to emerge from within the data.

One key weakness however, with using an emergent strategy to generate such codes was the need to identify the correct categories to suitably analyse and reflect the data. Such inference can lead to both misrepresentation and misinterpretation of a variety of themes; however, the aim of this research was not to identify concrete benchmarks, but to provide flexible themes that reflect a variety of factors that influence both occupational choice and labour supply decisions. It should be noted that these themes must be, in each instance, linkable when categorised together, but also be distinct to one another, and overall, adequate to capture all emerging data where possible up to the point of saturation. To prevent any further bias in the interpretation of the data and associated themes and categories, significant reflection was given to the underlying meanings and potential themes generated from the data collected (grounded within the constructs of a critical paradigm).

Given the drawbacks associated with using thematic analysis for qualitative data analysis, an alternative method of analysis that was considered is the "Framework" approach, which is commonly used in mixed method research (May and Pope, 2020, p123).

The "Framework" approach is typically connected and linked with the econometric analysis, and

> *'is heavily based on the original accounts and observations of the people studied (it is "grounded" and inductive), it starts deductively with the aims and objectives already set for the study [...] slightly more structured from the outset than would be the norm [...] The analytical process is similar to thematic analysis, but tends to be more strongly informed by a priori reasoning and adds a distinctive data summary and display component that aids comparison and explanation between individuals and cases' (ibid, p123).*

Furthermore, a key rationale for using this approach is to explore, in depth, how and why relationships exists between the data and themes identified, and why patterns occur (*ibid*). A key weakness of this approach, however, is the need to establish *a priori* assumptions that could distort understanding, and create bias in both the methods of collection and analysis. In addition, the purpose of this research is not to compare critically individual responses and feedback, but to identify, as a collective, a variety of themes that influence an individual's decision-making.

4.4 Triangulation of the results

The justification for using a mixed method approach was three-fold. Firstly, the qualitative research was used to help inform, where possible, the specification of the labour supply functions. To facilitate this aim the data collection processes were carried out in tandem, with common research questions overlaying the different methods of data collection (Table 4.2).

Secondly, given the complexity of the decision-making behaviour of the individuals to be explored, it was felt to be vital in order to provide depth and understanding, that any potential discrepancies between the econometric model and actors voices be explored. The aim was to allow for, where possible,

> '*complementarity rather than partial agreement [in the methods adopted] […] [to] consider how the findings from one method help to explain or illuminate [the other]*' (May and Pope, 2020, p174).

Thirdly, in order to help provide an understanding of the complex labour supply decision and the influential factors, it was important to allow for, where possible, triangulation of the mixed method findings. Triangulation

> '*may be better seen as a way of making a study more comprehensive, or of encouraging a more reflexive analysis of the data rather than as a pure or simple way of assuring validity […] if multiple methods or independent datasets point towards the same conclusion, the explanation may be considered more plausible*'(May and Pope, 2020, p217).

The themes that emerged from the qualitative findings were consequently used to help provide further depth to the econometric research findings, '*using the concept of "following a thread"*' (*ibid*, p175), and to give a voice to the actors in the econometric sample. It also allowed further exploration, beyond the econometric modelling process, into the importance and magnitude of the factors encompassed within the identified variables/themes.

Triangulation between the research findings was problematic however, namely due to the differences in the data structures. Nonetheless this process of triangulation may be represented schematically as in Figure 4.1.

Figure 4.1 Triangulation of the results
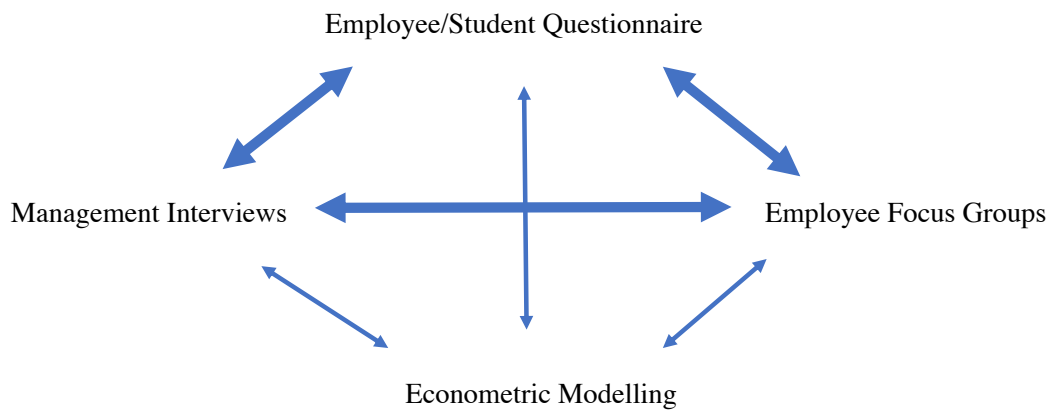
From Figure 4.1 above it can be seen that the multiple qualitative methods, and quantitative method of data collection were used to help explore and evaluate the findings collectively. The results from the surveys, focus groups and interviews were used to inform the econometric findings and *vice versa*. The extent to which each data source informed the other is illustrated by the arrow width, with some links more substantial than others. The justification for exploring the mixed method results collectively was to give a voice to the actors represented in the econometric model, and also, where possible to evaluate the econometric model specification.

4.5 Conclusions

The key aim of the research was to explore the decision-making behaviour of a variety of actors in the nursing labour market in England. In order to achieve this a variety of data sources were used which included analysing existing, secondary data (LFS 2004-2019) and generating new data through surveys, interviews and focus groups. The rationale for this balance was driven by the desire to give the actors a voice beyond that which the LFS could produce. Through the process of triangulation, where possible, the new data were used to enhance and provide a further narrative to the results generated from analysing the secondary data.

In order to access the different nursing actors, at different stages of career progression, two methods of primary data collection were used. The motivations behind the choice to use survey questionnaires and focus groups were two-fold. Firstly, the various barriers and restrictions imposed by the UHCW ethics committees and CU influenced what data collection

methods could be used to access the different participants and when. These included the need to ensure the choice of primary data collection did not conflict with care delivery, and where possible, the method chosen maximised the access several actors. Secondly, the choice reflected the preference for using a mixture of primary data collection methods in light of their strengths and weaknesses.

It is recognised that the ability to enhance the econometric modelling through qualitative data collection is limited. This is due to the inherent difficulties faced in aggregating the samples collected, and the ability to quantify and distinguish a variety of complex factors that influence the decision-making behaviour of different actors in the nursing labour market. The primary samples collected from the surveys, focus groups and interviews provided a basis to understand and explore in greater depth the econometric factors identified as being important, both for an individual's decision to enter the labour market, and the numbers of hours they are willing to provide to the market. In addition, the approach helped to generate a further narrative to reflect upon current labour market conditions.

To explore econometrically the decision-making behaviour of those individuals who hold a nursing related qualification, and have the potential to engage with the nursing labour market in England, a Heckman two-stage procedure was used to analyse the LFS data through STATA (Chapter 5). This method of data analysis enabled the exploration of a variety of factors considered to be statistically important and influential, and helped to overcome the issues of self-selection and sample truncation.

To enhance this analysis further, a mixture of survey questionnaires, focus groups and interviews were used to explore and evaluate in greater depth, through a process of triangulation, those factors perceived to be significant in the decision-making behaviour (Chapter 6). These primary data were analysed using thematic analysis and NVIVO.

Appendix to Chapter 4

A.4.1: Data Source for Econometric analysis

This appendix outlines the main data source used for the econometric analysis, the LFS (2004-2019). It outlines the final sample selected, along with providing a profile of the participants within the sample including their marital status, employment status, qualification status and age distribution. It also addresses how the sample was selected to accommodate for the different marital statuses of the individuals within the final sample.

    i.   **LFS data source**

Within the LFS dataset for England for 2004-2019, 1,402,274 individuals were observed (Table A.4.1.1). This sample size however, was reduced to 945,268 individuals when the head of household and associated partners are selected as the main observation i.e., the remaining observations are deemed to be dependents.

Previous econometric modelling attempts in the UK, more generally, have focused primarily on qualified nurses who identified themselves as married, as discussed in Section 2.3. However, a significant proportion of the qualified nurse labour pool within England identified their relationship status as single. There are 3,417 (25%) individuals within the sample who identify themselves as holding a nursing related qualification and living in a single status household (Table A.4.1.2). This is in comparison to 10,191 (75%) individuals who identify themselves as married or co-habiting, and live in a household in which an individual holds a nursing related qualification.

Table A.4.1.1: Total sample size: LFS 2004-2019

Year	Total LFS sample size	Total number of individuals including head of household and partner only
2004	108,348	72,522
2005	107,579	72,382
2006	103,271	69,262
2007	102,239	68,703
2008	100,136	67,293
2009	95,254	64,159
2010	93,215	62,864
2011	88,824	60,130
2012	86,284	58,282
2013	84,041	57,030
2014	86,842	58,298
2015	82,229	55,499
2016	80,193	54,007
2017	81,073	55,182
2018	82,144	55,650
2019 (Q1)	20,602	14,005
Total	1,402,274	945,268

Source: LFS 2004 – 2019

Table A.4.1.2: Marital status of those individuals who hold a nursing or midwifery qualification

Year	Total number of individuals who are single and who hold a nursing or midwifery qualification	Total number of married or co-habiting individuals in a household who hold a nursing or midwifery qualification (includes non-nursing-qualified spouses)	Sample total
2004	247	743	990
2005	240	779	1,019
2006	240	761	1,001
2007	238	754	992
2008	274	816	1,090
2009	233	720	953
2010	233	731	964
2011	216	649	865
2012	259	707	966
2013	225	691	916
2014	237	653	890
2015	189	540	729
2016	197	498	695
2017	179	539	718
2018	174	499	673
2019 (Q1)	36	111	147
Total	3,417	10,191	13,608

Source: LFS 2004 – 2019

ii. Profile of participants within the sample – Marital and employment status

Within the total sample of individuals who identify themselves as holding a nursing related qualification, 78% are economically active, whilst 22% are either unemployed or economically inactive (Table A.4.1.3). Furthermore, 2,557(19%) individuals are employed, hold a nursing related qualification and are of a single status, versus 860 (6%) individuals who report not being employed or economically inactive in the labour market in England. This is in comparison 7,998 (58%) employed individuals who hold a nursing related qualification and are of a married status, versus 2,193 (17%) individuals who report to be not employed or economically inactive.

Table A.4.1.3 Marital and employment status

	Marital status		
Employment status	Married/ co-habiting	Single	Sample size
Economically active: Employed within the nursing labour market in England	7,526	2,416	9,942
Economically active: Employed outside the nursing labour market in England	472	141	613
Total	*7,998*	*2,557*	*10,555*
Not employed	87	67	154
Economically inactive	2,106	793	2,899
Total Sample	**10,191**	**3,417**	**13,608**
NB: 392 individuals were recorded as working in nursing occupations, but identified as not holding a nursing related qualification Source: LFS 2004-2019			

Regarding the age distribution of those individuals who hold a nursing related qualification (Figure A.4.1.1), and are economically active, 73% are employed within the nursing labour market in England, and the average age of this group is 45 years. The number of individuals in the sample employed within the nursing labour market in England steadily declines between the ages of 50 and 57, then dramatically declines up until the age of 67. This spike could be attributable to re-entrants into the nursing labour market in England, as identified above (Ryan *et al*, 2017, p42). In comparison, those individuals who hold a nursing related qualification, are economically active but employed outside the nursing labour market in England are more

concentrated between the ages of 40 and 60 years. Those individuals who identify themselves as not employed, or are economically inactive increase in number from 55 years and above.

Figure A.4.1.1: Age distribution of qualified nurses

Within the sample five key groups are of interest - both native and non-native born in England. The first group of interest represents those qualified individuals who identify themselves as economically active and employed within the nursing labour market in England. This is in contrast to the second who identify themselves as qualified individuals who are economically active and employed outside the nursing labour market in England. The third group represents those who are economically active within the labour market in England, but are unemployed and seeking employment. The fourth group of interest represents those individuals who identify themselves as economically inactive within the labour market in England. Finally, the fifth group of interest is those individuals who were recorded as working in a nursing related occupation, but do not having a nursing related qualification.

Two main dimensions of the category of modelling interest apply: qualification as a nurse and employment as a nurse. Further dimensions are also relevant, notably, those indicating organisational context: public /private sector and hospital/community/primary care. The ***criteria for qualification*** include those individuals who held a nursing or midwifery related

qualification, across a wide award spectrum, from vocational NVQ to higher education degree including degree and master's level. The introduction of *Project 2000* during the late 1990s required that new recruits to the labour market hold, as a minimum, a nursing related degree. However, given the ageing nature of the nursing labour pool employed pre-*Project 2000*, it is imperative that vocational based nursing related qualifications are included. Management and business-based qualifications are not included within the qualification classification; hospital managers, for example, can execute the role of management without the need for a nursing related qualification as they are not primarily frontline care deliverers. Note that midwifery is included within the benchmark as a nursing related qualification, due to the interdisciplinary nature of the occupation, and the overall discipline transferability.

iii.   Profile of participants within the sample – Qualification status

The criteria for employment as a nurse included a variety of categories, from nursing auxiliaries and assistants to dental nurses, thus encompassing any healthcare job specification that an individual with a nursing related qualification would be qualified and employed to carry out. This also helps to reflect the multifaceted services offered by qualified individuals both internally and externally to a hospital setting. When exploring the overall qualified pool of individuals within the identified sample period, from which labour supply could be drawn, 90% are female and 10% are male (Table A.4.1.4).

Table A.4.1.4: Proportion of individuals who are qualified and their labour market status

	Sample size	Gender split: Male	Gender split: Female	Average age of overall qualified in category
Qualified, but not currently employed within a nurse or midwifery role	4,080 (30% of total sample)	550 (42% of total male sample)	3,530(29% of total female sample)	45
Qualified, and currently employed within a nurse or midwifery role	6,475 (48% of total sample)	529(41% of total male sample)	5,946(48% of total female sample)	48
Qualified, but not currently employed within a labour market	3,053 (22% of total sample)	222 (17% of total male sample)	2,831 (23% of total female sample)	*56*
Total sample	**13,608**	**1,301 (10% of total sample)**	**12,307 (90% of total sample)**	48

Source: LFS 2004 – 2019
Percentages are expressed as a proportion of the column totals

Within the overall sample, 22% of participants identified themselves as holding a nursing related qualification (i.e., are qualified) but not employed, and 30% of participants identified themselves as qualified, but not within a nurse or midwifery role. The remaining 48% of the sample identified themselves as qualified and employed within a nurse or midwifery role in England. In the sample, 41% of male participants identified themselves as qualified, but employed outside of a nurse or midwifery role, in comparison to 42% are employed within the nursing labour market in England. In comparison to their female counterparts, in which most qualified individuals are employed within the market, there is an equal distribution of qualified males employed and not employed within the nursing labour market.

The average age of those individuals currently not employed within the labour market is 56 years of age. This is in comparison to those who are qualified, but not currently employed in the nursing labour market, with an average age of 45 years, and those employed as a nurse or midwife averaging 48 years. This distribution reflects the ageing nature of the nursing labour force, and the opportunity for individuals employed, prior to recent changes, being able to contractually elect to retire early i.e., below the state age of retirement.

With regard to those individuals in the LFS (2004-2019) who are qualified to work within a nursing or midwifery role, but have chosen to not work within the nursing labour market, the majority continue to work within a medical or caring profession. The roles these qualified individuals have chosen to work within include school teachers, police enforcement, and healthcare management. The sample, with reference to Table A.4.1.4 above, consists of 4,080 individuals (30%) who have elected to work within other sectors of the economy. This is in comparison to 3,053 (22%) who are unemployed but remain within the labour market in England, and those who have chosen to temporarily or permanently exit the market altogether and are classed inactive. As previously identified, existing research has focused upon the decision-making behaviour of this 22%, as opposed to the 30% of individuals who represent a more active and mobile form of labour within England.

The changing nature of the profession, and the impact of *Project 2000* have created a graduate market for nurses. However, several participants have utilised vocational based qualifications as a steppingstone onto the university degree programmes, and previously, to enter the profession itself. It is evident, whilst exploring the qualitative findings from the nurse-led focus groups and surveys, that several more mature participants had returned to education to obtain a university degree, to top up their vocational qualifications to enable them to advance within the profession. These participants that are in full-time education are therefore temporarily inactive during their studies. However, a proportion of participants had chosen part-study routes, and thus were studying alongside their full-time job within a healthcare setting. From Table A.4.1.5, 44% of the sample, from the overall qualified pool in England, have both a nursing or midwifery related vocational qualification and degree, which reflects the current nature of the profession, and the ageing demographics of the labour pool. This is in comparison to 43% of the sample, who have obtained just a nursing or midwifery related degree, and typically represents, the more recent recruits to the healthcare market within England. With regard to those individuals who have obtained a nursing or midwifery related vocational qualification (13% of the total sample), this again reflects the changing nature of the profession, the use of vocational qualifications as a gateway, and once again the ageing demographics of the labour pool.

A pivotal finding identified when exploring the participant backgrounds of the nurse-led focus groups, is the number of mature participants who had, and are advancing within the profession with a vocational based qualification. Such individuals, however, hold as a minimum, 30 years of experience working within the care setting, for which the value is recognised. Such participants are also more reluctant to engage with the degree programme, due to impending

retirement. With regard to the gender split, the majority of both genders hold a nursing or midwifery related degree, as expected given the impact of *Project 2000 (*Table A.4.1.6).

Table A.4.1.5: Qualification status of those individuals who hold a nursing or midwifery qualification

	Vocational qualification		
Degree	Do not hold a nursing or midwifery related vocational qualification	Do hold a nursing or midwifery related vocational qualification	Total
Do not hold a nursing or midwifery related degree	0 (0% of total sample)	1,737 (13% of total sample)	1,737
Do hold a nursing or midwifery related degree	5,901 (43% of total sample)	5,970 (44% of total sample)	11,871
Total sample	5,901	7,707	**13,608**

Source: LFS 2004 – 2019
Percentages are expressed as a proportion of the aggregate total sample

Table A.4.1.6: Gender split by qualification status

Qualification gender split			
	Gender		
Qualification status	**Male**	**Female**	**Total**
Hold a minimum of a nursing or midwifery related vocational qualification	175(1% of total sample)	1,562 (12% of total sample)	1,737 (13% of total sample)
Hold a minimum of a nursing or midwifery related degree	660 (5% of total sample)	5,241 (39% of total sample)	5,901 (43% of total sample)
Hold both a nursing or midwifery vocational qualification and degree	466 (3% of total sample)	5,504 (40% of total sample)	5,970 (44% of total sample)
Total	1,301 (10% of total sample)	12,307 (90% of total sample)	13,608

Source: LFS 2004 – 2014
Percentages are expressed as a proportion of the column total

iv.   Final sample selection of single and married groupings

The framework within which the analysis is explored is defined by whether the individual holds a nursing related qualification and identifies themselves as either married/co-habiting or single. This grouping focuses upon those individuals who are economically active and are either employed within or outside the nursing labour market in England. The total sample size (Table A.4.1.3) for analysis is therefore reduced from 10,555 economically active and inactive qualified individuals, to 7,473 qualified and employed individuals (2,537 single and 4,936 married[45]). This sample, as previously identified, is reduced due to the inclusion of those individuals of working age i.e., 65 years and under[46], and is in-line with NHS pension scheme guidance[47] (NHS Business Service Authority, 2020).

Unlike previous modelling attempts, further justification is given for including those qualified individuals who are employed elsewhere within the economy, who are typically omitted if previous methods and selection criteria are utilised. The following analysis does omit 22% (3,053 individuals) of the total sample who are classified as economically inactive or economically active but unemployed. However relatively, such individuals are less likely, from a policy perspective, to represent an active pool of qualified labour for short-term remedy, given their potential labour market detachment. The sample size when modelling the labour supply decision of single nurses is given as 2,537 observations, which contrasts with the 4,936 observations for those individuals who identified themselves as married or co-habiting. This sample size however, contrasts with previous modelling attempts by Skåtun *et al.*, (2005) who based their analysis on 3,493 observations. It is also worthy of note however, that previous modelling attempts have elected to restrict the sample to married individuals only, thus if the number of observations are compared to such previous studies, this provides a comparatively good-sized sample. Within this sample, 36% of individuals do not have any dependents under the age of 16, and most respondents are native born.

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[45] Prior to the modelling process of married nurses, the sample size is given as 7,998 observations. This is due to missing responses for the partner's economic characteristics.
[46] It is aware however, that this pool of retired, nursing qualified individuals, may be an important source in the future for helping to address the current labour market imbalances
[47] Currently, NHS employed individuals are eligible to apply for early retirement with an actuarially reduced pension from the age of 55, and from the age of 65 for the normal NHS pension (NHS Business Service Authority, 2020).

A.4.2: Questionnaire Distributed[48]

Firstly, many thanks for agreeing to take part in this questionnaire[49]. Using this structured questionnaire, I will be investigating a student's occupational choice on a range of nursing degree programmes. The role of the questionnaire is to gain some basic information and understanding about you. ***Please circle the response, where required, that applies to you, and provide any further detail where promoted***.

Basic Information

1. **Please state the course you are currently enrolled on and stage (year) of study:**
   - Course title:

   - Year of study:

2. **Age**
   a) 18-22   b) 23-27   c) 28-32   d) 33-37   e) 38-45   f) 46+   g) Do not wish to answer

3. **Gender - Please circle one of the following:**
   a) Female   b) Male   c) Do not wish to answer

4. **Nationality - Please circle one of the following:**
   a) British   b) Other European Union Citizen   c) Other (please specify)
   d) Do not wish to answer

5. **Marital Status - Please circle one of the following:**

   a) Single   b) Married   c) Divorced   d) Widowed   e) Civil partnership
   f) Do not wish to answer

6. **NHS Employed - Please circle one or both of the following:**

   a) Yes   b) No

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[48] Complete copies of the survey, focus group and interview agendas, along with participant information sheets and consent forms are available upon request.

7. What was your profession before you joined the CU nursing programme? - Please circle one of the following, and where promoted provide further clarification:

a) Student

b) Employed (*if employed prior to joining the programme please state which profession you were employed in, and your assigned job role*)

c) Do not wish to answer

<u>Degree Programme</u>

8. **What factors influenced you in selecting to study a nursing related degree/diploma? (Select as many as you like)**

a) Challenging work environment

h) A desire to remain within Higher Education

b) A desire to help and care for people

i) Did not meet the entry requirements to become a doctor

c) Previous experience of caring for others or being cared for

j) Potential to work in a team

d) Pay

k) Flexibility due to childcare/family commitments

e) Flexibility with working hours

l) Potential for career progression once graduated

f) Government funded/subsidised course[50]

m) Variety

g) A desire to work within the field of medicine

n) Other

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[50] The questionnaire was distributed prior to the removal of any student funding/bursary provided by the UK Government.

For the following questions (9 - 12) please use the scale of 1: "I totally disagree" to 5: "I totally agree"

      1 - Totally disagree

      2 - Disagree

      3 - Neither agree or disagree

      4 - Agree

      5 - Totally agree

9. **Have your perceptions of 'nursing' changed since you joined your programme of study? - Please circle one of the following, and where promoted provide further clarification:**

   a) 1   b) 2   c) 3   d) 4 **   e) 5 **   f) Do not wish to answer

   If you have answered d or e please explain why:

10. **Have your perceptions of becoming a 'nurse' changed since you joined your programme of study? - Please circle one of the following, and where promoted provide further clarification:**

    a) 1   b) 2   c) 3   d) 4 **   e) 5 **   f) Do not wish to answer

    If you have answered d or e please explain how:

11. **In general, how well do you feel the nursing degree/diploma equips you to become a 'nurse'? Please circle one of the following, and where promoted provide further clarification:**

    a) 1   b) 2   c) 3   d) 4 **   e) 5 **   f) Do not wish to answer

    If you have answered d or e please explain why:

12. Do you plan on using your nursing related degree/diploma to enter the nursing workforce to become a registered nurse once graduated? - Please circle one of the following[51]

a) 1**   b) 2**   c) 3   d) 4**   e) 5**   f) Do not wish to answer

***If you have answered a or b above, please_ identify what other profession you plan to join once graduated, and continue onto question 14):*

13. What factors have and will influence your decision to <u>enter the workforce as a registered nurse</u> once you have qualified?

a)	Availability of jobs within the nursing labour market	k)	Flexibility with working hours
b)	Availability of jobs within the wider labour market	l)	Potential for and availability of further education once graduated i.e. government funded/subsidised course
c)	The desire to use and apply your nursing related degree/diploma	m)	Opportunities available for career progression
d)	The need to find work in order to financially support yourself and/or dependents	n)	Variety
e)	The availability of jobs overseas	o)	A desire to work within the field of medicine
f)	The desire to work within a challenging environment	p)	A desire to remain within Higher Education
g)	A desire to help and care for people	q)	Potential to work in a team
h)	Previous experience of caring for others or being cared for	r)	Flexibility due to childcare/family commitments
i)	Pay	s)	Other (please state)
j)	Flexibility with working hours	t)	Do not wish to answer

---

[51] The questionnaire was written with a view to distribute to nursing students on a nursing degree programme. However, as identified in section 4.3, a variety of barriers meant that the questionnaire was distributed to graduate nurses enrolled on a variety of "newly qualified" training programmes. The UHCW ethics committee however, requested that the questionnaire approved by the CU ethics committee be distributed, thus relying on the individuals to *retrospectively look back on their transition from student to graduate*.

14. Which area(s) of nursing, given your current experience, would you like to go into?

a) A & E

b) Anaesthetics

c) Cardiology

d) Cancer Services

e) Critical care/Intensive Care

f) Day Surgery

g) Dermatology

h) Diabetics and endocrinology

i) Diagnostic Imaging (X-Ray)

j) Discharge

k) Ear, Nose & Throat (ENT)

l) Elderly services/medicine

m) Gastroenterology

n) General surgery/medicine

o) Gynaecology

p) Haematology

q) Maternity

r) Microbiology

s) Neonatal Unit

t) Nephrology

u) Neurophysiology

v) Neuropsychology

w) Nutrition & dietetics

x) Occupational therapy/health

y) Oncology

z) Ophthalmology

aa) Operating theatre

bb) Orthopaedics

cc) Outpatients

dd) Paediatrics

ee) Pathology

ff) Radiotherapy

gg) Renal Unity

hh) Respiratory

ii) Rheumatology

jj) Trauma & orthopaedics

kk) Genitourinary (HIV/GUM)

ll) Urology

mm) Paediatrics

nn) Obstetrics & Gynaecology

oo) Other

pp) Do not wish to answer

15. What are your current perceptions of the nursing labour market you will be graduating into?

a) A market prone to labour shortages

b) Volatile

c) Over-stretched

d) Under resourced

e) Prosperous[52]

f) Job stability

g) Good financial remuneration

h) Plentiful opportunities for promotion/career advancement

i) Flexible

j) Do not wish to answer

A.4.3: Interview Questions

1. What is your perception of the UK[53] nursing labour market currently?
   - Do you perceive there to be a nursing labour shortage or an inefficient allocation of resources within the NHS and why?

2. What do you perceive to be the factors that drive the reportedly high labour turnover of nurses within the NHS/profession?
   - What do you perceive to be the consequent implications of these driving factors in addressing the current labour imbalances?

3. What would your suggestions/recommendations be to help improve the current situation within the NHS, and the nursing labour market more generally?

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[52] The CU Ethics committee requested that the answers made available for question 15 did not completely focus on the potential negative aspects of the nursing labour market, and suggested that reflections be encouraged on how the labour market could/can be 'prosperous' for nurses.
[53] The management interviews were used as a mechanism to also reflect upon the nursing labour market in the UK more generally. The interviewees in their careers had worked in a diverse range of management positions in a variety hospitals within England, and within the wider UK. Thus, in comparison to those participants engaging in the focus groups and survey questionnaires, their perspective on the issues on a UK level was felt to be important in providing a macro perspective. In addition, their experience of managing and implementing both local and UK national policy lent itself to a wider reflection on the UK nursing labour market.

A.4.4: Focus Group Questions

Area of focus: Occupational choice

1. What factors influenced your decision to enter the workforce as a registered nurse? i.e., why did you elect to train and obtain a job as a nurse? i.e., why did you want to train as a nurse?
2. Have your perceptions of 'nursing' and becoming a 'nurse' changed since you joined the profession?
3. What factors would influence your decision to leave the profession within the next 12 months, and why?
4. Has there been any instances where you have previously chosen to leave a position for an alternative job role elsewhere within the NHS? If so, why?
5. Has there been any instances where you have previously chosen to leave the nursing profession? If so what alternative professions have you worked in, and why?

Area of focus: Participation decision/labour supply

1. What factors influence both your working patterns and overall hours of work decision?
2. What factors acts a barrier to your working day/working practice?
3. Do you perceive there to be a nursing labour shortage within England?
   - If so, what do you believe to be the causes of the reported high labour turnover? and what implications do you think these will have for helping to address the problem?
   - What do you believe would alleviate such situation? i.e., how could the government/local bodies attract nurses back in the profession? /retain nurses within the profession?
4. Overall, would you say you were satisfied with your current participation decision within the labour market?
   - If yes, why?
   - If no, why not?

Chapter 5: Modelling Supply Econometrically

5.0 Introduction

This chapter explores the way in which nursing labour supply can be modelled econometrically using data from the LFS between 2004 and 2019. The analysis adopts a Heckman two-step procedure, exploring a variety of variables identified as being influential in the labour supply decision-making behaviour of a nurse, both married/co-habiting and single. The key objective is to explore the factors that influence the engagement with and hours of work decision in the nursing labour market once qualified. The results are explored, in tandem, with those factors found to be qualitatively significant in both the participation and hours of work decision in Chapter 6.

The chapter begins in Section 5.1 by focusing on the specification of the econometric model and the variables included. The LFS data used have already been described in Chapter 4 and their strengths and weaknesses are explored in further depth in the Appendix to that chapter. Section 5.2 presents the research findings, and the implications these have for understanding both the participation choice and hours of work decision for both single and married/co-habiting nurses of working age. Finally, Section 5.3 concludes.

5.1 Model Specification and Technical Complexities

5.1.1 Econometric model specification considerations

The econometric analysis focuses on two aspects of the supply decision:

- Participation in the labour market for qualified nurses;
- Hours offered in that labour market.

The model is estimated using data from the Labour Force Survey (LFS) which constrains the choice of variables, including the independent variables that can be deployed.

The foundations of the model specification, including the choice of independent variables, are grounded within the literature discussed in Chapter 2. Many factors influence the dependent variables that look to explore an individual's participation and hours of work decision (Benham, 1970; Link and Settle, 1985; Skåtun *et al*., 2005; Hanel *et al*., 2014; Condliffe *et al*., 2019). A key issue is marital status. Blundell *et al*., (1999), Skåtun *et al.,* (2005), and Condliffe *et al*., (2019) emphasise the importance of an individual's marital status, and the consequent influence a partner's employment status has on the overall household decision-making behaviour of an individual, in contrast to the decision-making of a single status

individual. *'It would therefore be inappropriate to model both single and married nurses in a combined sample with only a dummy variable to separate them'* (Skåtun *et al*., 2005, p59). This is the approach adopted here, with the labour supply of single and married nurses being analysed separately. Within the sample, fewer than 1% identify themselves as being married to someone of the same gender. Given the sample size, such individuals are not the focus of the present research.[54]

The factors identified as being influential in nursing labour supply decision process, and which therefore drive the following modelling specification, are identified in Table 5.1.

Table 5.1: Variables to be statistically tested

Research question	Variables name
What are the determining factors that affect the participation decision of a qualified nurse to supply their labour to the nursing labour market in England?	Age
	Ethnic origin
	Gender
	Native/non-native
	Number of dependent children under 16 years
	Geographical location
	Qualification – Vocational and/or degree
	Experience
	Partner's age
	Partner's economic activity
	Partner's income
	Partner's actual hours worked
	Hourly wage
	Year

Source: LFS 2004 - 2019

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[54] A further potential area for reflection when modelling such an occupation is the boundaries between public sector healthcare employment, and private sector healthcare employment (as identified in chapter 3). From the qualitative survey findings presented in chapter 6, it is clear that several qualified nurses are employed within both sectors. Recent NHS budgetary cuts have led to a reduction in overtime payments, with many nurses working many hours of unpaid overtime (NHS Survey Coordination Centre, 2019). Consequently, several participants chose to work overtime either contracted to the NHS hospital bank, or to private healthcare providers, to either increase their income, or to ensure more flexible working arrangements (NHS England, 2017). Marangozov *et al*., (2017, p50) note that within the UK nursing labour market in 2017 for example, 23% of nursing staff had an additional job as a result of financial struggles and hardship. Around 53% were working as bank nurses, 34% were working additional hours in their primary job, and 30% were working as agency nurses (*ibid*). Therefore, due to the blurring of sector boundaries, and opportunity for reporting error, no explicit distinction is made in the modelling process.

The above variables are incorporated into both the participation decision and hours of work decision models, as illustrated in equations 1 and 2. These specifications build on previous research by Rice (2005), Skåtun *et al*., (2005), and more recently Hanel *et al*., (2014) and Condliffe *et al*., (2019).

1. Participation choice:

$$S^*{}_i = X_{2i}\eta + Z_{2i}\lambda + v_i \qquad i = 1,2\ldots, N \qquad (i)$$

where

$$H_i = H^*{}_i, \ S_i = 1 \quad if \quad S^*{}_i > 0$$

$$H_i \ is \ not \ observed, \ S_i = 0 \quad if \quad S^*{}_i \leq 0$$

$H^*{}_i$ = qualified nurse's observed usual monthly hours of work whether as a nurse or not

S_i = indicates whether the individual is working as a nurse (or midwife) ($S_i = 1$) or not working as a nurse ($S_i = 0$)

X_{2i}, Z_{2i} = vectors of time varying and time invariant regressors

2. Hours of work decision:

$$H^*{}_i = \ln(W_i)\delta + X_{1i}\beta + Z_{1i}\gamma + \mu_i + \epsilon_i \quad i = 1,2\ldots, N \quad (ii)$$

$i = individual$

$H_i = Hours \ of \ labour \ supplied \ by \ qualified \ nurse \ i \ (monthly \ hours)$ whether working as a nurse or not

$\ln(W_i)$ = log of hourly wages

X_{1i} = vector of time varying regressors (including income from other sources if married or cohabiting)

Z_{1i} = vector of time invariant regressors

ϵ_i = Idiosyncratic error

δ, β, γ = dimensioned vectors of parameters associated with the regressors

(Skåtun *et al*., 2005)

The decision of the individual, reflecting whether or not they utilise their training and enter the nursing labour market in England and work as a nurse, is outlined in equation 1.[55] The

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[55] The alternative would be that the nursing qualified individual is employed outside of the nursing labour market i.e., in an alternative labour market/the labour market more generally, as discussed in Chapter 4, section A.4.1.

specification indicates whether or not the individual, who holds as a minimum a nursing-based qualification, is currently working as a nurse or midwife in the labour market in England. The factors that drive this participation decision include both time varying and time invariant variables, as outlined in Table 5.1. These variables influence an individual's decision to actively participate in the nursing labour market, and thus choose to adopt nursing as their main occupation.

For the purposes of the modelling process, as discussed in Section A.4.1.ii, the analysis models nursing labour as a fraction of the labour force who are economically active and employed. An alternative approach would have been to either model nursing labour as a fraction of the total population or the overall labour force as a fraction of the total population.

As previously identified, existing research has focused upon the decision-making behaviour of those nursing qualified individuals who are unemployed but remain within the labour market in England, and those who have chosen to temporarily or permanently exit the market altogether and are classed inactive (which represent 22% of this sample). However, within the sample, 30% of nursing qualified individuals have elected to work within other sectors of the economy, and represents an active and mobile form of labour. Consequently, the sample was selected to include the latter as opposed to the former.

If an individual chooses to actively participate in the nursing labour market in England as a nurse, the numbers of hours they work within a given month will be observed, which is outlined in equation 2. This specification assumes that the individual has already taken the decision to positively participate in the labour market in England, either employed within or outside of the nursing labour market, and thus they supply a positive number of hours. The number of hours an individual chooses to work are once again driven by a variety of time varying and time invariant variables, (see Table 5.1).

The wage an individual is offered is theoretically identified as crucial in determining both their decision to participate in the labour market, and how many hours of work to be supplied. Within the NHS, the pay scale is standardised, and the sector has seen a prolonged freeze in pay (RCN, 2019). This variable is only observed for those individuals who have taken the decision to participate, and thus is endogenously influenced by the hours of work chosen. Consequently, to overcome this problem of sample selection, an auxiliary earnings equation is estimated to generate earnings not only for those who work, but also for those non-workers. Skåtun *et al*., (2005, p60) argue that:

'a Heckman two-step procedure is used in recognition that the sample of workers on which the imputation is based may not be a random sample of individuals with nursing qualifications. The earnings regression is based on the traditional Mincer human capital model in which the market wage is determined by human capital characteristics such as education and experience'

3.   Auxiliary Wage Equation:

$$W_i = Y_i\beta + R_i\gamma + E_i\delta + Q_i\alpha + \mu_i + \epsilon_i \quad i = 1,2\ldots,N$$

$i = individual$

$Y_i = $ Year

$R_i = $ Geographical Region

$E_i = $ Experience

$Q_i = $ Qualification

$\epsilon_i = $ Idiosyncratic error

$\delta, \beta, \gamma, \alpha = $ dimensioned vectors of parameters associated with the regressors

The auxiliary wage equation for both married and single individuals can therefore be found in Tables 5:2 and 5:3. The selected variables included in the auxiliary wage equation, which arguably (Skåtun *et al.*, 2005; Rice, 2005) influence the wage, and the overall labour market rewards to those with nursing qualifications are as follows: year; geographical location; qualification status and potential experience[56].

Wages are thus influenced by a variety of exogenous factors, which are captured, where possible, in both the geographical location and year variables. With regard to the former,

'the wage equation relates the real wage to human capital and other variables, [and includes] a vector of regional dummies to account for regional price variation. The sign of the coefficients on these dummies should reflect the sign of the deviation from national average prices. However, given the structure of pay in the NHS we would expect to observe little variation in wages across geographical locations with the exception of London due to a 'London weighting allowance' to reflect the increased cost of living. Region of residence may also affect preferences and opportunities for work and as such are also included in the labour supply equations' (Rice, 2005, p19)

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[56] Gender and ethnicity are not included in the auxiliary wage equation in line with that presented by Skåtun *et al.*, 2005.

Finally, **dummy variables for Years** are included to help reflect changes in local and national policies that might have impacted on labour supply. These might pick up overall economic changes, for example, fluctuations in employment levels and overall economic prosperity.

The LFS does not account for previous time spent in the labour force or in a profession (i.e., actual experience). Therefore, a proxy for potential **experience** is used. This is calculated as the difference between the age of the individual and the year that the individual left full-time education. This proxy is not without caveats, however. For example, males tend not to take career breaks, and therefore do not face discontinuities in their labour supply (Borjas, 2015). Females do tend to take more career breaks due to pregnancy and/or caring for dependents.[57] Such proxy should therefore be interpreted with caution.

The sample overall consists of those individuals who hold a nursing or midwifery related qualification as a minimum and are economically active, inactive or unemployed within the labour market in England. The **education attainment** of an individual is captured using binary variables that represent the highest qualification obtained. This includes vocational based nursing qualifications and degree-based nursing qualifications. Given the impact of *Project 2000*, and the overall increase in entry level criteria to enter or remain within the profession, such human capital acquisition is expected to have a positive impact on the individual's wages as they progress within the wage bands.

The individual's **geographical location** is also expected to influence the individual's participation and hours of work decision**.** Local healthcare markets will face different economic constraints, along with different customer demand and worker supply structures. For example, nurses employed within the London region receive a wage premium, which is reflected in greater returns for each wage band. Thus, dummy variables are used to represent an individual's geographical location within England.

The **ethnic origin** of the worker, and whether they are **native** born is also an important factor, given the drive to recruit nurses internationally, and the more recent changes in the working visa requirements of healthcare workers. In 2018, there were 27,254 new entrants to the NMC register, of these new entrants, 81.3% of these were UK registrants, 3.3% EEA and 15.4% non-EEA. EEA entrants to the NMC significantly increased and peaked between the period

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[57] Further analysis stratifying the sample by the existence of dependents under the age of 16 is available on request.

2013 to 2016, then dramatically declined in 2016, attributed in part to the UK's referendum on Brexit (NHS Digital, 2018). Evidence presented by Humphries *et al.,* (2009), and Buchan *et al.,* (2006) suggests that migrant workers may have relocated to work within the UK healthcare market more generally, solely for work purposes to send remittances home. In addition, visa requirements may place further pressure on the hours an individual is required to work (RCN, 2019). Such factors may consequently have a positive influence on the number of hours an individual is willing to work.

An individual's **reservation wage** influences both their decision to participate in the labour market, and the hours of work supplied. There are several factors that influence an individual's reservation wage, including the number and age of dependents, **marital status**, and a **partner's economic status**. Such factors have a direct impact on their preferences for work and leisure (Borjas, 2015; Waismel-Manor and Levanon, 2017). Unlike previous modelling attempts, both genders are considered of equal importance to the research, and both are influenced significantly by the household composition they identify themselves within (Condliffe *et al*, 2019).

The number of **dependent children** under the age of 16 that live within the household are therefore accounted for within the model. It is expected that dependent children have a negative impact not only on the hours of work supplied (as individuals tend to work fewer hours due to childcare constraints), but also on an individual's decision to participate (as some individuals take time out of the labour market to care for dependents). Thus, it is expected that those individuals who do have dependents will have a higher reservation wage in comparison to those who do not (Borjas, 2015). Of greater significance is the age of the youngest child, given *'the opportunity cost of working is devoting less time to child rearing activities and this is perceived to be higher the younger the child'* (Skåtun *et al.*, 2005, p60). Consequently, a variety of dummies are incorporated into the model to capture the ages of the youngest dependent child in the household.

The individual's **household composition** and whether they identify themselves as single or married/co-habiting is important in the decision-making behaviour. In contrast to previous work, this research models those qualified individuals who identify themselves as single versus married or co-habiting separately. This is because of the impact a **partner's economic status** has on an individual's labour supply decision-making, and the potential pooling of household decision-making (Waismel-Manor *et al.*, 2017).

When defining **married/co-habiting** and **single,** however, there remains a grey area over how an individual chooses to represent themselves within the survey (Corselli-Nordblad and

Gereoffy, 2015). For example, with regard to the single individual category, this may include individuals who are divorced, those that have a partner that is not co-habiting, or individuals who are separated or widowed. These individuals may associate themselves as single during the period of reporting as they identify themselves as the head of the household and sole income generator. This is despite the LFS offering the option to classify themselves as, for example, divorced. In addition, an individual can be unmarried, separated or divorced, with dependents. Consequently, this individual may be receiving non-labour income in the form of child allowances and maintenance, thus changing the status of a single labour decision-making household.

Within the modelling process however, divorced, partnered but not co-habiting, or separated individuals represent a complexity. The labour supply decision for these individuals may be more convoluted if unearned income is received from their current non-co-habiting partner or ex-spouse. Thus, for the purposes of this analysis, it is assumed that those individuals who do identify themselves as single, may include those who are divorced, separated or have a non-co-habiting partner. In these instances, the labour supply decision-making is not influenced by earned or unearned income received from their non-co-habiting partner or divorced/ex-spouse.

For those individuals who identify themselves as married or co-habiting, a variety of factors are accounted for within the modelling process. This includes the age of their partner, their economic activity and associated working hours per day[58], and from this their derived gross weekly income. It is expected, as suggested within the literature (Borjas, 2015), that the number of hours worked by a partner and their derived income, if significant enough, can negatively influence an individual's participation and hours worked decision. This would induce, in many instances, a substitution effect, which may in turn be influenced by other household factors including dependents. Additionally, given the ageing demographics of the nurse population in the UK more generally, if an individual's partner is out of the labour force, due to, for example retirement, this is also expected to have a negative impact on their labour supply (Waismel-Manor *et al*, 2017).

Finally, previous modelling attempts have also included the influence **non-labour income** has on both an individual's reservation wage and labour supply decision-making. The LFS however is very limited in providing a proxy for non-labour income, in addition to the unreliable nature in reporting such income. An important factor is the enhancements which

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[58] In this instance only, due to the nature and reporting of the variables associated with a partner's characteristics, the impact the partner's actual hours worked have on an individual's hours of work are interpreted as hours per day, as opposed to per week.

they received for working unsociable hours, accounted for in the variable representing an individual's **hourly wage**.

5.2 Econometric Results

5.2.1 Findings from the econometric modelling of married individuals

A key aim of the present research is to explore the similarities and differences that exist in both the participation choice and hours of work decision-making process, between single and married individuals. These individuals are all qualified to engage with and participate in the nursing labour market in England. For the purposes of the research, the variables included in the model specification for married and single nurses differed only in the incorporation of a partner's characteristics for those individuals who identified themselves as married or co-habiting within the LFS. As explored in Section 2.3, there is a wealth of literature exploring the labour supply decision-making process of married individuals, typically women, and the consequent existence of a household decision-making process. In contrast, the literature exploring the decision-making process of single individuals remains sparse.

Table 5.2 provides a summary of the results for both the participation[59] and hours of work equations for those married individuals. This includes all those individuals within the sample who are identified as having obtained a nursing or midwifery related qualification, are currently active and employed in the labour market in England, and either identified themselves as married or co-habiting.[60] To identify whether an estimate is significant, the 1% and 5% significance levels are used as guidance, and the variables identified as being significant are highlighted.

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[59] Participation = 1: Individual has chosen to enter and participate in the nursing labour market in England. Participation = 0: Individual is either employed elsewhere, unemployed or inactive.
[60] The sample size when modelling the labour supply decision of married nurses is given as $4,936$ observations. As previously noted, this sample represents the total pool of individuals who are married, hold a nursing qualification, and are either employed within the nursing labour market or another labour market in the England. The sample, consequently, excludes those individuals who identify themselves as single.

Table 5.2: Married/co-habiting labour market participants - Participation and hours of work into the nursing labour market in England

N=4,936	Auxiliary wage equation		Participation		Hours of work	
Variable	Coefficient	P value	Coefficient	P value	Coefficient	P value
Log hourly wage			0.5*	0.00	-3.6*	0.00
Age			0.003*	0.00	-0.2	0.08
Gender			0.5*	0.00	-8.3*	0.00
Ethnic Origin						
Mixed			0.1	0.84	0.9	0.73
South Asian			0.5*	0.00	3.3*	0.01
Black			0.7*	0.00	2.7**	0.05
Chinese			0.2	0.44	-4.3	0.09
Other			0.8*	0.00	2.2	0.14
Native/non-native origin						
Native born			-0.1	0.40	-1.4**	0.05
Year						
2005	0.03	0.34	0.005	0.96	-0.5	0.57
2006	0.07**	0.03	0.003	0.98	-0.3	0.78
2007	0.06	0.07	0.04	0.66	0.8	0.37
2008	0.06	0.07	0.03	0.78	-1.1	0.21
2009	0.06	0.06	-0.03	0.80	0.3	0.73
2010	0.09*	0.01	-0.05	0.65	0.4	0.63
2011	0.05	0.10	0.01	0.92	0.7	0.46
2012	0.10*	0.00	-0.4*	0.00	2.4	0.06
2013	0.03	0.38	-0.3*	0.00	2.6**	0.02
2014	0.02	0.55	-0.3*	0.00	1.8	0.12
2015	-0.03	0.42	-0.3*	0.00	2.3	0.07
2016	-0.02	0.55	-0.3**	0.02	0.7	0.56
2017	-0.06	0.08	-0.3*	0.01	1.2	0.33
2018	-0.07	0.08	-0.5*	0.00	1.4	0.33
2019	-0.07	0.28	-0.6*	0.00	0.6	0.80
Number of dependents						
Number of dependent children under 2 years			-0.03	0.67	-4.7*	0.00
Number of dependent children aged between 2 and 4 years			-0.04	0.43	-5.3*	0.00
Number of dependent children aged between 5 and 9 years			0.02	0.65	-3.0*	0.00
Number of dependent children aged between 10 and 15 years			0.01	0.82	-1.7*	0.00
Geographical region						
York & Humberside region	-0.05**	0.02	0.1**	0.03		
North East region	-0.02	0.38	0.3*	0.00		
North West region	-0.05**	0.02	0.2*	0.00		
East Midlands region	-0.02	0.34	0.1	0.09		
West Midlands region	-0.05**	0.04	0.2*	0.01		
South West region	-0.03	0.13	0.1	0.40		
Qualification status						
Vocational qualification only	0.16*	0.00	0.5*	0.00	0.01	0.99
Vocational and degree qualification	0.01	0.60	0.5*	0.00	-2.0	0.07
Potential Experience						
Potential experience	0.02*	0.00	0.02*	0.00	-0.1	0.35
Partners economic status						
Partners age			0.003	0.45	0.04	0.30
Partners economic activity: Partner reported to be out of the labour force i.e. not an active participant			-0.5*	0.00	0.3	0.90
Partners economic activity: Missing			-0.4*	0.01	-0.5	0.80
Log partner's income			-0.2*	0.00	-0.9**	0.05
Partners actual hours worked			0.0005	0.56	0.02	0.06
Partner identified as not working, self-employed or not reported			-1.3*	0.03	-6.9*	0.02
Constant	2.24	0.00	-0.1	0.74	80.4*	0.00
Mills Lambda					-8.6*	0.01
Rho			**-0.8**			
Sigma			**10.9**			

To identify whether an estimate is significant, the 1% and 5% significance levels are used as guidance, and the variables identified as being significant are highlighted. ***1% Significance **5% Significance**

A key variable for both the participation decision and hours of work decision, identified as indispensable within the literature more generally (Borjas, 2015; Ariste and Béjaoui, 2019), is the **hourly wage** offered. In this instance the hourly wage offered was statistically influential on both an individual's participation decision, and hours of work decision. The findings suggest that the monetary reward has a small influence on the participation decision-making process, but a relatively more significant impact on the hours of work decision. From a theoretical viewpoint and previous modelling attempts, this is consistent with what is expected (Borjas, 2015; Condliffe *et al*, 2019).

The results suggest that a 10% increase in the hourly wage paid increases the likelihood of participation in the nursing labour market in England by 5 percentage points, and reduces the hours worked by 0.36 of an hour i.e., 21.6 minutes. This suggests that married nurses do not appear to work more hours if the wage is increased, but slightly decrease their hours worked.[61] This is also supported by the qualitative results explored in Chapter 6, which emphasise that nurses rank the wage paid as a low motivating factor in the participation decision, but a more significant factor in the hours of work decision. Such findings are also consistent with those found by Hanel *at al*., (2014), who concluded that wages were also significant in influencing the hours of work decision-making process for those individuals within the sample who held a nursing qualification, and were either employed, unemployed or inactive within the nursing labour market in Australia.

The **wage elasticity** in respect of hours worked[62], for a married, nursing qualified individual is calculated as -0.3. This would suggest that the labour supply, denoted in this instance by hours worked, for married, nursing qualified individual is inelastic with respect to wages. Furthermore, the wage elasticity calculated for participation is found to be 0.05. Thus, a 10% increase in the hourly wage leads to a 3% reduction in hours worked per week (this is equivalent to almost 2 minutes per hour, per week, based on an average working week), and an increase in the likelihood of participating in the nursing labour market by 0.5%. From the qualitative findings, the potential unresponsive nature of the labour supply decision to the wage could be as a result of job attachment, and reward derived from providing a caring role. Comparatively, this finding is also in line with previous literature, in which the magnitude of the wage elasticities in respect of hours worked are reported as ranging from -0.12 (Hanel *et al*., 2014), -0.5 (Wilde, 2009); and -0.3 (Skåtun *et al*., 2005).

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[61] This finding would suggest that nurses who are married/co-habiting are on the backward bending portion of the labour supply curve, and thus the income effect dominates the substitution effect.
[62] For further discussion relating to the interpretation of regression coefficients, please see Kephart, 2013 .

Previous research (Borjas, 2015; Condliffe *et al*, 2019; Ryan *et al*., 2017) suggests that the **age** of the participant is expected to be an influential factor for both labour supply and human-capital acquisition. The findings presented in Table 5.2 suggest that age was statistically influential in an individual's participation making decision, but not their hours of work decision. In this instance, for each additional year of age, the likelihood of participating increases by 0.3 of a percentage point. With regard to the magnitude of the effect, the impact on participation was relatively small. The significant, positive impact age has on participation, and the insignificant impact age has on the hours of work decision is not as expected. The theoretical literature suggests that there is typically a gradual decline in both participation and hours of work with age, in particular in those jobs role that place physical demand on the individual (Ryan *et al*, 2017). However, as previously noted, contract arrangements with regard to retirement have enabled various workers to claim a fraction of their pension whilst continuing to work a reduced number of hours, as opposed to retiring from the profession completely (Lintern, 2012). In addition, many nurses from the "baby boomer" generation are choosing to delay retirement due to

> *'a combination of health and lifestyle advances enabling nurses to continue to work. Other factors may include nurses retaining a sense of vocation and satisfaction from their work, social trends such as having children later in life and economic reasons such as a desire for a better quality of life in retirement'* (Ryan *et al*, 2017, p42).

In this instance therefore, age could be seen as having a positive impact on the participation decision. With regard to the insignificant impact age has on the hours worked, the finding could be argued as being expected, given the fixed nature of contracted hours in the NHS, for both full-time and part-time contractual obligations (RCN, 2019).

The aim of the present research, unlike previous modelling attempts, is to explore the decision-making of both male and female qualified nurses, given the growing importance of male participants within the nursing labour market. Section 2.4B explored a variety of areas relating to potential **gender** bias and gender wage gaps in the nursing profession. The RCN (2019, p3) attribute the gender pay gap to the larger proportion of men who are employed in more senior roles within the workforce, and the overall female dominance of the profession. From Table 5.2, gender was statistically influential on both an individual's participation decision and hours of work decision. The results suggest that women are more likely to choose to participate in the labour market than men, which is consistent with both ONS (2013, p2) and RCN (2019) reports.

The finding also suggest that women are more likely to work reduced hours than men, up to 8 hours less. It is worthy of note however, that previous findings exploring the hours of work decision of married men, further suggests that the existence of a *'positive difference in the number of hours worked between married and unmarried men is fully due to selection into marriage'* (Jakobsson & Kotsadam, 2016, p382). In addition, Goussé *et al.,* (2017, p139) conclude that '*married males work more than single males, who work much more than single and married females'*. The results presented are therefore consistent with previous literature, as women may feel the need to work reduced hours because of other commitments, for example, family commitments, and career breaks (Borjas, 2015; Condliffe *et al,* 2019; Cahuc *et al.*, 2014).

Given the diverse background of the nurses employed within the nursing labour market in England, and the UK more generally, as identified in Section 3.1, the impact of **ethnic origin** on both participation and hours of work is of interest. The ethnic origin of a married and qualified individuals within the model was identified as being statistically influential in both the participation decision and hours of work decision for a variety of different ethnic groups. Ethnicity was identified as being statistically significant in the participation decision for those individuals who identified themselves as South Asian, Black and other. For the hours of work decision, it was statistically significant for those who identify themselves of South Asian and Black ethnic origin. It is expected that given the increasing level of international recruitment into the nursing labour market prior to 2010 (Section 3.3), that such variables would have significant bearing on the participation and hours of work decision.

The findings suggest that an individual who identifies themselves as Black in ethnic origin are 70 percentage points more likely to participate in the nursing labour market and work just over 2 and a half hours more than those individuals who identify themselves as being of White British origin. Those of south Asian origin, are 50 percentage points more likely to participate in the labour market and work just over 3 hours more than those who identify themselves as being of White British origin. Such findings are as expected, given that many international workers within the healthcare labour market have migrated to the UK for work purposes (Gea-Caballero *et al.,* 2019). They may be participating within the labour market for the pull-factor of higher wages, and as a consequence a perceived improvement in their standard of living (Ford, 2018).

The identification of whether the individual is **native, or non-native born** was also found to be statistically significant in influencing the hours of work decision, however not the hours of work decision for married individuals. The results suggest that those qualified individuals,

who identify themselves as native born work just under 1and a half hours less than their non-native born counterpart. This however may be, for example, the result of the strict visa requirements on hours worked that an individual needs to maintain to remain within the UK more generally (RCN, 2019). This contrasts with the analysis of single, qualified individuals, where those who identify themselves as native born are less likely to participate in the nursing labour market (see next section).

With reference to labour migration, in addition, there had been significant changes made to the visa entry requirements for Tier 2 migrant workers (i.e., skilled workers) outside the EEA wishing to enter the UK healthcare labour market, directly affecting the flow of migrant workers into the sector (Sections 3.1; 3.3). Consequently, from 2011/12 onwards, there were widespread reductions in commissions, the number of migrant workers entering the healthcare sector, and the number of job positions available (RCN, 2016). However, the UK Home Office (2018) from 2018 had consequently removed the cap on tier 2 visa places for doctors and nurses, given that 40% of these places are taken up by NHS staff.

The **age and number of dependents** an individual has is widely recognised as being significant in influencing both participation decision and hours of work decision of married individuals (Borjas, 2015; Cahuc *et al*, 2014). Similar to the analysis of single participants, the age and number of dependents was found to be statistically influential on the hours of work decision only. Within the sample, 48% (5,022) of married individuals had dependents under the age of 16, and all age categories from 16 years and under had a negative impact on the hours worked. Dependents from birth to age 4 had the most sizable impact on hours worked, reducing hours worked by just over 5 hours. The negative impact on hours work however, reduced when dependents were of school age, with hours reduced by 3 hours for dependents aged between 5 and 9 years, and by just over 1 and a half hours for dependents aged 10 to 15 years. Such finding is to be expected given the childcare requirements and constraints are less for this age group (Borjas, 2015; ONS, 2017).

There is an expectation, as grounded within the labour supply theory (Borjas, 2015; Cahuc *et al*, 2014), that the number and age of dependents, especially those below school age, i.e., below 4 years, would have a significant, negative impact on participation. The ONS (2017) highlight that women with children are less likely to work and participate within the labour market than those without dependents, and males with children are more likely to participate and work than those without. However,

'employment rates for mothers and fathers generally increased between 1996 (when the series begins) and 2017. Although there was a fall in the employment rate for fathers at the beginning of the economic downturn in 2009, it recovered to pre-downturn levels by 2013' (ONS, 2017).

However, in the present results the existence of dependents for all age categories was not found to be statistically significant in influencing the participation decision of those nursing qualified individuals who identify themselves as married. These findings may be of a consequence of management initiatives (NHS Employers, 2019) providing opportunities for more flexible working arrangements, family-friendly hours and availability of part-time contracts. The ONS (2017) note that individuals with dependents aged 11 years and under are more likely to opt for part-time contracts as opposed to exit the labour market completely. In addition, many hospital sites provide on-site crèche facilities, many of which are subsidised, which encourages and aids individual participation (NHS Employers, 2019). This is also consistent with the insignificant impact the age and number of dependents has on the participation decision of single, qualified nurses. Herbst (2011) stresses however, that for the average single parent the impact on their employment decision is minimal once tax credit and additional subsidies received are considered.

Local labour market changes and associated regional care commission targets are driven by a variety of factors, including local population demographics with regard to consumer demand and labour supply. From Table 5.2 it can be concluded that for a variety of regions in England, the **geographical location** was statistically influential on a married individual's participation decision. It is worthy of note, that geographical location was a variable included in the participation equation, but not in the hours of work specification. As identified in Chapter 4, NHS England governs and oversees the operational aspects of healthcare provision and delivery in England, including financial budgets and the planning of daily operations, as specified in the 2012 Health and Social care Act (NHS, 2019). Consequently, the standardisation of working contracts, and the governance of working hours is set by this non-departmental public body (NDPB), and the legislative working time directive, thus is standardised amongst all geographical locations in England *(ibid)*.

With regard to the influence the geographical location has on an individual's participation decision, all locations, except for the East Midlands and South West regions had a significant, positive impact on participation. For example, in comparison to those individuals who reside in London, if an individual identified themselves as living and working within either the North East or North West of England, they were 20 - 30 percentage points more likely to participate

in the nursing labour market. More generally, in the UK, employment rates during the third quarter of 2019 were reported to be some of the highest on record at 76.1% (ONS, 2019). Furthermore, given the female dominance of the nursing labour market, the female employment rate within the UK was also reported to be the highest on recoded at 72.1% (*ibid*). This is expected to have a positive impact on labour market entry and participation given the improved economic prosperity of the region.

Within all regions identified as being statistically influential, there has been a gradual increase in service user demand, resulting in increased demand for nursing qualified individuals within the regions (NHS, 2018). This growth in service user demand in these regions is attributable in part, as mentioned in Chapter 2, to the ageing demographics of the UK population. These findings are also in the majority, consistent with geographical locations identified as being positively influential in the participation decision-making of single, qualified nurses.

A key focus of the present research is to explore the impact human capital acquisition has on the decision-making process, and the potential impact *Project 2000* has had in "graduatising" nursing as an occupation. The **level of qualification attainment** was concluded to be statistically influential on a married individual's participation decision, but not on their hours of work decision. The attainment of a nursing qualification, both vocational and degree level, had a positive impact on the participation decision of an individual. Such finding was expected given the current body of literature on human-capital theory (Borjas, 2015; Cahuc *et al.*, 2014). The results suggest that an individual with a vocational qualification, and a combination of vocational and degree qualification, are 50 percentage points more likely to participate within the nursing labour market in England than an individual who does not. In contrast, the qualification status was not identified as statistically significant in influencing the hours of work decision. Once again, this finding may be a result of the standardisation of working contracts, and the fixed nature of hours expected to be worked on full-time or part-time contracts (NHS, 2019).

Furthermore, in relation to this acquisition of human capital, the potential **experience** an individual has acquired over their working life was also found to be statistically significant in influencing the participation decision, but not the hours of work decision. The former is to be expected given that '*returns to experience, increase with education, but experience mainly accumulates when in […] employment*' (Blundell *et al.*, 2016).

Thus, as an individual acquires more experience within a job role/profession they are more likely to participate within the labour market. However, it would also as a consequence be expected (Blundell *et al.,* 2016) that experience would have a direct impact on hours worked.

Once again, the standardisation of working contracts may be key in understanding why potential experience is not statistically significant in understanding the hours of work decision.

The final set of variables identified as being statistically significant in influencing an individual's decision-making behaviour is in relation to the **economic activity of their partner**, whether married or co-habiting. If the individual has a partner who is reported to be out of the labour force i.e. inactive, this is predicted to have a negative impact on the individual's willingness to participate in the nursing labour market. This could be due to, for example, the need to care for their partner if they are inactive due to illness, or have taken early retirement, which is typically a joint decision (Radl and Himmelreicher, 2015). The findings are consistent with the existing body of literature, given that the inactivity of a partner reduces participation by 50 percentage points, and is deduced to have no significant influence on the hours of work decision.

In the instances where the individual's partner does not report their economic activity, once again there was a statistically significant, negative impact on participation, with no impact found on the hours of work decision. Given the economic activity of the partner is missing, it is unclear what factors are influencing an individual's decision-making. The partners earned income was identified however, as being statistically significant in influencing both the likelihood of participation in the nursing labour market and the hours of work decision. The findings suggest that as the individual's partner earns more income, their chances of participation are reduced by 20 percentage points, and their hours of work reduced by 9 per cent. Such a finding is consistent with the existing labour supply literature, suggesting that individuals '*generally report preferences for working hours for themselves and their spouses that conform to a modified male breadwinner/female homemaker template*' (Waismel-Manor *et al.*, 2017, p336). This postulates that the individual is likely to experience an income effect from an increase in overall household income. The influence of such income and pay is explored in more detail in Section 6.2.

The hours worked by the partner were found to be insignificant in both the participation and hours worked decision-making process. This suggests that individuals do not alter their participation hours in accordance with those of their partner. Finally, if the partner is identified as being active but not currently working within the labour market in England, or are self-employed, this had a statistically significant, positive impact on the participation decision and hours of work decision of the individual. It reduces the likelihood of participating in the nursing labour market by 130 percentage points[63], and hours worked by just under 7 hours per

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[63] Linear probability models can have predicted values greater than 1 (or less than zero)(Greene, 2011).

day.[64] This may be because, for example, the individual also wishes to take a break from the labour market with their partner due to retirement (Radl and Himmelreicher, 2015).

As identified in Sections 3.2 and 3.3, there have been significant local and national labour market changes that have taken place over the period 2004 to 2019. To explore the influence these changes and initiatives have had on the decision-making behaviour, a **time dummy**[65] was included in the auxiliary wage equation, the participation decision equation and hours of work equation. For each year, 2004 to 2019, a dummy variable was used to account for the effects of changes in local/national policy and the general economic climate. From the analysis, the years 2012 to 2019 are identified as being statistically significant in influencing the participation of those nursing qualified individuals who identify themselves as married.

The likelihood of participation during the years 2012 to 2019, compared to 2004, was 40 to 60 percentage points less. The decline in the likelihood of participating in the nursing labour market during this period reflect a variety of exogenous changes. Firstly, the UK experienced a sharp decline in public sector employment between 2012 and 2014 (ONS, 2014). These declines were attributable to a variety of factors, including the post-2008 recession climate, and the consequent changes in government policy regarding NHS funding cuts and budget tightening.

Notably however, in 2016, employment in the NHS in particular, was increasing and

> *'NHS employment [had] reached a record high in December 2016, rising for the 14th consecutive quarter. At 1.604 million, it rose 12,000 (0.8%) on the quarter and 38,000 (2.4%) on the year. Employment in the category "other public sector" was the lowest since the start of the series. It fell by 8,000 (1.3%) on the quarter and 17,000 (2.7%) on the year to reach 604,000. Employment in "other health and social work" fell for the 20th consecutive quarter to its lowest level since comparable records began in 1999. At 263,000, it was down 5,000 (1.9%) on the quarter and 20,000 (7.1%) on the previous year'.* (ONS, 2016)

This trend continued into 2018 (ONS, 2017; ONS, 2018) with rising NHS employment, but falling employment in "other public sector" and "other health and social work". These latter declines were attributable to a variety of factors, including the lead up to, and announcement of, the UK's exit from the EU (Brexit, as documented in Chapter 3), and continued NHS

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[64] NB: In this instance only, due to the nature and reporting of the variables associated with a partners characteristics, the impact the partner's actual hours worked have on an individual's hours of work are interpreted as hours per day, as opposed to per week.
[65] It is worthy of note that a caveat with using time dummies is that other exogenous factors may also be being represented and depicted in the variable.

funding cuts. This provides an explanation for the small, yet negative impact on participation over the period. Furthermore, it is worthy of note that the largest reduction in participation was recorded between 2018 and the start of 2019, reflecting the potential labour market uncertainty created as a result of Brexit impacting on, for example, the migration of nurses into the UK. The number of new NMC registrations to practice in the UK more generally, has steadily declined since Brexit was announced (RCN, 2019) (Sections 3.1; 3.2).

With reference to hours worked, in 2013, individuals worked just over 2 and a half hours more than they did in 2004. As identified above, this could be attributable to declining public sector employment causing an increase in the demands placed on the existing nursing workforce (ONS, 2014). In addition, the 2013 Francis report placed significant emphasis on the potential drawbacks that can arise from the heavy reliance on temporary staff, including the potential negative impacts on the quality of care delivered (RCN, 2013). Consequently, the increase in the number of hours worked could be a result of the existing workforce being asked to work more hours to reduce the reliance on temporary workers.

Overall, the modelling of the participation and hours of work decision for those nursing qualified individuals who are married through the Heckman two-step generates a statistically significant[66] value of **lambda** equal to -8.6, and a value of **rho** equal to -0.8. Therefore, it can be concluded that the unobserved factors that make participation in the nursing labour market more likely, may have a negative impact on the hours worked. For example, the desire to care drives participation in the nursing labour market, however the associated emotional labour and potential negative impact surface acting may have on an individual's wellbeing may consequently also have a negative impact on the hours worked (as explored in Chapter 7). Furthermore, with rho being equal to -0.8, it can be concluded that the errors in the participation and hours equations are negatively correlated, thus as one variable increases, the other decreases. For example, in the hours of work equation that follows the participation equation, as the hourly wage increases, the number of hours worked decreases.

5.2.2 Findings from the econometric modelling of single individuals

Table 5.3 provides a summary of the results for both the participation and hours of work equations for all those individuals who are single.

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[66] Lambda in this instance represents the level of sample selection bias, and rho '*is the correlation between error terms in the first and second equation*' (Certo *et al.*, 2016, p2644). However, it is worthy of note that '*a significant lambda does not always denote sample selection bias*' (*ibid*)

Table 5.3: Single, nursing qualified individuals - Participation and hours of work within the nursing labour market in England

N=2,537	Auxiliary wage equation		Participation		Hours of work	
Variable	Coefficient	P value	Coefficient	P value	Coefficient	P value
Log hourly wage			0.8*	0.00	-3.5**	0.05
Age			-0.01**	0.02	-0.2*	0.00
Gender			0.5*	0.00	-4.3*	0.00
Ethnic origin						
Mixed			0.3	0.25	0.3	0.91
South Asian			0.2	0.23	2.6	0.09
Black			0.48*	0.00	3.5*	0.00
Chinese			1.0**	0.04	0.6	0.85
Other			0.5*	0.01	0.4	0.79
Native/ non-native origin						
Native born			-0.3*	0.01	0.9	0.38
Year						
2005	0.03	0.64	-0.1	0.46	0.6	0.62
2006	0.06	0.22	-0.2	0.14	2.1	0.08
2007	0.13*	0.01	-0.3*	0.01	1.3	0.34
2008	0.05	0.31	-0.1	0.37	-0.4	0.75
2009	0.07	0.23	-0.05	0.75	0.2	0.87
2010	0.10**	0.05	-0.2	0.17	2.7**	0.04
2011	0.07	0.19	-0.3**	0.02	0.1	0.93
2012	0.01	0.86	-0.7*	0.00	2.1	0.26
2013	0.01	0.91	-0.4*	0.01	1.3	0.38
2014	0.05	0.39	-0.5*	0.00	3.6**	0.03
2015	0.00	0.97	-0.5*	0.00	2.0	0.27
2016	-0.15**	0.02	-0.5*	0.00	2.4	0.17
2017	-0.13**	0.04	-0.8*	0.00	3.0	0.20
2018	-0.21*	0.00	-0.4*	0.01	-0.7	0.68
2019	-0.02	0.87	-0.3	0.36	0.4	0.89
Number of dependents						
Number of dependent children under 2 years			-0.1	0.50	-5.4*	0.00
Number of dependent children aged between 2 and 4 years			0.1	0.43	-6.8*	0.00
Number of dependent children aged between 5 and 9 years			-0.1	0.06	-4.6*	0.00
Number of dependent children aged between 10 and15 years			0.02	0.63	-2.0*	0.00
Geographical region						
York & Humberside region	-0.06	0.09	0.2*	0.01		
North East region	0.02	0.61	0.2	0.13		
North West region	-0.01	0.67	0.2**	0.02		
East Midlands region	-0.02	0.58	0.1	0.33		
West Midlands region	0.01	0.83	0.3*	0.00		
South West region	-0.02	0.58	0.2**	0.02		
Qualification status						
Vocational qualification only	0.23*	0.00	0.2**	0.03	1.4	0.16
Vocational and degree qualification	0.00	0.90	0.4*	0.00	-1.1	0.34
Experience						
Potential experience	0.02*	0.00	0.001	0.89	-0.1	0.23
_cons	2.22	0.00	-1.9	0.00	67.3	0.00
Mills Lambda			**-6.8**	0.07		
Rho			**-0.7**			
Sigma			**10.3**			
To identify whether an estimate is significant, the 1% and 5% significance levels are used as guidance, and the variables identified as being significant are highlighted. ***1% Significance **5% Significance**						

The first variable for consideration when exploring the participation and hours of decision-making process of single nurses, and one which dominates the literature, is the **hourly wage** paid. As identified in Chapter 3 and the discussion presented above, the wages paid to nurses within NHS England are governed by a national pay scheme, unlike those recruited into the private healthcare sector (RCN, 2018; NHS Employers, 2018).

From Table 5.3 it can be seen that a 10% increase in the hourly wage offered increased the likelihood of participation within the market by 80 percentage points, but reduced the hours worked by 0.36 of an hour i.e., 22 minutes.[67] These results are as expected and are consistent with the impact hourly wage has on both the participation and hours of work decision of married nurses explored above.

The **wage elasticity** in respect of hours worked, for a single, nursing qualified individual is calculated as -0.3, and is consistent with that found for their married counterpart (Table 5.2). This once again would suggest that the labour supply, denoted in this instance by hours worked, for single, nursing qualified individual is inelastic with respect to wages. Furthermore, the wage elasticity calculated for participation is found to be 0.8. Thus, a 10% increase in the hourly wage leads to a 3% reduction in hours worked per week (this is equivalent to almost 2 minutes per hour, per week, based on an average working week), and an increase in the likelihood of participating in the nursing labour market by 8%.

The **age** of the labour market participant, as identified, is crucial in understanding the changing demographics of the nursing labour force in the UK, given the baby boom of the 1960s, and the implications this has for labour decision-making. The findings suggest that age had a significant, negative impact on the likelihood of participation and hours worked, indicating that for each additional year of age, the likelihood of participation falls by 1 percentage point, and hours worked fall by 0.2 of an hour i.e., 12 minutes. This is in contrast to that found for married nurses, in which the impact age has on participation was statistically significant and positive, but statistically insignificant in influencing hours worked. One rationale for the finding may be that a single status individual, given the physical demands of the job role for example, has greater flexibility to reduce the hours they work as they get older, as they do not have the same pressures as an individual with a partner, and potentially dependents has, but do have other competing pressures. Casper *et al.,* (2015, p1) identify that *'singles without dependent children have a variety of family, relationship, and personal demands, which often*

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[67] As previously identified, this finding suggests that the income effect dominates the substitution effects (back-bending section of the labour supply curve), and thus at higher wages, nurses prefer to work less and enjoy more leisure time.

compete with work, leading to inter role conflict', and such pressures change throughout the different stages of life, and the conflicts may become more prominent with age.

Given the dominance of female labour in the nursing labour market, the impact **gender** has on the decision-making behaviour of single, nursing qualified individuals is of importance to the analysis. In this instance, gender was identified as being statistically significant in influencing both the participation and hours of work decision. Mirroring the conclusions drawn for those nursing qualified individuals who were married, gender has a positive impact on participation, increasing the likelihood of participating, if you are single and female in the labour market in England by 50 percentage points. Furthermore, the results suggest that these individuals are also likely to work just over 4 hours less than their male counterpart.

The fourth variable for consideration, given the increased diversity of the nursing labour market identified, is **ethnicity**. The findings suggest that for a proportion of different ethnic minority groups, who identify themselves as single and qualified, a positive influence can be found on their individual participation decision. The ethnicity of the individual was identified as being statistically significant in the participation decision for those individuals who identified themselves as Black, Chinese or of belonging to another ethnic group. The findings suggest, for example, that those individuals who identify themselves as being of Black ethnic origin are just under 48 percentage points more likely to participate in the nursing labour market in England then those individuals who identify themselves as being of White British origin. Comparatively, those single individuals who identify as being of Black ethnic origin are also more likely to work 3 and a half hours more than those individuals of White British ethnic origin.

The findings are similar to those found for married, nursing qualified individuals. However, in comparison, the variable representing South Asian origin was found to be statistically significant in influencing the participation decision positively, but Chinese ethnic origin was not found to be statistically significant in influencing participation. The reason for the variable representing South Asian origin being statistically significant and positive in the participation decision of single, nursing qualified individuals, may be as a result of the social norms within this ethnic group. Brinton and Eunsil (2019) conclude that more generally, single status individuals from this ethnic group are more likely to participate in a labour market than their married counter-part due to the pressures of other commitments, including childcare and housework.

With regard to the **native origin** of the individual, the results suggest that single, native born workers are 30 percentage points less likely to participate in the nursing labour market in

England. In comparison, the variable representing native origin was only found to be statistically significant for the hours of work decision of married individuals. As identified above in Section 5.2.1, these findings may be as a result of the visa requirements to practice in the UK more generally, with non-native workers facing different constraints that govern their working hours (RCN, 2019). Additionally, there is research to suggest that single individuals who relocate to a host country for work purposes, may have different family pressures, and as a consequence may engage more heavily with the labour market to enable them to send remittances back to their family in their donor country (Harper and Zubida, 2017).

The **age and number of dependents** an individual has, was once again found to be statistically significant in influencing the hours of work decision for an individual of single marital status. Within the sample, 34% (868) of single marital status individuals had dependents under the age of 16, and all age categories from 16 years and under had a negative impact on the hours worked. Dependents from birth to age 4 had the most sizable impact on hours worked, reducing hours by just under 7 hours. The negative impact on hours work however, reduced when dependents were of school age, with hours reduced by just under 5 hours for dependents aged between 5 and 9 years, and by 2 hours for dependents aged 10 to 15 years. The reduction in hours was more sizable however for this group, which is to be expected given that the '*demands associated with nonstandard work hours [are] particularly problematic for single mothers who manage the roles associated with work and family without a resident partner*' (Moilanen, *et al*., 2019, p214).

The **geographical location** of the individual was once again found to be statistically significant in influencing the participation decision for an individual of single marital status. The findings are once again mostly in line with those presented above in Section 5.2.1 for married individuals. However, in comparison the North East region in this instance was found to be statistically insignificant in the participation equation for single individuals, but the South West region was found to be statistically significant. The ONS (2019) note that during the second quarter of 2019, there had been a continued, growing trend of rising employment in the South West of England, with the lowest rates of employment found in the North East. Thus, helping to explain the statistical significance of this region for married individuals, and the positive impact it had on participation. However, overall Buchan *et al*., (2019) note that the South West of England, along with areas of London had a lower job stability rate in comparison to the North East of England. This could

'reflect the fact that the workforce is younger, more international, and has higher career mobility, as well as the higher number of vacancies and use of temporary staff, and the fact that trusts are in close proximity, meaning it is easier for staff to move between them' (*ibid*, p27).

Typically, within the sample presented, the younger individuals are single, and possibly fall within this remit, and provides a possible explanation for the difference in results.

The final variable for analysis relates to the single individual's **qualification** status. The findings are consistent with those presented for married individuals and provide further support for the analysis presented above. The findings once again, therefore, suggest that the attainment of a vocational qualification alone, and a combination vocational qualification and degree, have a positive impact on the chances of participating in the nursing labour market in England. This is in comparison to an individual who has no vocational or degree level qualifications.

Labour market changes and policy developments, at both a local and national level, are again captured though the use of a time variable, which represents the year in which the individual participated in the LFS. The findings are mostly in line with those presented above in Section 5.2.1 for married individuals. However, in comparison, the year 2007 was found to be statistically significant in negatively influencing the chances of a single status, nursing qualified individual participating in the nursing labour market in England by 30 percentage points in comparison to 2004. Goussé *et al*., (2017) found that during their analysis on the household labour supply decisions of married and single individuals in the UK over the period 1991-2008, that over a variety of years, the participation rate for single women was also found to be lower than their married counterpart. Powell (2019) identifies that during 2007 in the UK more generally, the level of women in employment was at a low point, which is reflected in the findings presented for single, nursing qualified individuals. The impact may be more prevalent in 2007 for single as opposed to married individuals due to the pressures the latter face regarding financial responsibilities and household income pooling (Goussé *et al*., 2017*)*.

The years 2010 and 2014 were found to be statistically significant in the hours of work equation for single individuals. In 2010, single individuals worked just over 2 and a half hours more than in 2004, and over 3 and a half hours more in 2014. In comparison however, the years 2010 and 2014 were found to be statistically insignificant for those individuals who identified themselves as married. As identified in Chapter 3, within England there was an increasing trend in the number of registered, FTE nurse and midwifery staff between 2010 and 2018. In particular, between the period 2013 and 2016, there was a peak in the number of

new registrants to the NMC register in 2014 (RCN, 2019). Over the period 2013 to 2018, there has been significant growth in the number of "younger" and "older" registrants to the NMC register (*ibid*). Within the dataset, and with reference to Figure A.4.1.2, typically, there is a trend that these individuals are of single marital status, reflecting the results presented.

Overall, the modelling of the participation and hours of work decision for those nursing qualified individuals who are single through the Heckman two-step generates a statistically significant[68] value of **lambda** equal to -6.8, and a value of **rho** equal to -0.7. Therefore, it can once again be concluded, given the similarity of the findings to those found for married nurses, that the unobserved factors that make participation in the nursing labour market more likely, may have a negative impact on the hours worked. Furthermore, with rho being equal to -0.7, it can one again be concluded that there is a relationship between variables, and as 1 variable increases, for example, the other variable decreases. The unobserved factors influencing this relationship could reflect the emotional aspects and demands of the job role as identified previously.

5.2.3 The significance of marital status

The findings outlined in Sections 5.2.1 and 5.2.2 illustrate the influence a variety of variables have on both the decision to participate in the nursing labour market in England, and the hours of work chosen. This is both for married/co-habiting and single individuals, who have obtained a nursing or midwifery qualification, and are currently active and employed in the labour market in England. When exploring the model specification, as identified and outlined in Section 5.1.1, it is evident that the significant regressors in the modelling process do vary depending on an individual's marital status.

Consequently, a one size fits all approach is not reflective of actual decision-making behaviour. Given the number of single, labour market active and nursing-qualified individuals within the labour market in England, this suggest the need to consider their decision-making behaviour separately. The variables for exploration, as identified in Table 5.1, were found to vary in their statistical impact and magnitude between both married/co-habiting and single individuals.

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[68] However, it is worthy of note once again that '*a significant lambda does not always denote sample selection bias*' (Certo *et al*., 2016).

For those qualified individuals who are economically active and are married/co-habiting, their willingness to participate in the nursing labour market in England, and the number of hours worked was affected by the hourly wage offered. An increase in the hourly wage had a positive impact on their willingness to participate but had a negative impact on their hours worked. The wage elasticity for hours worked was found to be -0.3, and the wage elasticity for participation was found to be 0.5. Similar findings were found for those qualified individuals who identified themselves as single, with a wage elasticity for hours worked calculated as -0.3, and for participation calculated a 0.8.

The age of a married individual had a small, positive impact on their willingness to enter the labour market, but had no statistically significant impact in their decision over how many hours to offer to the market. In contrast, age had a negative impact on both the participation and hours of work decision for single individuals. Furthermore, on aggregate, women were more likely to supply their labour to the nursing labour market in England than men, but were also found to work relatively fewer hours than their male counterparts.

With regard to the ethnic origin, married individuals who identify themselves as South Asian, Black or other were more likely to choose to supply their labour to the market than those of white origin. Similar findings were also found for those qualified individuals who identified themselves as single.

The years 2012 to 2019 were found, as expected, to reduce a married or co-habiting individual's likelihood of supplying their labour to the market. In contrast, 2013 was found to be the only year, which was found to be statistically significant, and positive in influencing their hours worked. However, for single individuals the year 2007 was also found to have a negative impact on the likelihood of participating in the nursing labour market in England, and the years 2010 and 2014 were found to have a positive impact on the numbers of hours worked.

Given the profiling of the individuals in the sample overall, and the significant proportion who have dependents under 16, the number of dependents were found to not have a statistically significant impact on the participation decision for both married/co-habiting and single individuals. In contrast however, all age ranges, for both married/-co-habiting and single individuals were found to have a negative impact on the number of hours worked, with the largest, negative impact on hours worked being found for dependents aged below 4 years. Overall, however, it is worthy of note, that the size of the impact is greater for those individuals who are single.

The geographical region a married or co-habiting individual resided in, area dependent, had a positive impact on the market entry decision only, with the exception of the East Midlands and South West regions of England. In contrast however, the South West region of England had a positive impact on the participation decision of single individuals. For both married/co-habiting and single individuals, the geographical region was not found to be statistically significant in influencing the number of hours worked.

The qualification status, for both married/co-habiting and single individuals, as expected, had a positive impact on their likelihood of participating in the nursing labour market in England. In contrast however, the level of educational attainment was found to have no statistically significant impact on the hours worked.

The influence of a partner's characteristics, for those individuals who were married/co-habiting, had a varied impact on the participation decision, but no statistically significant impact on the hours worked. The partner's economic activity and earned income reduced their likelihood of engaging in the labour market, as expected.

5.3 Conclusions

This chapter has explored how the participation decision and hours of work decision can be econometrically modelled for both single and married/co-habiting, qualified nurses. It has explored the challenges and complexities faced with the data employed and the model specification adopted, and has helped to identify significant relationships between the variables. The models exploring the labour supply decision for both single and married/co-habiting nurses provides a good reflection of what is theoretically predicted. Comparatively, there are subtle, yet significant differences between the two regarding the impact the identified variables have on both the participation and hours of work decision, and thus may have significant policy implications. These include the need to evaluate the impact of initiatives aimed at encouraging singles nurses to work more hours. Consequently, the effectiveness of, for example, pay enhancements and childcare provision needs to be explored, with significant regard to the need to offer, where possible, differentiated initiatives to single and married nurses.

A key finding from the econometric analysis suggests that both married and single nurses are more likely to participate in the nursing labour market in England if there is an increase in the hourly wage offered. However, in contrast, a wage increase has a negative impact on the number of hours worked, with both married and single nurses choosing to work fewer hours.

The wage elasticity, in respect of hours worked, for both married and single, nursing qualified individuals are both estimated as -0.3, thus an increase in the hourly wage offered has a negative impact on the number of hours worked. Furthermore, the wage elasticity calculated for participation for married individuals is estimated as 0.5, and 0.8 for single individuals. Thus, a 10% increase in the hourly wage increases the likelihood of single nurses participating by 8%, and the likelihood of married nurses participating by 5%. These findings may have significant implications for policy if pay initiatives are used to encourage more nurses to participate in the nursing labour market in England. Furthermore, the difference in impact changes in the hourly wage have for the participation and hours worked decision of married versus single individuals is key from a policy perspective

A unexpected conclusion drawn from the econometric modelling is the impact age has on the participation decision of married nurses. The findings suggest that, in contrast to the theoretical literature presented in Chapter 2, for each additional year of age, married nurses are more likely to participate in the nursing labour market in England, whereas single nurses are less likely to participate.

As identified in Chapter 2, there is a growing body of literature exploring the implications gender has on the nursing labour market, particularly in reference to gender segregation and inequality. From the econometric findings, gender is significantly influential in the participation and hours of work decision of nurses for both married and single nurses. The results suggest that women are more likely to participate in the nursing labour market than men, but are also more likely to work reduced hours. In addition, the age and number of dependents has a considerable impact on the hours of work decision. Overall, the existence of dependents under the age of 16, has a negative impact on the hours of work decision for both married and single nurses. This finding suggests that family friendly policies or initiatives should be considered at both a local and national level.

These findings highlight that a one size fits all policy to help combat both labour shortages and labour misallocation, as identified in Chapter 2, is unduly limited and warrants further refinement. Moreover, they also highlights the need for more specific data on the nursing labour market. The heterogeneous nature of nursing labour should drive future policy recommendations. Furthermore, there is a need to explore the complexity and depth of the factors that influence this decision-making behaviour. These conclusions support the need to enhance, and where possible, triangulate the findings presented here with those of qualitative analysis, as carried out in Chapter 6.

Appendix to Chapter 5

Table A.5.1: Variable definitions, means and standard deviations　　　　　　　　**NB: The following are weighted using LFS weights**

Variable[69]	Married				Single			
	Working as a nurse or midwife		Not working as a nurse or midwife		Working as a nurse or midwife		Not working as a nurse or midwife	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
Dependent Variables								
Participation decision – Likelihood of participating in the nursing labour market in England	*NB: Dummy variable with a value of 0 or 1*							
Hours of work per week	33.31	10.59	32.72	10.68	33.31	10.60	35.23	10.09
Independent Variables								
Hourly wage (logged)	2.63	0.38	2.53	0.53	2.62	0.39	2.48	0.51
Age	46.07	10.38	46.31	10.44	45.88	10.55	48.07	10.55
Ethnic Origin (Reference category: White)								
Mixed	0.87	0.33	0.01	0.08	0.01	0.09	0.01	0.09
South Asian	0.01	0.08	0.04	0.19	0.04	0.20	0.03	0.17
Black	0.04	0.19	0.04	0.19	0.06	0.24	0.05	0.22
Chinese	0.05	0.21	0.01	0.07	0.01	0.08	0.00	0.07
Other	0.01	0.08	0.03	0.16	0.03	0.18	0.02	0.15
Native/non-native origin								
Native	0.91	0.29	0.92	0.27	0.90	0.29	0.92	0.28
Year (Reference category: 2004)								
2005	0.09	0.28	0.08	0.28	0.09	0.28	0.08	0.27
2006	0.08	0.28	0.08	0.27	0.09	0.28	0.08	0.26
2007	0.08	0.27	0.08	0.27	0.08	0.28	0.07	0.26
2008	0.08	0.27	0.08	0.26	0.08	0.28	0.07	0.25
2009	0.07	0.25	0.07	0.25	0.07	0.25	0.06	0.24

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[69] Gender is represented as a binary variable with 1 for male and 2 for female.

Appendix to Chapter 5

Table A.5.1: Variable definitions, means and standard deviations **NB: The following are weighted using LFS weights**

Variable[69]	Married				Single			
	Working as a nurse or midwife		Not working as a nurse or midwife		Working as a nurse or midwife		Not working as a nurse or midwife	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
2010	0.07	0.26	0.07	0.25	0.07	0.26	0.06	0.25
2011	0.06	0.24	0.06	0.24	0.07	0.25	0.06	0.23
2012	0.06	0.24	0.07	0.25	0.06	0.24	0.08	0.26
2013	0.06	0.24	0.06	0.24	0.06	0.23	0.07	0.26
2014	0.06	0.24	0.06	0.24	0.06	0.24	0.07	0.26
2015	0.05	0.22	0.05	0.22	0.05	0.21	0.05	0.23
2016	0.05	0.21	0.05	0.21	0.05	0.21	0.05	0.22
2017	0.05	0.21	0.05	0.22	0.04	0.21	0.05	0.22
2018	0.05	0.21	0.05	0.21	0.04	0.20	0.06	0.23
2019	0.01	0.10	0.01	0.10	0.01	0.09	0.01	0.11
Number of dependents (Reference category: No dependents)								
Number of dependent children under 2 years	0.07	0.26	0.07	0.27	0.07	0.26	0.04	0.21
Number of dependent children aged between 2 and 4 years	0.11	0.35	0.11	0.35	0.11	0.34	0.07	0.28
Number of dependent children aged between 5 and 9 years	0.22	0.51	0.22	0.51	0.21	0.50	0.16	0.45
Number of dependent children aged between 10 and15 years	0.33	0.63	0.33	0.63	0.31	0.61	0.29	0.61
Geographical Location (Reference category: London)								
York/Humberside	0.12	0.32	0.12	0.32	0.12	0.32	0.12	0.32
North East England	0.07	0.25	0.07	0.25	0.07	0.26	0.06	0.24
North West England	0.13	0.34	0.13	0.34	0.14	0.35	0.13	0.34
East Midlands	0.15	0.36	0.15	0.36	0.14	0.35	0.14	0.35
West Midlands	0.10	0.30	0.10	0.30	0.11	0.31	0.09	0.29

Appendix to Chapter 5

Table A.5.1: Variable definitions, means and standard deviations **NB: The following are weighted using LFS weights**

Variable[69]	Married				Single			
	Working as a nurse or midwife		Not working as a nurse or midwife		Working as a nurse or midwife		Not working as a nurse or midwife	
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D
South West England	0.12	0.33	0.12	0.33	0.11	0.32	0.12	0.33
Qualification Status (Reference category: No nursing qualification)								
Highest attainment: vocational based qualification	0.45	0.50	0.45	0.50	0.45	0.50	0.45	0.50
Highest attainment: Degree and Vocational based qualification	0.43	0.50	0.42	0.49	0.44	0.50	0.41	0.49
Experience								
Potential experience	27.46	11.48	27.69	11.52	27.34	11.66	29.39	11.58
Partners characteristics								
Partners age	44.32	9.05	45.95	8.93				
Partners economic activity: Partner reported to be out of the labour force i.e. not an active participant (Reference category: Partner employed)	0.14	0.35	0.15	0.35				
Partners economic activity: Missing	0.10	0.30	0.11	0.31				
Log partner's income	4.71	2.84	5.10	2.60				
Partners actual hours worked (Interpreted as the impact on hours per day)	8.01	20.43	8.25	20.49				
Partner identified as not working, self-employed or not reported	0.44	0.50	0.41	0.49				

Chapter 6: Further Perspectives on the Nursing Labour Market in England

6.0 Introduction

There are a variety of factors that might explain the occupational choice and labour supply decision-making of nurses that can only be gathered through qualitative means. This includes the collection and analysis of a variety of primary data through mixed methods. To enable both exploration and evaluation of the determinants and characteristics that influence this decision-making behaviour, a combination of:

- surveys of trainee and qualified nurses' employees;
- focus groups of qualified nurse employees;
- one-to-one interview with managers;

were undertaken.

Survey questionnaires were distributed to both nursing graduates and current employees and combined both qualitative and quantitative collection and analysis methods. This initial data collection phase was followed up with both nurse-led focus groups and management interviews to explore motivational and attitudinal issues in more depth than could be achieved in a simple questionnaire. The combination of survey questionnaires, focus groups and one-to-one interviews allowed further insight and exploration into the participation decision-making process.

The data collection focussed on six key research questions (Table 4.1):

1. What factors influence an individual to choose to study nursing at degree level?,

2. What factors influence an individual to remain on the degree programme until graduation?,[70]

3. What are the determining factors that drive the participation decision of an individual to supply their labour to the nursing labour market in England once qualified?,

4. What are the determining factors that drive an individual to choose to leave their current position/the nursing labour market in England? i.e. What drives nursing turnover?,

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[70] As identified in chapter 4, the questionnaire was written initially with a view to distributing it to nursing students on a nursing degree programme. However, as explained in Chapter 4, section 4.3, this proved not to be possible. Instead, the questionnaire was distributed to graduate nurses enrolled on several "newly qualified" training programmes.

5. What do nurses within the identified care settings perceive to be the causes of labour turnover?,

6. What implications do the factors that drive turnover and retention have for helping to address labour shortages?

Thematic analysis was used to explore all the qualitative data collected. This enabled the identification of common and contrasting perspectives and underlying themes. In all instances, this approach was driven by the data, allowing concepts to emerge that were grounded within the text, as opposed to any *a priori* benchmarks, which might cause bias and selection truncation. The identified codes were mapped against, and used to inform and evaluate, those variables that were identified to be statistically significant in Chapter 5. This approach also helped to support further the epistemological stance of the research, which was to ground the analysis in the themes and concepts provided by the research participants themselves (Section 4.3).

This chapter begins by summarising the qualitative data obtained through the three main methods. Section 6.1 identifies the profile of the participants within the sample, and the means of data collection. It also addresses the complexities faced with the different data collection methods used, and the approaches taken to structure the data for the purposes of this research. The technical and practical difficulties faced in collecting the data, and the ways in which these obstacles were overcome, are described in Chapter 4. Section 6.2 sets out the key research findings from all three stages of this more qualitative data collection process, and the implications these findings have for the key research questions. Emphasis is placed on the key themes that emerged from the data, which are not easily quantified. These are analysed further in tandem with the econometric findings in Chapter 7.

6.1 Data Collection

6.1.1 Data sources

Table 4.2 outlined the main mechanisms used to collect the qualitative data. Survey questionnaires were distributed at two phases of the research, initially to students and later to employees (i.e., fully qualified nurses). The questionnaire distributed to trainee nurses comprised 15 questions in total. The questionnaire distributed to qualified nurse employees comprised 56 questions.[71] Both included a combination of open and closed questions.

The *student questionnaire* explored the occupational choice decision of recently graduated nursing students enrolled on a variety of "newly qualified" training programmes at University

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[71] The survey distributed to nurse employees is available on request.

Hospital Coventry and Warwick (UHCW). The aim of the survey questionnaire was to address research questions 1, 2 and 3 as identified above (Table 4.1). The sample comprised graduates originating from a variety of nursing schools within the West Midlands region, including Coventry and Birmingham Universities. The student sample was randomly chosen to minimise potential self-selection bias, in an attempt to provide a reflective and diverse sample. The survey questionnaires were distributed across three cohorts. As explored in Section 4.3, the individuals are self-selected, given their higher education choices, both with degree and training selection. The sample is therefore restrictive in its representation of the total population. It should be noted that the cohorts represent a diverse sample with regard to a variety of characteristics, including age, gender, economic background, previous education and work experience; geographic origins; and family status.

Seventy-six respondents chose to participate in the study and return the questionnaire. This gives a 96% response rate, but represents a relatively small sample of the total population of interest. This response rate does, however, provide a varied sample of new graduates completing over the period 2015-2016 from a variety of educational and environmental backgrounds.

The *employee questionnaire* investigated the labour supply decision-making behaviour of individuals who are RCN registered and currently employed within a variety of NHS hospital-based nursing roles in the nursing labour market in England. The aim of the survey questionnaire was to explore, from an employee's perspective, the determining factors that drive the occupational choice, participation and turnover decisions of a qualified individual within the nursing labour market in England once qualified. The sample consisted of individuals from a diverse range of specialisms across four hospitals within the West Midlands healthcare region: University Hospital Coventry and Warwick (UHCW); George Elliot Hospital; Queen Elizabeth Hospital Birmingham (QEH); and Warwick Hospital. The survey questionnaire was distributed to a range of specialist areas, to encourage a diverse sample. A total of 300 questionnaires were distributed to staff at all four hospitals, and 127 nurses elected to participate in the study, resulting in a response rate of 42%.

To gain a greater depth of understanding of some of the issues explored in the survey questionnaire, *focus groups* were conducted at GEH and UCHW. The sample was drawn from a variety of specialisms, with participants at various stages of career progression, including full-time and part-time nurses. The aim of the focus groups was to explore in greater depth, the occupational choice, participation and turnover decision-making of a qualified individual within the nursing labour market in England once qualified. In addition, they aimed to explore

further what employees perceive to be the causes of labour turnover, and what implications these have for helping to address the perceived labour shortage.

Given the constraints faced with recruiting front-line staff on duty to participate in the focus groups, and given the daily changes in workload demands, participation at each varied. The first two focus groups engaged participants from UHCW, 24 qualified nurses taking part. The third focus group engaged participants from GEH, with three qualified nurses choosing to participate. The focus groups size varied, and in some instances, attendance was low. However, the key aim of each of the focus groups was not to provide a representative sample of all labour market participants, but to provide further insight into questions raised, whilst simultaneously carrying out both the econometric modelling process and conducting the student and nurse led questionnaires. The focus groups as a result were organised to take place the week following the final date for questionnaire submission, and whilst the econometric modelling process was in its final stages.

Finally, face-to-face *interviews with management* were undertaken. The aim was to explore the perspectives of those who manage, at a local and senior level, resources within the two key hospitals, UHCW and GEH. These used a semi-structured interview guide. The sample selected consisted of those managing front-line staffing at ward level and those who were employed within the role of chief nursing officer for the West Midlands region. The interviews allow for greater exploration and evaluation of the factors that both graduates, and employees perceive to be influential in occupational choice, participation and turnover intent. In addition, the background and experience of the participants provided a holistic perspective of the current conditions of the nursing labour market in England and the wider UK, and reflection upon current and previous policy initiatives, at a local and national level. The interviews were scheduled to take place the week after the final focus group had been conducted. To maintain consistency with the questionnaire sample, three individuals were selected to represent UHCW, and one individual to represent GEH, each from a different management role. The interviews[72] were transcribed to allow for a full analysis of the data using a thematic approach (Section 4.3). Once collected all data were encrypted and stored securely.

Throughout the data collection phase, the aim was to create a dataset encompassing a variety of aspects that can be linked to nationally based data, (i.e., comparable to information that could in principle be collected for the labour market for nurses in other regions of the UK). This is not to claim, however, that the West-Midlands healthcare "market" is necessarily representative of the broader picture (see Chapter 4). Nonetheless, significant effort was made

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[72] Copies of the anonymised transcriptions are available on request.

to recruit a mix of research participants that was reflective of the regional labour market and would be relevant to the experiences of other geographical regions.

6.1.2 Profile of student participants

The student questionnaire sample consisted of those individuals enrolled on a variety of "newly qualified" training programmes, and as illustrated in Table 6.1, most respondents were between the ages of 18 to 32 years, and 38 to 45 years. Overall, 88% of the sample were female, confirming that the profession remains female dominated in the early stages of graduate recruitment. The age distribution reflects the ageing demographics of both the profession and UK labour force more generally.

Within the sample, 67% of participants were single and 33% married, divorced or living within a civil partnership. A significant proportion of individuals making the initial occupational choice decision in the local sample were unmarried, as evidenced in Table 6.2. From Table 6.2, it can be seen that the more mature participants were more likely to be married, divorced or living in a civil partnership.

From Table 6.3 it can be seen a significant percentage (93%) of recent graduates within the sample were of British ethnicity, and only 4% of the sample identify themselves as EU Citizens. This finding is to be expected given the change in policy during 2010, which resulted in a change in the visa requirements to become a trainee and practicing nurse in England.

Table 6.1: Student questionnaire participants by age and gender

Gender	Age (years)						
	18-22	23-27	28-32	33-37	38-45	46+	Sample total
Female	22	16	13	5	9	2	67
Male	2	1	2	2	1	1	9
Sample total	**24**	**17**	**15**	**7**	**10**	**3**	**76**

Table 6.2: Student questionnaire participants by age and marital status

Age	Marital status					
	Single	Married	Divorced	Civil Partnership	Do not wish to answer	Grand Total
18-22	24	0	0	0	0	24
23-27	15	1	0	0	1	17
28-32	10	4	0	0	1	15
33-37	1	5	0	0	1	7
38-45	1	7	1	1	0	10
46+	0	1	1	0	1	3
Sample total	**51**	**18**	**2**	**1**	**4**	**76**

Table 6.3: Student questionnaire participants by age and nationality

	Nationality			
Age	**British**	**EU Citizen**	**Other**	**Sample total**
18-22	24	0	0	24
23-27	17	0	0	17
28-32	15	0	0	15
33-37	6	1	0	7
38-45	6	2	2	10
46+	3	0	0	3
Sample total	**71**	**3**	**2**	**76**

Table 6.4: Student questionnaire participants by age and professional status prior to degree enrolment

	Profession prior to enrolment		
	Employed	**Student**	**Sample total**
Age			
18-22	3	21	24
23-27	7	10	17
28-32	11	4	15
33-37	5	2	7
38-45	7	3	10
46+	2	1	3
Sample total	**35**	**41**	**76**

The individuals in the sample actively made the decision to enrol on and engage with the undergraduate nursing degree programme. Table 6.4 above explores the prior employment status of the individuals within the sample before joining their university nursing programme. Given the ageing demographics of those individuals choosing to enter both university education and then the graduate nursing profession, it is to be expected that a variety of individuals will have previous work experience either within, or outside of the healthcare profession. From the sample, 46% of the nursing graduates were employed prior to degree enrolment, and 54% held student status. It can be concluded that the former made an occupational choice to reinforce their training, possibly with a change of direction within the healthcare field, to re-enter the healthcare profession or change profession altogether. Examples of previous employment choices include customer service, managerial roles, education, and retail, all of which require a customer focus. In addition, many of the prior employment choices were healthcare related and focus upon front-line healthcare delivery. The results therefore throw light on the career choices of those individuals who have chosen

to change career direction and move into nursing as an occupation. These findings are similar to the current workforce demographics (RCN, 2019), in which there has been a reported increase in the number of younger and older entrants to the NMC register (RCN, 2019)

The profile of participants in the sample suggest that recruitment into the profession should focus not only on those individuals who have chosen to proceed into the healthcare arena, but also those nurses currently employed in non-health occupations, as explored in Chapter 5.

6.1.3 Profile of employee participants

The second survey questionnaire was distributed to those participants currently employed within in the NHS, either full-time or part-time. The focus was upon exploring the determining factors that drive the participation and turnover decision of an individual supplying their labour to the nursing labour market in England once qualified. In addition, it explored what nurses within identified care settings perceive to be the causes of labour turnover within the nursing labour market and thus focusing on research questions 2 and 3 in Table 4.1. The participants represent a diverse range of specialisms from within a hospital setting, from accident and emergency to paediatric care.

Within the sample, 88% of respondents identified themselves as female. This is expected given the female dominance within the nursing labour market in England, and the UK more generally. Within the sample, 25% of female participants were aged between 23 to 27 years, and 23% 46 years and above. In contrast, male participants were more equally distributed across the age ranges. The majority of participants within the sample identified themselves as British, which again is expected, given the more recent changes in overseas working permits and visas, as discussed in Chapter 3. The relationship status of participants varied, with 50% of participants identifying themselves as married or living within a civil partnership, 40% identified themselves as single, and 10% identified themselves as divorced. The age, gender and relationship status distribution of the sample mirrors that also found within the larger LFS data set (2004-2019) analysed in Chapter 5. Furthermore, a sizable proportion of individuals in their late 30s and onwards identify themselves as single (Figure A.4.1.2), which is consistent with the econometric findings in Chapter 5. This reinforces the need to explore the decision-making behaviour of both married and single nurses.

The employee surveys were followed by 3 focus groups. These focus groups involved 19 practice nurses from two of the four hospitals: UHCW and GEH. (Within this sample, 80% of participants were female, and ranged in age from 21 years to 56 years. Over 70% of participants identified themselves as British and were married or co-habiting. In addition,

experience of the profession ranged from 3 years to 30 years, with a mixture of educational attainment, including vocational training, and diploma to degree level.

Finally, face-to-face interviews were undertaken with those individuals who manage resources, at a local and senior level within the two UHCW and GEH. The final sample consisted of three persons, each from a different management role within the two chosen hospitals. This sample included those who managed front-line staffing at ward level, and those who were employed within the roles of chief nursing officer for the West Midlands region. Participants varied in both age and gender, with each participant having acquired a minimum of 10 years' experience working within both the public and private healthcare sector in England, and the wider UK.

The aim of the interviews was to explore, as outlined in Table 4.1, research questions 1, 2, 3 and 4, focusing on labour participation, turnover and shortages within the nursing labour market in England and the wider UK. As identified in Chapter 4, exploring the questions with these participants, on a wider UK level, was felt to be important in providing a macro perspective. The interviewees' experience of managing and implementing both local and UK national policy lent itself to a wider reflection on the UK nursing labour market.

A prime aim was to seek further perspective on the current situation faced by key stakeholders in the nursing labour market within England, but also with due regard to the wider UK, and to provide a contrasting or validating perspective on those views expressed by the nursing labour force collected in the survey questionnaires and focus groups.

6.2 Perspectives on the nursing labour market in England (West Midlands)

From the survey questionnaires, interviews and focus groups data, several themes and concepts emerged. The groupings of each of the identified themes were driven by the concepts and statements raised by the participants, and were structured by the survey questionnaires, focus group and interview agendas. The six themes and related sub-themes identified were as follows:

A. Pecuniary and non-pecuniary benefits influencing individual labour supply decisions;
B. The impact and consequences of policy and other exogenous factors on nurse perceptions, expectations and the wider healthcare market within England;
C. The evolution of qualified nurse's expectation;
D. What areas of health specialism graduates signal an interest in;

E. Individual behaviour and decision-making influences:
   i.   Non-quantifiable job factors,
   ii. Current employment conditions,
   iii. Current work environment,

F. Current nursing labour market conditions and workforce planning in England;

These themes are used in Section 6.2 to structure each sub-section reporting on the respective findings. There exists some overlap between the themes given the non-discrete nature of the concepts that emerged. The connections between the themes are considered in Section 6.3, along with the key findings.

A: Pecuniary and non-pecuniary benefits influencing individual labour supply decisions

The first theme that emerged related to how individual occupational choice, educational choice and labour supply is influenced by pecuniary and non-pecuniary benefits. The former relating to pay and monetary remuneration, the later relating to benefits that are difficult to quantify, for example, satisfaction derived from being able to care. A variety of areas were identified that influence individual and educational choice, for both new recruits and those choosing to re-enter the profession after a break from the nursing labour market. The focus was heavily centred upon how entry into the profession, and overall motivations behind the supply of nursing labour was impacted on by a variety of factors, namely policy orientated. These included the **then** proposed removal of HEE (Higher Education England) funding, the suitability of the degree programme, the impact of introducing a degree entry criterion, and employment and work conditions. The former was perceived as a potential barrier due to the increased financial burden being placed on students, and the latter was perceived as sending a positive signal in the move in professionalising nursing and increasing the academic rigor. Overall, this area was felt to be of particular importance given the commonly held belief among management that demand for nursing labour and healthcare is outstripping current supply.

Discussions began by reflecting around upon the ***suitability of the degree programme*** and the alignment of expectations, with management suggesting that the educational programmes on offer, that are not degree related, should be advertised more clearly, to encourage greater non-graduate entry into the profession. One perspective that was given in the management interviews reflects the consequent perceived lack of advertisement, entry pathway, and progression for those individuals who wish to join the profession, but do not have the necessary degree entry requirements. This impacts on supply negatively:

'There's been quite a lack of pathway, or clear pathway for people through a non-academic framework […] [Previously] you could go in through the diploma route, and then to degree. Some of those routes don't exist anymore, some of them are just less clear, and the people have chosen other opportunities' (INTW:Manager).

However, as identified in Chapters 2 and 3, it is hoped that the introduction and active promotion of the TNA and nurse apprenticeship from 2018 onwards, will help to address such issues.

In addition, the **then** proposed ***removal of HEE (Health Education England) funding*** for individuals choosing to study nursing at degree level was perceived to have a potential negative impact on labour supply overall, given that alternative route ways are not readily available. Evidence suggests that the financial implications of the degree programme versus the financial rewards once graduated are misaligned in comparison to other graduate professions, with a respondent highlighting that:

'Lots of people go to university now […] people will look very carefully at spending £9,000 a year in terms of what their output is […] they will look at prospects, they will look at monetary, financial rewards, and also their working and their lifestyle. If you compare a nursing job with a degree coming out at £22,000, £23,000, versus somebody who works in IT who's probably on £30,000' (INTW:Manager).

The impact of introducing a ***degree entry criterion*** through *Project 2000* was raised by management interviewees. One identified that the changing perception of nurse training at graduate level, has encouraged individuals to see nursing as a profession and not just a vocation[73]. This has increased demand for the degree programme:

'I think it's changed people's perceptions of the profession […] Most of the international markets have gone over to degrees […] the expectations of a nurse require a degree-level education anyway […] for every place you offer there's usually nine people applying, I think there is quite a lot of demand out there' (INTW:Manager).

Others did note however, that this changing perception could alter the motivations behind why individuals join nursing as a career, with the qualification being used as a currency as opposed to a means to enable an individual to practice and deliver care, for instance:

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[73] Echoing the findings in chapter 2.2C.

'[…] The majority of people who sign up to be a nurse want to be a nurse to look after people. But I do think there is a small number that sign up because they want a degree, and […] [currently] you get your fees paid by the NHS […] I know that the universities are quite strict about who they let in; there is a rigorous procedure for who gets their place. I'm not sure how you can police it' (INTW:Manager)[74].

The findings then progressed onto the influence of pecuniary benefits, and more predominately, ***pay and remuneration***. Pay was ranked amongst the least influencing factor when deciding whether to enter the nursing profession, which is consistent with the econometric findings presented in Chapter 5. Focus group participants reflected that

'pay is [not] why you come into nursing, but to be honest, the pay is […] standard across other professions or equivalent with other professions like teacher's' (FG: Nurse).

Furthermore, focus shifted to the continued pay freeze, and the impact this had, and was having, on motivation, with one participant noting that:

'We haven't had a pay rise for four or five years now. Why is that? It doesn't make you feel very valued for what you are doing […] I've always said I don't think nursing is badly paid. I think the responsibility is appalling' (FG: Nurse).

Participants felt that overall, the pay and remuneration did not equate to the level of responsibility a nurse has to take on, and that aspect of the job role was not comparable to other professions. Furthermore, there was a general consensus among the participants that when you take into account the additional financial burdens a nurse has to take on, including car parking charges and annual registration to practice with the NMC, the take home pay was reduced:

'[…] someone mentioned before they pay £450 odd a year just to park their car at work […] a little extra dent in our lives which shouldn't have to be […] We shouldn't have to pay to park. We're getting paid [less]' (FG: Nurse).

With regard to the ***non-pecuniary factors*** that initially influence individual and educational choice were identified as prominent in this decision-making process. These non-pecuniary factors included the perceived image of a challenging work environment and the impact this had on individual satisfaction and ability to carry out the job role; the satisfaction derived from

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[74] As identified in Chapter 4, the qualitative data was collected prior to the government removing funding for higher education study.

the desire to work and practice within the field of medicine, and the associated desire to help and care for people.

With reference to A.6.1 (Appendix 6), a key finding which emerged from the data was that a significant number of respondents aged between 23 and 27 years ranked a 'challenging work environment' as a significant, non-pecuniary factor when electing to study a nursing related degree or diploma for future entry into the profession. This was a dominant theme also raised when exploring the labour supply decisions of employed registered nurses through both the survey questionnaire and focus groups conducted. This was closely followed by the perceived availability of career progression once graduated, and the desire to work within the field of medicine.

Recent graduates ranked the 'desire to help and care for people' (non-pecuniary benefit) and 'previous experience of caring for others or being cared for' as further influences in their occupational choice decision-making. It was noted however, that many graduates felt that barriers exist that prevent them from being able to carry out, what they perceive, is their nursing role, and expectations created on degree placement are different to those experienced when actually employed within the role full time. This is an important avenue for investigation and reflection not raised within the current literature. Furthermore, many respondents highlighted their feelings of working, in a greater than expected, pressurised environment, with barriers preventing them from helping and caring for others.

As outlined in Chapter 2, there has been significant reflection on the move to nursing becoming a graduate profession (Section 2.2C). From a variety of management perspectives, the changing perception of the profession and educational credentials associated has had a positive impact. Furthermore, one manger suggested that the removal of HEE funding, as previously identified, is predicted to reduce the supply of labour in the future, further compounding the problem of labour and skill imbalances:

> 'You'd need to attract more people to nurse training […] the way isn't to charge people. Because of how much placement and that we have to do and we have to do nights and all of that, you don't do that on a lot of the other courses' (INTW:Manager).

An interesting finding from new graduates surveyed in the student questionnaire, is the lower ranking influence of both hours worked and general job flexibility, which was in contrast to the feedback collected from both the management interviews and focus groups. As outlined in the later discussions, an increasing number of nurses choose to leave the profession due to the inflexibility in hours worked and implications this has for both family commitments and out of work lifestyle. By ranking such factors as somewhat uninfluential, it could be deduced

that more recent recruits into the profession are aware of, and are expecting, working arrangements to be inflexible. Management did reflect, however, that efforts were being made to provide a more flexible work environment (non-pecuniary benefit) to help nurses to achieve, where possible, as suitable work-life balance. Management interviewees recognised that this inflexibility drives turnover, and that addressing it should be priority to encourage those nurses that have left the nursing labour market to re-enter.

Recent graduates reflected upon their overall labour supply decision-making behaviour once their degree programme had been completed, and their choice to enter the nursing labour market or not (A.6.4). 80% of the new graduates surveyed agreed they would use their obtained qualification to enter the nursing workforce; however, 7% said that they would not be doing so of which the majority were aged 38 to 45 years. The recruitment of more mature graduates brings with it a variety of difference challenges, including domestic demands (Ryan, Bergin, White, and Wells (2019)[75]. The focus group discussions suggest that attrition and retention within nursing degree programmes remains a challenge. One nurse reflected upon their most recent experience with the level of attrition they experienced on their degree programme:

> *'Ten people in my cohort left and then we had two new ones gained who had taken a year out and come back again. There was a big dropout rate really' (FG:Nurse).*

The reasons behind course selection and attrition was consequently discussed, and it was felt that the subsidised nature of the programme, in some instances, distorted occupational decision-making, as highlighted by one nurse participant:

> *'Most people don't come into nursing because it is a free degree do they?. You usually have got a caring background anyway. There is no way on this earth I would ever have been able to do my degree if I'd had to pay for the course' (FG:Nurse).*

Furthermore, a current nurse mentor for placement students within the hospital also reflected further on the motivations behind entry onto the degree programme and how funding can distort application and progression:

> *'[…] as a mentor after I think I have come across a couple of student state maybe it was a means to an end […] They have got halfway through [their degree programme] and they were not sure that nursing was right, but they were going to finish it anyway because it was a course they were getting for free' (FG:Nurse).*

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[75] As explored in Chapter 2.

Tables A.6.2, A.6.3, and the discussions in A.6.2 through to A.6.5 indicate that those individuals aged 38 years and above feel their perceptions and expectations of 'nursing' and becoming a 'nurse' were realised once qualified, and feel the degree equips them to carry out such roles. Potential explanations for such attrition, as concluded from the focus groups discussions, may be the result of individuals feeling that they were unable to care and carry out their job role sufficiently, due to, for example, increasing paperwork. This is the key driving factor of occupational choice and labour supply for this age group (A.6.6).

The focus group discussions suggest similar conclusions. One nurse highlighted that the amount of paperwork on entry into the profession was unexpected, and the question of how to manage expectations on the degree programme was raised:

> *'I was surprised at how much paperwork is involved. I realised that coming through university, but then when you actually start in your career you find how much paperwork you have got to fill in. Now everything is becoming more computerised as well' (FG:Nurse).*

The majority of new graduates surveyed, across both age and gender, ranked 'a desire to help and care for people' as the most significant factor that influenced their labour supply decision (A.6.6), closely following in second place by the desire to utilise their nursing qualification. These findings are consistent with previous research (Glerean *et al*., 2019; Glerean *et al*., 2017; Eley *et al*., 2012; Hickey, Sumsion and Harrison, 2012; Price, 2009). The desire to care for others is the predominant driving factor throughout the survey findings for both occupational choice and labour supply decision-making. However, as mentioned previously, many feel that they were unable to carry out this role, and thus feel both frustrated with expectations of their role not being met. This level of dissatisfaction has significant implications for further attrition and retention within the nursing labour market. In addition, management within the current nursing workforce highlight that the degree programme encourages students to divert away from front-line nursing care to management roles, changing individual expectations of the job role. For instance, one manager stated that:

> *'[…] the degree, they are more […] management orientated rather than nursing orientated. You will find young nurses who have qualified, who will not stay at Ward level for long. They will get six months experience, maybe a year and then they will move on to higher things in management because that is what they really want to be […] Some nurses go into nursing to go up the management ladder where, you will find a few nurses who will stay at ward level or ground level where it is more important. I do think it is making*

it worse because they are encouraging nurses to become managers rather than to stay at ground level and lead by example' (INTW:Manager).

As discussed above, many individuals see the attainment of the nursing related qualification as a human-capital investment, and thus derive satisfaction from being able to practice what has been taught. Current discussions within the policy arena with regard to transferring government funded university degree programmes to self-funded because of government cuts, consequently, may have significant implications for such labour supply decision-making behaviour (as explored later). Ultimately, it may have an adverse effect on both the occupational choice and labour supply decision-making of individuals. The impact such changes will have on future labour supply were also a concern for the current nursing workforce, with a manager reflecting that:

'I reckon there'll be even less [supply]. They're talking about making you pay for placements as well but who's going to want to pay to go and do shifts?' (INTW:Manager)

An interesting finding from the new graduates surveyed (A.6.6), is that respondents ranked the 'availability of jobs within the wider labour market' as a relatively insignificant factor when reflecting upon their decision-making behaviour to enter the nursing workforce. Given the uncertainties and instabilities surrounding the nursing labour market within England and the national nursing labour market more generally, as identified in Chapter 3, it was expected that individuals would identify such factor as key influence in their labour supply decision-making. These uncertainties include funding cuts, changes in patient demands, and supply-side labour changes. It could however be deduced that, given the findings from the management interviews and focus groups, many individuals view their qualification attainments as 'currency' within the market given the relative shortages, of which lacks reflection within the current body of literature. Two managers reported that students:

'[…] see the degree as a currency to move into other sectors, so just having a degree may be an entry criterion to go and work in a completely different environment, so it might be sales as an example, working for a medical sales company. You come with background clinical experience, you don't need to nurse, but having a degree gets you in at the right education level to do that. I see it as much more of a currency now, rather than necessarily a professional qualification, which is what you would have had as a diploma, because you invariably couldn't take that anywhere other than healthcare' (INTW:Manager),

'The younger generation are coming through, seeing it as a qualification and ticket, so they're saying my career plan is to work for the NHS for two years, and then I'm going to Australia, or I'm going to America, or I'm going to work here for two years, and then I'm

going to go there for two years. So, they see it as a much more portfolio-based career'
(INTW:Manager).

Additionally, one nurse also agreed that the qualifications gained were of a transferable nature, and the current nursing labour market more generally provided less uncertainty in comparison to others with regard to job security.

'It's a secure career. You could go anywhere with it. You're not going to get redundancies with it. There are always going to be a demand for nurses' (FG:Nurse).

Consequently, graduates with a degree may offer a short-term labour fix, given the transferability of their degree and desire to move between job roles, both nationally and internationally.

On further exploration of the level and availability of education and training provided, many nurses chose to reflect upon why they initially chose to enter **nursing as an occupation**, and in turn enter the nursing profession once the initial training had been completed, with two nurses suggesting from personal experience that:

'A major factor for people was the funding available[76] to allow it […] And perceived career as well, with possibilities of going other places as well on top of that. So, continued learning and job security as well really. But a major factor for me sitting here now is the funding of it' (FG:Nurse).

'I think because it does state you as a professional […] The fact that it's a secure job […] knowing that I will get work out of the end of it […] as well the bursaries I think they do sort of - you don't feel like you're going to go to uni and then come out in debt without a job […] I'm not losing anything by doing it. I'm only gaining' (FG:Nurse).

Many nurses reflected upon their previous exposure to healthcare and an interest in health-related sciences, as a key driving factor to choose to enter nurse training. For instance, three nurses indicated that their previous exposure to providing a healthcare related service and delivery was the driving force behind their decision to become a nurse stating that that:

'… I used to work in a chemist. The niece of the bloke who owned it was a nurse. She said, 'You'd be a good nurse'. That was it. Quite literally that was how I started doing it […] There wasn't a vocation and a magic light' (FG:Nurse),

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[76] Funding being a factor and common theme identified by focus group participants.

'I had to do a voluntary placement. I did it at a rehab hospital, an older people's rehab hospital. It was feeding people, talking to them, taking toileting […] Then at college I did health and social care for a year' (FG:Nurse).

'I was a trained care worker. So that led me towards nursing' (FG:Nurse).

Others described their experience of being associated with a patient receiving care, and their interest in patient contact and interaction as a key motivator, as highlighted by one nurse:

'I started my training straight after leaving school […] then did a degree in nursing. But partly because my mum had been in hospital a few times when I was younger […] I was interested in the patients […] Then when I came to looking at careers I looked at physiotherapy but nothing gave me enough contact with patients than actually being a nurse itself' (FG:Nurse).

Furthermore, other nurses identified that their own interest and line of enquiry into health and social science as a discipline was a key driver, and the inter-disciplinary nature of the qualifications and associated job roles provides a secure outlook with regard to future employment, as exemplified here by one nurse:

'When I was, younger I enjoyed health and social […] I really enjoyed being around people and the more I did health and social […] because I enjoyed biology as well, kind of makes sense to do nursing. And it's secure, it's something that I could do - if I wanted to do I could then go off and do other things' (FG:Nurse).

Re-entry into the nursing profession and labour market was consequently another area for discussion. A key concept identified during the management interviews was the need to incentivise those individuals through pecuniary and non-pecuniary methods, who are qualified, but have exited the profession altogether, and are employed and active in other labour markets within England, and the UK more generally. As outlined in Chapter 5, these individuals represent a significant proportion of the population, who have previously been unanalysed when exploring the labour supply decision-making of qualified nurses within England. Management interviewees reflected upon exit and re-entry into the profession, and the impact this could have on addressing the current labour and skill imbalances. One manager, for instance, noted that in a variety of instances, individuals utilise their nursing qualifications to become educators, and continue to deliver within the field, or undertake nurse related roles outside of a hospital care setting. In addition to leaving the profession entirely:

> *'[…] some of them go off and do education roles […] I've got somebody who went to work in school nursing, and do something completely different, and then-, some of them come back' (INTW:Manager).*

Furthermore, another noted that in some instances, qualified individuals remain within or do return to work within a hospital setting, whilst others, earlier on in their career, place value on the experiences gained from being mobile within the UK nursing labour market more generally:

> *'for some people it's just, they wanted to come back into hospital nursing, some of them say necessarily the grass wasn't greener […] some just liked having a job where they moved around every two to three years and do something quite different. So, we do see that quite a lot in lots of our younger nurses […] where some of our older nurses were quite happy to stick with it for much longer periods of time' (INTW:Manager).*

Research exploring the re-entry of nursing qualified individuals into the nursing labour market remains undeveloped. However, it is identified by management as key to providing a more immediate remedy for the labour and skill imbalances currently experienced. The motives behind entry and exit are identified above, with many drivers being associated with the barriers individuals feel they face in nursing practice.

Overall, these findings echo those from previous research (Chapter 2) and illustrate the human-care aspect of the profession, and the importance of patient interaction, which many highlight as being compromised due additional workplace pressures, including increased paperwork and staff shortages. This is turn highlighted the variety of aspects that are influencing **turnover intent** within the profession. For instance, one nurse stressed the changing role and boundaries associated with practicing as a nurse, mentioning that:

> *'It's more than nursing now […] it's like - nurses, nurses, nurses. There are no clear-cut boundaries to your job responsibility. It can be - the boundaries can be very easily expanded to various areas' (FG:Nurse).*

As a consequence, the changing nature of the job role, coupled with the need to continually develop professional skills and practice as a result of this role expansion is placing an increasing demand on an individual's time, which is further burdening the current workforce. For instance, one nurse noted that:

'We are willing and we want to learn. We have to do revalidation every three years to prove we have done learning, but they are not giving us the scope to do it plus we are working extra hours. When are you going to physically be able to do it yourself?' (FG:Nurse).

Another nurse suggested that additional barriers to working practice were associated with the current media perception, and patient expectations negatively impact on staff moral:

'[…] it's constantly in the media about a lot of negativity towards the NHS […] our goal pressures have gone up […] cutting all the funds […] we know that that's going to have a big effect on ___ hospital and our pressures […] when you have all that negativity in the media and people saying that we're not good at our jobs or we're not motivated and all this sort of stuff and we're going in and like slogging our guts off all day, motivationally, it's at an all-time low. People are exhausted as well. There's only so much you can actually physically do' (FG:Nurse).

On further investigation of the turnover intent, both within the profession and outside, 29% of the employed survey respondents identified that they had thought about moving to a different department (A.6.9), and 70% felt the career gives them ample room for progression and growth (A.6.9). However, over 48% of respondents have witnessed one or more staff members leave in the past 12 months, with some participants reporting over 10 members of staff leaving (A.6.10). Evans (2017) reported that in 2017, 1 in 10 nurses had left the NHS altogether in the last 12 months. In 2019, the number of unfilled nursing positions (Section 3.1) reached its highest peak of 43,617 positions available (a vacancy rate of 12%) (Mitchell, 2019). One nurse reflected that the feelings of being undervalued in their role, and the reduce moral among the current workforce is exacerbating the problem further and that was why nursing were leaving the profession:

'I think this government is devaluing the doctors' role as much as our role and morale is quite low. I have not considered leaving the whole profession, but I have considered moving jobs to try and have more of a quality of nursing itself' (FG:Nurse).

Consequently, the occupational choice and labour supply decision can be argued to be multi-faceted in which several influencing factors are non-quantifiable. Turnover within the profession, and the factors influencing an individual's intent to remain are consistent with previous literature findings. However, given the factors commonly raised, nurses felt that more could be done to address, what they perceive to be, the problem areas.

Management within the profession, however, provide a general consensus that demand continues to outstrip supply, consequently causing a **shortage of both labour and skills** within the wider UK health economy. During the management interviews, one manager clarified that:

> *'[…] there is a serious shortage of nurses within the UK, but that's experienced internationally. I think the labour market for nurses is particularly challenged, I think, in the Western world, I think there are shortages all over the shop' (INTW:Manager).*

The factors contributing to the current labour imbalance focussed on the movement of labour, including occupational choice, professional progression, and motivators behind turnover intent. One manager recognised that the current movement of labour within and outside the profession, and the wider UK healthcare market more generally, is as a result of retirement, the desire for further career progression and exposure that cannot be realised within their current placement, and the need to adapt to changes in personal circumstance. They stated that:

> *'[…] people either go to a different organisation because they want to do something different, so working at a teaching hospital is very different from working in a small district general, the pace and requirements are just very, very different. Some people move on for things like promotion, they want to develop their careers. We have a lot of people who retire, because the government changes around the pension, meaning that people's pension, particularly over the last eighteen months, two years, has been a serious issue. So, people want to leave and come back on reduced hours. A lot of people have families, the majority of the profession is female, so we quite clearly have a role and responsibility in supporting them during pregnancy, and also family-friendly availability of hours is an important driver' (INTW:Manager).*

In addition, another noted that the current state of the healthcare market within which individuals were employed was aiding turnover further, stating that:

> *'More people are considering [leaving] now, because of the nature and the state of public finances, and also policy decisions in the NHS, so we are seeing quite a few people who are electing to go and work abroad' (INTW:Manager).*

This perceived level of stress within the work environment, as a result of current funding cuts, barriers to practice, emotional challenges of the job, and labour shortages as a result of the above were commonly identified within management as additional factors driving turnover due to the impact on job satisfaction, with two managers in agreement that:

'[…] people haven't got job satisfaction […] it is really stressful but it's like that anywhere in the NHS' (INTW:Manager),

'It's a stressful environment. The patients we look after, it can be very intense and stressful […] there is quite high turnover of staff, and a shortage of them […] It can be a really emotionally challenging job, and you can burn out quite quickly' (INTW:Manager).

Findings also suggest that the additional barriers identified focus primarily on the employment conditions under which labour is demanded, and the implications these have for the individual with regard to financial returns and implications, including childcare, as explored in detail in Section 6.2F. One manager illustrated this saying:

'Childcare is still very expensive, so you might only get a certain amount of money, which, if you're on a nurse's salary in some parts of London, nurses just can't live. It's just impossible for them to live, because not only housing, but childcare and rent […] is just too much' (INTW:Manager).

Such constraints support those identified during the focus groups, and reflect that employment conditions, inclusive of pay and remuneration, should be addressed. However, it was also recognised that the financial constraints and cuts within the NHS create barriers to altering such factors.

In relation to the ***current state of the nursing labour market within England*** and the wider UK, and the public provision of healthcare, and the associated financial cuts, a further focal point was whether the NHS should be privatised. Among a variety of views, a key item raised was how supply and demand were mapped within the state-based system, and how it should be either state owned or privatised, as opposed to a mixed market. One manager reflected that a quasi-market going forward would not help resolve the current labour market imbalances, and a decision would need to be taken as to whether the NHS should remain public or become privatised:

'[…] You either have it as a completely state-based system […] so you can match supply and demand based on your activity, your models, your hospitals, all of those sorts of things, or you don't. You either have a complete market or you don't, you can't have in between, so at the moment you've got a quasi-market which is you've got a non-marketised approach to labour supply for nurses, and it doesn't work, because if you've got not enough, you've got no way of turning the tap on, if you've got too much, you've got no way of turning the tap off. You're just stuck with a very, very flat supply, hence why

when you get increases in demand through extra activity, or you need to retract, you have a problem in the NHS. It's difficult to do. So, you either do one or the other, you can't have both' (INTW:Manager),

The consensus, thus, identified that the current market structure creates a variety of challenges and barriers, as addressed above, and thus needs to be carefully managed, and either fully state-based or privatised.

The impact of pecuniary and non-pecuniary factors on the individual and educational choice is complex. There are a variety of factors that are perceived to impact on this decision-making behaviour at different stages of market entry. The challenges and opportunities the work environment and job role, offer need to be considered carefully. A key barrier to both managing expectations and individual satisfaction is the reported feelings of being unable to care and carry out what individuals perceive to be the role of a nurse. The impact of current policies on education and entry into the profession need to be monitored closely to manage the impact these changes have had and will have on individual and educational choice.

B: The impact and consequences of policy[77] and other exogenous factors on nurse perceptions, expectations and the wider healthcare market within England

The second theme that emerged, initially from the new graduates surveyed (prior to employment), related to how individual nurse perceptions and expectations are affected by policy and other exogenous factors, including the "graduatisation" of nursing. Focus was upon how an individual perception of 'nursing' and being a 'nurse' had evolved following the degree programme and placement experience, and how this experience had helped shape both beliefs and expectations of working as a nurse. Furthermore, reflection was upon whether the contents of the programme and allocated placements were sufficient in providing them the skills and vocational experience needed to transition into the nursing labour market[78]. Focus group participants expanded on this area of concern, with discussions centring on the trade-off between academic learning and vocation/on-the-job training, and the consequent management of graduate expectations.

Within the survey questionnaire sample, half of all graduate respondents agreed that their ***perceptions*** of 'nursing' had changed since joining their programme of study (A.6.3).

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[77] The qualitative data was collected pre-Brexit, thus participants did not reflect upon this more recent policy change.
[78] As identified in Chapter 4, the data was collected before the introduction of the TNA and nurse apprenticeship scheme in 2018.

However, for those participants aged between 38 to 45 years, their perceptions of 'nursing' had not changed. This arguably reflects the years of experience and exposure those aged 38 years and above may have accumulated, and the impact this will have had on their interpretation of 'nursing' overall. Several reasons were given as to why the respondent's perception of 'nursing' had changed, which focused on a variety of factors including time and administration constraints, and emotional and environmental pressures (Table A.6.3).

Another interesting perspective provided by the new graduates surveyed is that 24% (n=18) of newly qualified nurses neither agree nor disagree that their perceptions of 'nursing' have changed, and thus were indifferent. Overall, those respondents who were aged between 18 and 22, felt their perceptions of 'nursing' had changed. Those respondents aged 38 years and above however, were more likely to not feel their perceptions had changed. This difference could be attributed to greater exposure over their years of both nursing and being nursed, in addition to their preconceived ideas of nursing more generally. Previous findings by Glerean *et al.,* (2019)[79] provide support for such findings, given that entrants hold strong beliefs and images about what they will be doing as nurses. Their personal beliefs and images of nursing would seem to sustain them. Furthermore, most respondents felt indifferent about whether their perceptions of becoming a 'nurse' had changed since joining their programme of study (A.6.3), which consistent with previous findings. Once again, as identified above, those individuals aged 38 years and above, were more likely to retain their perceptions of becoming a 'nurse' since joining their programme of study. However, those respondents who felt their perception of becoming a 'nurse' had changed since joining their programme of study cited several reasons as to why, including work environment pressures and the changing nature of the job role (Table A.6.1). These findings are consistent with RePair Report published by NHS England (2018)[80], who identified that the transition for nursing students was hindered by a variety of factors, including *'support from mentors and the team in the clinical placement […] family obligations, clinical model of practice (including culture) and associated lifestyle' (*NHS England, 2018, p12*).

From the perspective of new graduates surveyed prior to employment, 53% on reflection, agreed that the degree programme was suitable and sufficient in equipping them with the necessary skills to be able to carry out the role of a 'nurse' (A.6.4). However, 22% of the sample, across all ages and gender, reflected that their programme of study was insufficient and unsuitable in its capacity. Several reasons were cited as to why the degree programme did not equip them to become a nurse, including lack of development of a variety of skills

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[79] As identified in Chapter 2.
[80] As explored in Chapter 3.

necessary to practice (A:6:1). However, several respondents highlighted the significance of the trainee placements, and the benefits of practicing on-the-job that their programme of study provided. Additionally, it can be deduced that the expectations of individuals in several cases were not always realised. This was explored in greater depth during the focus groups. It was found that nurse employees, many of whom have been assigned the role of graduate mentor, also feel that degree programme should place a greater emphasis on vocational training and exposing students to placements and scenarios that are reflective of the role they will undertake when entering the nursing labour market. In addition, they emphasised the importance of equipping students with strategies to cope with both the job role and the management of their emotions, which many mentors felt they try to provide, but do not have sufficient time or training to do so. These findings are consistent with previous research within the field. Hinsliff-Smith *et al*., (2012) identified three key themes related to turnover and retention on nursing degree programmes, namely related to coping strategies, career advice and collaborative arrangements, all of which are represented in Section 6.2C below.

The nature of the programme with regard to the suitability and effectiveness of a variety of assessments also highlighted, that softer skills cannot be taught, and a variety of assessments were thus felt to be redundant and ineffective. The level of suitability and effectiveness of the degree is an area that lacks reflection within the current body of literature. This was also highlighted within the focus group discussions, in which one nurse stressed concerns regarding the usefulness of the course, and the vocational nature of training, and the effectiveness of the teaching methods adopted:

> '… *when you're starting out to do nursing you're really optimistic […] I didn't find the course that useful with the amount of time that you're given. I think you could have learned a lot more in the three years, if it was sort of structured differently. But then you have to do a lot of self-learning […] You self-teach yourself […] you could learn so much that you could apply better to the job, rather than the number of essays back'* (FG:Nurse).

Furthermore, the suitability with the support available to students whilst studying on the degree programme, particularly with that available during placements to help apply and utilise the materials learnt, and develop the softer skills was also raised during the focus groups as an area for reflection. There is a need to reassess the motivation behind the mentor's role. For instance, a nurse spoke of their reliance on mentors as a source of support:

'… you have to rely on your mentors or those people in the placement you are in to encourage you […] I could imagine that young students who weren't pushing themselves or weren't in the idea that they should push themselves would [learn very little]. Got their timesheet signed […] and just said that was that placement completed and really and truthfully it wasn't.' (FG:Nurse).

In many instances, reflection was upon the misalignment and mismanagement of **expectations and the transition** challenges new entrants faced, as highlighted in the graduate survey. One nurse reflected that more time should be given to both mentoring students and providing support during the transition to professional practice:

'If they get that support from the very, very beginning and preceptors are allowed to nurture these newly qualified and give them that support I think we wouldn't have the amount that we have leaving. That is all they say in their evaluations. 'I don't get any support. Never worked with a preceptor.' That to them is a key thing because they just need someone to say, 'Am I doing this right?' And visually see somebody doing it' (FG:Nurse).

In addition, others elaborated further that the degree programme should be developed to provide an extended period of professional practice beyond the placement periods. This would potentially provide students with a more realistic experience and opportunities to practice for prolonged periods, to ensure maximum exposure to practice once qualified and employed as a nurse (as opposed to the restricted role as a placement student). This was highlighted by a nurse:

'I think nursing should be four years. Three years theoretical and that final year should be probationary working as a newly qualified for a full year. Not doing anything, just learning the job and how you do it. Because I think then after four years you would have somebody that is up and going straightaway into the team […] Expectations on newly qualified are far, far too high from everybody' (FG:Nurse).

However, as identified in Section 2.2, it is hoped that the introduction of the TNA and nurse apprenticeship scheme will help to address and alleviate such issues.

A common argument throughout is the **vocational aspect of the job**, and the ability of the degree and placement programme to equip graduates with the correct skills. The suitability and matching of the mentors to students as a consequence was considered, and the associated preceptorship paperwork and how progression is monitored, given the increasing burden nurses feel they face, was also highlighted as an area for concern by nurses. For instance:

'There is an awful lot of disillusionment and I think a lot of goodwill has gone. I think the expectation of senior management is extremely high' (FG:Nurse).

Reflection then progressed onto the introduction of ***Project 2000***, which as identified in Section 2.2C, started a movement of policy changes that shaped the current state of the UK nursing labour market. Focus was upon how current and previous policy, both from a governmental perspective and hospital perspective, have sought to address what is perceived to be an existing nursing labour shortage within the market. Respondents reflected upon the introduction of degree level entry into the profession, noting that, the suitability of the degree programme, and the skills taught were questionable, with one nurse stating that:

'I think they come out and they are very good at the theory but the practical skills they lack. If on their placements, they have not been in an acute setting and then they want a job here that is a big shock for them because they just don't know how it works. They have no idea how it works' (FG:Nurse).

This finding supports those concerns raised by recent graduates (Table A.6.1; Table A.6.2; A.6.4), in which it is suggested that this mismanagement of expectations is reported to be a key factor driving turnover within the profession. This theme is common throughout the qualitative data. As previously identified, the funding of fees by the government was regarded as positive (removing the financial burden of entering the nursing profession and allowing individuals opportunities they could not provide themselves). However, the previous recommendations to transfer the nursing degree programme to one which is fee paying[81], received mixed feedback from the surveys conducted here. One nurse noted, for instance, that the introduction of student fees for the nursing degree may act as a screening process, attracting only those wishing to practice as a nurse into the profession:

'That is while it is free. I am sure if they introduce the fees 700 won't apply that will really whittle it down. Those people who are quite vocational will be the ones who apply' (FG:Nurse).

Whilst the impact of current budgetary cuts with regard number of funded places available on the degree programme was reflected upon, management also noted that the then proposed implementation of a fee-paying programme could potentially create a significant barriers to recruitment and retention. The general consensus among management was that the then

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[81] As identified in Chapter 4, the qualitative data was collected prior to the government removing funding for higher education study.

proposed removal of bursaries for both students and working staff may have a negative impact on labour supply, both on intent to enter and remain within the profession (as realised in Chapters 2 and 3 with falling number of applicants to the nursing degree programmes). One management interviewee however noted that

'taking away the bursary is an important step, because we have to get to a position where we over-supply to the market, because we have to have the ability to fulfil our demand […] Within the UK, we rely heavily on overseas recruitment, there's a lot of challenges around that in terms of, moral and ethical issues in terms of recruiting from areas, particularly from Europe or overseas. There's costs associated with doing it, recruiting is quite expensive from abroad, and if you've got a demand within the UK, it seems sensible to be able to use that demand, so moving out of a bursary system does give the stability to go into a slight over-supply, which does make the market slightly more competitive' (INTW:Manager).

From the econometric results in Section 5.2.1, it was concluded that, for married nurses the attainment of a vocational qualification, and a combination of vocational and degree qualification, are 5 percentage points more likely to participate within the nursing labour market in England than an individual who does not. Thus, current policy initiatives were making a positive impact on participation into the nursing labour market, however for married nurses, the qualification status was not identified as statistically significant in influencing the hours of work decision. This finding may be a result of the standardisation of working contracts, and the fixed nature of hours expected to be worked on full-time or part-time contracts (NHS, 2019).

Advertisement and recruitment into the profession, and the media portrayal overall, was also highlighted as an area for concern during the focus groups. Given the skill and labour shortages faced within the NHS, current nurse employees stressed that the limited resources that are available should be directed to entice new recruits into the profession. One nurse suggested that better advertisement of the profession should be available to showcase the profession, compared to issues in other parts of the public service which appear to take greater priority:

'I'm quite shocked that the Department of Transport always has the campaign about driving, speeding, there's nothing on TV about the good thing about working in healthcare. And the Department of Health aren't really good at promoting any of their workforce. The only campaign they tend to do is more about healthy eating, smoking' (FG:Nurse).

The negative media portrayal of both the NHS and care delivery was also addressed, and the impact this has on both recruitment into the profession, and public perceptions generally.

The lack of **_resources and further financial cuts_** have resulted in movement towards a reduction in pay enhancements, increased retirement age and an extended 7-day NHS care delivery service, as confirmed by focus group participants above. Evans (2017, p9) identified that

> *'the curb on pay since 2010 effectively means that salaries have been cut by 14% once you take into account the rising cost of living […] lower paid staff are leaving to stack shelves in supermarkets rather than work in the NHS'.*

There is, however, evidence to suggest that this is a key causal factor in the reported level of turnover within the profession. The focus group participants confirmed, as identified in the earlier discussions, that the current pay and remuneration structure does not support the current cost of living, with one nurse stating that with the proposed removal of enhancements would not provide a sufficient standing of living:

> *'[Removing enhancements] I think that's going to have the most amount of people leave […] but I couldn't live off my basic wage' (FG:Nurse).*

Another stated that, as a result, the only option to generate extra income was to join the nursing agency bank, either public or private, which is actively encouraged:

> *'They stopped paying us overtime and said we had to join the bank if [we] wanted […] to do hours over our contract, which they do' (FG:Nurse).*

This in turn generated further reflections on the overall **_incentive structure_** within the NHS, with one participant noting that the benefit of early retirement is not a key motivator anymore to remain within nursing. As a consequence, the removal of such bursaries and enhancements is predicted to have significant impacts on motivation and incentive to remain, as eluded to by one nurse:

> *'There has to be other incentives now, because the pension isn't an incentive anymore, because you're probably going to work until your 68 […] It's not the same as it used to be, 55 retirement […] the pension isn't a motivator anymore. If they take away the shift enhancements I think they will see a massive impact. Because they need to think what would motivate people and it is quality of life' (FG:Nurse).*

Management further reflected upon a variety of these policy changes that have directly impacted on **_care delivery and labour supply_**, and initially focused upon those changes that were service based. There is a relative paucity of discussion, within the literature, from a management perspective of the impact the changes have had within a hospital setting. One manager reflected that the change in entry level criteria was a positive move for the profession overall, but has changed the landscape with regard to the type and quantity of labour now being supplied, stating that:

> *'We've taken some fairly specific policy decisions over the last ten years or so […] Some of those are I would say more service-based issues, so issues that have been driven by either the NHS, which is obviously the biggest user for the supply, and some of the more policy decisions within the labour market around people's, moving entire education, so nursing would be from diploma into a degree, which is absolutely the right thing to do, but that has changed the supply quite considerably in terms of the number of people who wanted to join nursing. It also reduces the number of people that you actually produce, because you go through, invariably, a single output-per-year, rather than necessarily under the diploma group. Also, that actually stopped a lot of people moving into nursing who traditionally would've used it as a steppingstone to go on into academic work. So, lots of people who traditionally would've come through a different, non-academic route into nursing have not been able to do that' (INTW:Manager).*

Furthermore, management also reflected on **_education recruitment_** and decisions from within the organisation, with regard to the number of places they were able to commission, and the impact this has had on supply, an area not reflected upon or addressed within the current literature. One manager noted that the changes around commissions and current labour supply has created an issue, as reduced supply as a result of a reduction in commissioned places, is making the management and running of hospital services difficult. The manager reflected that:

> *'The NHS made a number of changes around commissions, the number of nurses that are commissioned through HEE has changed quite considerably, which means there are just less nurses being produced, and some of the decisions they made in reducing the numbers in about 2005, 2006 are coming home to roost now. Alongside some of the factors we have in particular around the post Mid-Staffordshire environment, where people increase the number of nurses. We actually put a little bit more rigor in terms of how we understand those nursing numbers look like. So, the overall demand for nurses has gone up at a time*

when the supply has gone down, and that's created a pretty difficult process to actually manage an organisation with that supply problem' (INTW:Manager).

Another manager emphasised that, as a consequence, the efforts made to **retain the current nursing workforce** need consideration as the potential to increase the number of student places commissioned is a long-term solution, along with their being a need to proactively recruit abroad. For instance:

'Nothing's materially going to change for another three years, because even if we increase commissions today, we're not going to see those nurses coming through for at least three years, so for the short-term, we're going to have to rely on overseas, and changes within the internal UK labour market. They are going to have to seriously tackle the issues around pay within the UK. They're going to have to understand what their role is in terms of policy, in terms of value in the nursing professions, people don't just leave. In the long-term they have to get to a point where we've got a better understanding of-, a better supply for our nursing' (INTW:Manager).

It was recognised, however, that the **supply of nurses** had been impacted upon greatly by the implementation of *Project 2000*, and that consequently an increase in the entry requirements, along with a reduction in funding from HEE to provide such training to new recruits has created both a labour and skill imbalance. Furthermore, this reduction in the supply of qualified nurses has been compounded by the ageing demographics of the nursing population, resulting in an increasing number of nurses retiring. This has been coupled with increased dissatisfaction among the current workforce driving turnover, as explored above. Demand for nursing labour has also increased, placing significant pressure on the current workforce. It was noted by management that recruitment onto nursing degree programmes more generally was on the rise. However once again, the impact of reduced HEE funding has resulting in the increase demand for a place on the nurse programme not being realised in real time graduate numbers. One manager reflected that:

'People made an active choice about which route they went into, whether they did degree at the outset, or whether they delayed that decision, went in at diploma and did a degree ultimately later on. I think it's changed people's perceptions of the profession […] Most of the international markets have gone over to degrees, I don't see why nursing in the UK should be any different. I think the expectations of a nurse require a degree-level education anyway' (INTW:Manager).

The overall suitability of the degree programme was once again reflected upon, with positive feedback on the apprenticeship and practical aspect of the degree, however it was felt that the

placements should be longer due to apprentice style nature of learning on the job, as reflected by a manager:

> '…It's good, because the course that they do is half-practical, and half their time in uni, so the shifts that they work, they work alongside a qualified nurse. They have a mentor who guides them […] but it is only about six months, which is quite short. Also, when they're actually qualified, that's it, they're counted in the numbers as a qualified nurse, they don't really have that time to consolidate […] my actual nurse training probably didn't prepare me that well for actually the realities of working on a ward, because it's very idealistic about how it will be, whereas it's very different when you get there' (INTW:Manager).

There has been an increase in the dependence on the nursing labour market in England, and the UK more generally in **attracting qualified nurses from overseas** to help address the current skill and labour shortages raised, and thus, this was a key concept identified within the theme of policy. Reflection by one management interview was upon the barriers to working practice that international nurses may face when integrating into the healthcare system within England, and the wider UK, noting that international recruitment is not always the best fit solution:

> 'They're on about getting nurses in from abroad but in my experience, some nurses are brilliant but then because of the language barrier, it can be really, really difficult. Also, certain ethnicities have a different work ethic to what we do' (INTW:Manager).

The findings from the econometric analysis, as outlined in Chapter 5, highlight that non-native workers have greater attachment to the nursing labour market in England, and were willing to work longer hours than native workers. Furthermore, for married nurses, ethnicity was identified as being statistically significant in the participation decision for those individuals who identified themselves as South Asian, Black and other. The findings suggest, for example, that an individual who identifies themselves as Black in ethnic origin are 7 percentage points more likely to participate in the nursing labour market and work just over 2 and a half hours more than those individuals who identify themselves as being of White British origin. However, from the feedback collected, it was felt that greater support should be made available for overseas workers, to ease the transition into the nursing labour market within

England, and the UK more generally, given that migrant nurses are an invaluable source of labour supply[82].

Both graduates and nurse employees feel that greater emphasis should be placed on the management of graduate expectations. The suitability of the degree programme to equip graduates with the vocational skills needed to carry out the role of a nurse is an area of concern. It was identified that focus should be upon developing additional, non-academic skills, for example, coping mechanisms, and that mentors should be given the necessary time and training to provide support. Furthermore, it was felt that recruitment onto training programmes and into the occupation more generally, should be at the forefront of policy decision making to help address the perceived labour and skill shortages.

C: The evolution of qualified nurse expectations

The management of expectations, especially of new graduates, is a important theme in the survey questionnaires, focus groups and management interviews, How and why the expectations of individuals evolve once they have become nursing qualified is central. This theme emerged as a result of reflection on nursing graduates once the degree programme had been completed and they had enrolled on a variety of "newly qualified" training programmes and had recently secured jobs. From the sample, 70% of respondents perceived the current nursing labour market which they have graduated into is over-stretched (A.6.6). This perception is also held by currently employed nurses (see below) and is thus a common theme throughout. Furthermore, 62% of graduate respondents also feel the nursing labour market within England is under-resourced, a point of view with which management also concurred. For instance, one manager identified the current perception that there is a lack of capacity to provide nurses training:

> '[…] there's the demand out there to be a nurse, but we don't have sufficient capacity to train them, nor do we have the sufficient money' (INTW:Manager).

Additionally, 50% of the new graduates surveyed felt that the nursing labour market they had graduated into was one prone to **labour shortages.** This was again echoed in the findings from the focus group discussions. Only a small proportion of the sample (4% and 3% respectively) felt the labour market was one of prosperity and good financial remuneration. The latter, furthermore, is consistent with the conclusions deduced above (and from the econometric

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[82] Given the collection, and consequent focus, of the qualitative data collection was pre-Brexit, it is key to identify that this will become more prevalent and magnified in a post-Brexit environment, with further barriers to labour mobility.

findings in Section 5.2), that pay is not a significant driving factor on entering the profession. However, in contrast, pay is identified by both management and nurse employees as a significant factor influencing their decision to remain within the nursing labour market, with many identifying that pay is inadequate, and does influence turnover and retention.

These perceptions, along with the mismanagement **of *graduate expectations*** identified as a potential barrier in career transition by focus group participants, cast a negative image onto the nursing labour market within England, and thus may hinder recruitment in the long run. The RePair report (NHS England, 2018, p12)[83] concluded, from the latest available data, that in 2014/15, the attrition rate was 31.75%. This was attributed to a variety of factors including, feelings of poor support mechanisms, misaligned of expectations between study and clinical practice, and the impact on individual work-life balance. From the results found here these problems may be magnified in the future. It is important to reflect upon how student expectations are managed within the degree programme and during allocated placements. The influence of mentors, and the matching and suitability to students during both placement and study, are significant in shaping student expectations. This is an area not identified as significant or an area for concern within the current body of literature.

Findings from the current employees identify the need to expose students to the realistic challenges nurses face delivering front-line care. A nurse, currently employed within the NHS noted that emphasis is currently on pass rates and numbers, as opposed to assessment of whether they can effectively carry out the job role, and are thus fit for purpose:

> *'When I have my mentoring updates they do reinforce quite strongly that we have been passing too many people, we should be stricter on our students and we should challenge our students a lot more. You shouldn't let them get to the third year and let them slip through the net' (FG:Nurse).*

Consequently, perceptions of an over-stretched and volatile labour market, in which expectations are potentially mismanaged during training, has significant implications for whether the profession will attract the number of individuals required to replace the currently ageing workforce.

D: What areas of health specialism graduates signal an interest in

Within the West Midlands, several areas of specialism are facing a shortage, which varies by hospital and patient demand. The areas of health specialism graduates signal an interest in was

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[83] As identified in chapter 2.

identified as a theme within the qualitative data collected. Currently the three main labour shortage areas as identified by management as priority were Accident and Emergency, Paediatrics and Cardiology. From the sample (A.6.11), Accident and Emergency and Critical Care were ranked jointly as the highest area of interest for newly qualified graduate nurses. These specialisms however do face several challenges with regard to turnover and retention, due to the nature of the job role, given the intensity and uncertainty.

Managers often reflected upon their personal experience with working closely with the identified shortage areas with the West Midlands. One stated that the three areas were not comparable and face different challenges compared to other departments / specialisms, which has an impact motivation and labour supply:

> '[…] we have a high turnover of staff, where people can often come and not like it, and move on elsewhere [it is] a stressful environment […] it's not an area of nursing that is really very comparable to other areas […] I think it's the same nationally […] there is quite high turnover of staff, and a shortage of them […] It can be a really emotionally challenging job, and you can burn out quite quickly' (INTW:Manager).

Cardiology and Cancer Services were also highly ranked as specialisms of interest and preference in the occupational choice decision-making of newly qualified graduate nurses. Cardiology is an area experiencing both staff (number of individuals employed) and skill (suitable and varied skill levels) shortages in the West Midlands region. In contrast, this area of specialism attracts interest from newly qualified nurses (A.6.11). Thus, it can be deduced that focus should not necessarily be placed on attracting newly qualified individuals into the specialism, but on retention strategies and addressing the management of expectations and workplace support.

Several other specialisms attracted minimal interest, namely diabetics, urology, and nephrology, which consequently in the future may face both staff and skill shortages. The size of each specialism within the hospital setting, with regard to the scale of operations and number of individuals employed, varies in each hospital within the West Midlands region. Size is driven by a variety of factors including the overall size of the hospital and scale of operations, the areas of focused expertise and research, and patient demand.

E: Individual behaviour and decision-making influences

i.   Non-quantifiable job factors

As identified in Section 2.4A, there has been an increase in the documentation and reporting of the emotional labour associated with carrying out the role and duties of a nurse. Williams (2013) and Hochschild (2012 p7) stress that emotional labour is:

> *'the management of feeling to create a publicly observable facial and bodily display* *[…] [and is] the introduction or suppression of feeling in order to sustain an outward* *appearance that produces in others a sense of being cared for in a convivial safe place* *[...] and is the occupational equivalent of emotion work/management which is done* *in a private context. It is sold for a wage and has an exchange value*'.

An individual's emotions are managed and expressed are governed by social norms, referred to as "feeling rules", and are influenced by the context and situation (Hoschild, 2012). Additionally, individuals manage and express their emotions through "deep" acting and "surface' acting (RCN, 2019). Dudau and Brunetto (2020) argue that this emotional dimension is a key motivator in an individual's decision to enter the nursing profession, and which forms their social identify.

A predominant and reoccurring theme, and one which is significantly embedded within the data collected from those employed nurses surveyed, is the ***emotional labour*** associated with being a nurse and nursing. Reflecting upon how individual behaviour and decision making is influenced by non- quantifiable job factors, which are individual specific. The theme of emotional labour is derived from a variety of opinions and concepts raised within the data and encompasses the notions of compassion and caring to provide a delivery of a service. Emotional labour can have both positive and negative impacts on the well-being and participation decision of the individual, as derived from the data collected. Furthermore, the emotional aspects, if perceived to be negatively impacting on the well-being of an individual, can have a significant influence on their decision to either leave the job role, or profession altogether. The emotional demands of being a nurse, and nursing is viewed by those currently employed within the profession, to be one of the key factors that drives the labour turnover of nurses.

It can be concluded that some nurses, due to ***conflicting duties*** associated with their job role, feel unable to care for and provide a sufficient supportive environment for the patient. Three nurses, for example, concurred that due to the conflicted duties they do not feel they were able

to provide a level of care they feel is sufficient, and consequently feel they have limited patient contact, each stating that:

'[…] you do often see a patient go out the door with their family and you think, 'Do you know what I don't think I did everything for you that I could have done […] You have been here four hours and I might have spent 10 or 15 minutes with you overall because all the other jobs I have to do or the documentation that I have had to do […] You have done your nurse role but you have not done your nursing' (FG:Nurse),

'We have lost that patient contact because you are so busy and afraid of not putting the dots on that you lose that' (FG:Nurse),

'I couldn't provide the care that I wanted to. I went in because I wanted to be providing that care to the patients and I felt quite disillusioned that I couldn't do that' (FG:Nurse).

One nurse suggested that in order to satisfy their own expectations of care delivery, many nurses work beyond their contracted hours:

'[…] a lot of nurse's work hours over in order to go home and feel okay that they have delivered the care that they wanted to do' (FG:Nurse).

Consequently, the management of individual feelings, emotions and expression derived from providing a level of care and service were a key driving factor, not only in the occupational choice decision, but also in the labour supply decision, and the development of an individual nurse's social identity. It is evident that nurses feel there were barriers to carrying out the emotional labour aspect of their job role, due to, for example, increased administration, forcing them away from their job role of caring for patients face-to-face.

On further investigation (A.6.12), 36% of participants felt they enjoyed the emotional aspects of their job role, rating a score of 6 on the Likert scale. However, in contrast 16% of the sample identified a Likert score within the range of 1 to 3. Therefore, nurses derive utility and satisfaction from the emotional aspects of their job role, and thus from the emotional labour associated with being a nurse. However, current practice is perceived to create a barrier, in some instances, to prevent the individual carrying out their job role. Given there remains ambiguity over how a nurse and their associated tasks are defined within the remit of emotional labour, it is vital that policies to improve both retention and attraction of individuals within the profession address the barriers hindering a nurse's ability to offer and deliver emotional labour supply.

ii. Current employment conditions

Within the literature there is significant focus on the factors associated with nurse dissatisfaction within the profession, work environment and job role, and how individual behaviour and decision making is influenced by their current employment conditions. Within the focus groups, an increasing number of views were raised associated with employment contracts and the related conditions of employment and job role, both positive and negative. The first concept identified by nurses related to individual emotions, and encompasses notions of pressure, stress, satisfaction, and guilt. A number of nurses concurred that the perceived increase in workload has led to individuals feeling increased levels of pressure, which has a negative impact on individual well-being. This leads to enhanced feelings of stress from not being able to complete a task and guilt from handing non-completed tasks over, for instance:

> *'There's a lot more pressure than you think, definitely a lot more pressure and a lot more stress […] I kind of take a lot of it home and I don't know how to switch off […] I'm quite caring so if a patient has touched me it's quite hard to go home and forget about it' (FG:Nurse),*

> *'[…] There is so much to do in a day that you try and fit it in. Nobody wants to hand work over to another shift because you know the next shift is going to be equally as busy. It is not seen as helpful if you are handing extra work over as well. You are busting a gut to get work done. You feel like you are against the clock all the time' (FG:Nurse),*

As a consequence, one nurse participating within the focus group stressed that many individuals were therefore choosing to retire sooner due to the stresses and pressures associated with the job role. This has a further negative effect on the staff and skill mix, compounding the current situation faced within the NHS as explained by one nurse:

> *'People are retiring sooner rather than later because they are just so stressed. But they are taking with them all that skill, all that experience' (FG:Nurse).*

Research by Mcllroy (2019) and Marangozov *et al*., (2017) further support the above findings that nurses continue to feel under intense pressure and stress that was unanticipated on entry into the occupation, derived in many cases from over burdening workloads associated with increased paperwork and limited resources. A key finding arising from the employed nurses that engaged with the focus groups, were the stresses and pressures some individuals feel from not being able to carry out their job role and provide a level of care to the patients which they feel is necessary, with one nurse noting that:

'It's not as simple as coming to work and looking after someone and making a difference and then going home. There's a lot more to it. A lot more targets that I didn't realise would be involved in it, a lot of our job is involved with meeting targets and paperwork and all that sort of stuff and all the learning. And it's probably a small majority of it sometimes of what I probably thought it was, before I came into it' (FG:Nurse).

These feelings of not being able to carry out the job role and offer a level of care that individuals feel is suitable is not well documented within the current literature, and is previously identified above.

As identified in Chapter 3, Wanless (2002) stressed that a robust method of **workforce planning** needed to be put in place by 2020 to help manage the forecasted nurse labour shortage. This proposed, robust method of workforce planning however, in the year 2020, is still to be developed. Such a model should incorporate the need to increase the number of nurses in line with the challenge of improving patient turnaround times, and the development of nursing staff in encompassing a variety of tasks previously associated with a doctor's role i.e., skill-mix changes. The need to evolve the job role of the nurse and alter the skill-mix of the workforce, however, appears to be exacerbating the problem further. A number of currently employed nurses concurred within the focus groups that there is a blurring and over-lapping nature of their job boundaries, which has expanded the job role of a nurse, offering that:

'With things going wrong with the care of patients, they don't understand that a junior, under-trained - like newly qualified doctors, they don't actually measure up to what they're supposed to be doing and then we are seen as expected to lead them, guide them and all that […] And then if they have done a mistake that's like, 'Well, you are responsible for the patient, what did you do to save the situation?' But the thing is, we are there to care, we're there to guide, but we're not paid enough to look after the junior doctors as well' (FG:Nurse),

'I mean nurses have taken on extra roles as well like cannulating and taking blood that you would have expected your junior doctor to do that before. Nowadays nurses are doing it on the ward. They are taking on extra work and trying to delegate where you can but there is no one else to pass it onto. You are the endpoint' (FG:Nurse).

Furthermore, the change in care delivery processes and consequent merging of job boundaries, coupled with the change in accountability and barriers to work practice, were changing the nature of what individuals perceive to be a nurse's role. From the findings, it is clear to see

that individuals choose to enter nursing as a profession namely because they want to care for people and have an expectation that the job role will allow them to do so. Therefore, given the current employment conditions reported, new entrants could potentially be deterred, and those currently employed choosing to seek employment elsewhere.

The ***flexibility of working hours and overtime***, as touched on previously, was also raised as an area for concern, and a significant driving factor behind potential dissatisfaction among the current nursing workforce. As identified in Chapters 2, a common indicator of the overall extent of the nursing labour shortage is the amount and level of overtime that has been accrued. An important proxy for the level of staff shortage is the extent to which nursing staff are required to work above and beyond their contracted hours (NHSPRB, 2019). Nurses identified that enforced overtime and the expectations from management that staff will be readily available on-call, was unexpected or managed during degree or placement training. Two nurses stated that:

> '[…] we have to do on-calls and we can be called in at any time overnight from our homes and as well as working during the day or week or working weekends. […] And I must admit that's one thing that I probably didn't realise until I really looked into it, actually how much extra and how dedicated you do have to be to do that extra stuff as well' (FG:Nurse),

> 'No one tells you about the forced overtime' (FG:Nurse).

In addition, the expectation that staff should be available to work overtime, and the unpredictability, and inflexibility with both contracted working hours and overtime is identified as having a negative impact on and individuals work life balance. This was identified by nurses as further compounding feelings of guilt, and raising issues of equity and fairness, as identified earlier, with one nurse suggesting that:

> '[the need for] just a bit more predictability […] I mean if you guys have got someone who can't come in for a late shift or something, I've seen sisters or wards before phoning around anyone and everyone like, 'Can you come in?' And there's an element of well, guilt if you can't do it […] we have like an emergency volunteer's list, which isn't voluntary at all, because you just get put on it […] So, for instance, I got a phone call at three o'clock on Friday afternoon to say, 'There's a shift on Sunday that isn't covered.' I was number 19 out of 20 on the list and they'd got down as far as me and no one had been able to cover that shift […] unless you've worked the previous weekend and you're

working the following weekend or you have annual leave booked, really, they say you
should take that shift, no questions asked' (FG:Nurse),

Issues of flexibility beyond enforced overtime, with shift allocations and the consequent challenges faced with balancing outside of work commitments, were also felt to be an area for concern, which is underreported within the literature. Two nurses agreed that current business practice and attitude is fostering an inflexible culture, and the push towards a 7-day service will only acerbate the challenge faced with work-life balance further:

'[…] we have a high amount of staff and there's a lot of people that would rather do nights
and a lot of people that would rather do days. But there is no flexibility, if you went to the
office and say, 'Well, could I do all nights and this person will do all days?' No flexibility
at all' (FG:Nurse),

'I think because the NHS has a big push for it all getting a seven-day service […] Any
other regular job is a Monday to Friday job. So, when we're all going seven days, again,
it takes away from that time that you spend with [family and friends]' (FG:Nurse).

The notion of **work-life balance**, and the different personal circumstances an individual may face outside of work was also raised as an area for further reflection, given the expectation of management that individuals will be willing to work overtime, and be as flexible as needed. One nurse noted that as a consequence of this culture, having dependents, for example, can be a challenge with regard to managing expectations within management, stating that:

'They make you feel having kids is a big punishment' (FG:Nurse).

Evidentially, individuals currently employed within the NHS nursing labour market desire greater flexibility both within their working practice, and their hours worked. From the econometric findings in Section 5.2.1, it was concluded that, for married nurses in particular, the existence of dependents under the age of 16 reduced the number of hours worked by up to 5 hours. Within a working week, this is a marked loss of labour, given the reported skills shortages faced within the NHS. This finding may consequently echo the reported inflexible working practices. Evans (2017, p8) stresses that *'there is strong evidence to suggest that other factors [other than pay] play a vital role in staff retention […] work balance and flexibility have proved to be more influential on staff leaving than pay and reward'*.

Furthermore, **expectations are mismanaged on entering the profession**, as it is clear that the nature of overtime is beyond what individuals perceived to be of a reasonable expectation. Given the profession continues to be female dominated and given the current profiling of

individuals entering the profession, and those employed within it, this situation looks set to continue. The conflict between flexible working contract and family commitments continues to be a prominent issue. Given the reported current shortage of both skill (suitable and varied skill levels) and labour (number of individuals employed) within the NHS, ways of tapping more effectively into the willingness of staff members to work more flexible hours may help to manage periods of shortages. However, this means tackling the inflexible nature of the current rota system, as also raised by focus group participants.

A significant concept raised within the theme of employment conditions, were the extra financial burdens and stresses placed on those nurses currently employed, and the consequent comparison to the burdens faced when working in private practice. This is again an area for reflection that lacks investigation within the current literature. The key item raised related to staff car parking and charges, and the feelings among staff, that they must pay to go to work. Within the focus groups, two nurses agreed that:

> *'Everyone hates it, but it's a little thing, which is a little extra […] we shouldn't have to pay to park. We're getting paid [less] as it is. And someone mentioned before they pay £450 odd a year just to park their car at work' (FG:Nurse),*

> *'There are not enough parking spaces for staff so you have to park off site and walk half an hour to come in' (FG:Nurse).*

Furthermore, others reflected upon how these ***additional burdens***, which are in contrast, to the potential remuneration benefits available, were not comparable to those available when employed in private practice. These additional remuneration benefits include pension schemes, health insurance and parking permits. One nurse said that:

> *'For a bloke […] I don't really think I get too many benefits from working in the NHS compared to private practice. And I hate to mention it, but even little perks that - having to walk in a mile to get to work every day, because they don't provide car-parking for everyone' (FG:Nurse).*

Management interviewees also provided further insight into how this contrasts with other alternative forms of employment, with regard to pay and additional benefits, and identified that these were also a key factor when exploring turnover intent, with one manager reflecting that:

'The pressures on nursing are quite significant, so people do make decisions to leave and do something else because they get paid exactly the same, better hours, better working life, better work/life balance with family, is a key driver. Some of that relates to, again, government policy around the freeze of public sector pay' (INTW:Manager).

These extra burdens were felt to devalue further the financial rewards from working as a nurse, as many identified that consequently, they did not feel supported in being able to carry out their job role without facing extra barriers, both with regard to time and financial burdens. These feelings of minimal support, coupled with the feelings of being undervalued, and the continued conflict between work and family commitments were added to the feelings of being unsupported emotionally. Within the focus groups participants identified that both employers and customers do not always see you beyond your job role, and can overlook the well-being of nurses as individuals, with pressures outside of work. For instance, one nurse stressed that:

'Sometimes they forget that we are human beings. And we do have family […] it's all about you as a number […]they say, 'Health service is a business.' So, when you go to management for some of your problems, they say, 'It doesn't fit our business.' But you're in a caring profession. You don't get care, but how do they expect us to give care to patients?. But because of our core dedication to the profession we just tend to carry on. And it means to a certain extent […] the job has to carry on, you just carry on' (FG:Nurse).

This concept of emotional support is becoming more dominant within the literature (Mcllroy, 2019; Glerean *et al.*, 2019; and Price *et al.*, 2018) as a key factor driving nursing turnover[84], and echo's the issues raised from the focus groups above. However, there is a lack of critical investigation into how the current job role impacts on emotional labour, and how perceived barriers to working practice impact on this. It is thus evident that the marginal extras that individuals must accommodate for in carrying out their job role are creating an arena in which individuals were feeling dissatisfied with their contract, employment conditions or ability to deliver care.

iii.   Current work environment

There is extensive literature, as identified in Chapter 2, regarding the environment nurses work within, and the impact it may have on working practices. The theme of work environment emerged from within the data collected from the employed nurses surveyed, with significant reflection on how individual behaviour and decision making is influenced by their current

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[84] As explored in Sections 2.4 and 2.4.

work environment. This survey allowed exploration of a variety of concepts, including patient interaction, business cultures, teamwork, and barriers to practice and care delivery. It is well documented that individuals enter the nursing profession due to their desire to care for others (Price *et al.*, 2019)[85]. The surveys and focus groups confirm that it is a key motivation in an individual's occupational choice decision on entry to the degree programme and into the profession, as identified above.

Within the work environment, nurses were exposed to a variety of ***patient interactions***. One nurse emphasised that they derive significant satisfaction from this:

> *'I like the fact that you can get involved in the families […] you're not just looking after your patient; you've got the entire family that you're looking after. So, the parents and the grandparents and all the interactions that comes with that' (FG:Nurse).*

However, currently employed nurses noted that to carry out the job role, they face several barriers to carrying out the duties and role of a nurse, and to overall work practice. These barriers were associated with the change in care delivery and blurring of job boundaries, and the movement towards a business-oriented culture, with greater focus on patient targets, paperwork and finance management. As identified in Chapter 3, the increasing pressure to carry out such activities is pushing nurses away from one of the key motivators that drives both the occupation and participation decision (Appendix 6). In particular, one nurse identified that the need to manage financial aspects of the ward operation, with budgetary pressures and targets can demotivate individuals, stating that:

> *'Everything at the moment is very finance orientated and that is not why most people come into nursing. Whilst obviously, we know you have to be careful financially and we know that it is a pressure talking to nurses using finance terms maybe switches a lot of people off' (FG:Nurse).*

Others concurred, emphasising that the associated ***resource constraints*** and additional targets, for example, patient turnover targets, were placing an even greater burden on nurses. This in turn has a detrimental impact on satisfaction, as it prevents individuals carrying out their role, and caring for patients and their relatives, as emphasised by a nurse:

> *'You have got no time to nurse because you are too busy doing all the other documentation and other things that you have got to do. That is where I think nursing is lost because you have got too many audits and you have got too much documentation to do. Whereas other*

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[85] As explored in Section 2.4.

different things like cleaning and computer work you just haven't got time to do anything else' (FG:Nurse),

The evidence gathered highlights the rising levels of dissatisfaction reported, associated with increased paperwork, and potential barriers to care delivery felt among the current nursing workforce. Such findings suggest that the current labour and skill shortages reported may be exacerbated further as hospitals take on a more business focus considering the limited funding and resource constraints.

Around 64% of survey respondents (A.6.13) agreed that they felt they were given the right level of responsibility for their job. However, only 54% felt they were free to carry out their work in the way they see best (A.6.14), echoing the findings of the focus groups. One reason identified for nurses not feeling they were able to carry out their work as they see fit is the fear of retribution associated with the job role.

Although most respondents felt their personal safety was not compromised at their place of work, 36% of respondents identified a Likert score within the range of 1 to 3 (A.6.15), suggesting that they feel their safety is compromised on the job. One nurse elaborated that verbal and physical abuse does occur, stating that:

'You have to deal with a lot of conflict as, well don't you? You get people shouting at you. You get people hitting you, abusing you' (FG:Nurse).

An additional area of reflection expanding upon the notion of **retribution**, encapsulated the legal requirements of the job, and the need to document all actions for potential liability purposes, with one nurse voicing that:

'If it is not written down it didn't happen. From a legal point of view if you don't document it then it has not occurred. They teach you this all the time, don't they?' (FG:Nurse).

A further concept identified by nurses as a feature of their work environment was the existence of **teamwork**, and the ability to work in teams. The opportunity to work within a team is a significant motivational factor in an individual's decision-making behaviour. This was ranked as the seventh highest factor in the motivations behind a graduate' choice of the profession. This was further supported by those individuals currently employed within the nursing labour market, with one nurse reflecting that:

'...your colleagues they get you every single time because you don't want to leave your colleague on their own with an agency nurse who is not paediatric trained where they should be. You think, 'I can't let them do that.' So, they have us [in] every single time when somebody goes off sick' (FG:Nurse).

This team setting provides a variety of benefits including emotional support, and the ability to discuss individual concerns, which have a significant impact on individual satisfaction (Wilde *et al.,* 2018). Such measures should be used internally to assess different aspects of job satisfaction or dissatisfaction. The establishment of defined teams within a ward setting helps to manage both the skill and labour balance. Management further reflected upon measures of job satisfaction, and its link with both organisational values and the stress nurses are currently exposed to as a result. One manager identified that one way to tackle the reported poor satisfaction among nurses is to address the aspects of organisational value, to ensure nurses feel their needs are being addressed, and that the organisation is flexible to changes in circumstance outside the job role, stating that:

'It's more to do with how the organisation values the nurses, to be honest. Again, lots of nurses want education support, developing those sorts of things, family-friendly hours, those sorts of flexibilities within their contracting basis. Once they've got that in, if organisations are doing that, we've got a good supply, then you might have a slightly better market' (INTW:Manager).

Furthermore, two management interviewees expressed the need to ensure all nurses feel supported by both their managers and peers. With each recognising and appreciating the challenges faced by front line staff and the consequent need therefore to provide, and continue to, support them in overcoming these challenges, with each in turn noting that:

'The ones that are there now are so stressed because I don't think they were properly supported when they went in […] They don't want to stay' (INTW:Manager),

'There's lack of empathy, from higher up […] they've been looking at budgeting with the stock and because they've cut that down […] we're getting to the venues and we're running out of [resources] […] So as [a manager], I've had to take time out to go over to another venue to come back with the stock. Now that's less cost-effective and it's wasting time. It's wasting a staff nurse and a sister's time' (INTW:Manager).

There is clear recognition, therefore, from management and those individuals currently employed within the nursing labour market, that nurses should be supported on a variety of aspects including emotional support, and currently there is recognised room for improvement.

The recent ***changes in resources***, associated with budgetary cuts, was raised as having an impact on both care delivery and satisfaction within the profession. Individuals need provisional support with this. The reduction in budget available, along with staff shortages, time constraints and skill imbalances were further reflected upon. Two members of management concurred that budget cuts and time pressures in practice were potentially counter-productive, as care delivery is potentially compromised:

> *'If we had more budget, then they'd employ more people but again, it's training everyone up. Like recently, we have three rooms open, we're meant to have six [nurses], they've cut it down to five […] They've said that's because of cost savings basically because it saves paying an extra member of staff […] So, if we go behind we have to say, 'Don't wash legs and just do as little as possible,' but you can't shortcut everything or else you wouldn't be giving treatment' (INTW:Manager),*

> *'If you haven't got enough staff on, patients wait longer to be treated. [With] lack of support from your managers. It is just a combination of those two things – it is staff shortages. It is overload of work because if you have a lot of patients coming in, you haven't got the staff – so they are waiting longer to be treated which is unfortunate but that is how it is' (INTW:Manager).*

Management stressed further that as a consequence of these cuts, resources were being stretched, and new staff were potentially, not getting the training they require, which exacerbates the situation further:

> *'When you have new people come, it's even harder to teach them because you're already stretched' (INTW:Manager).*

Managers and nurses emphasised that the issues faced with shortages, skill imbalances and recourse cuts was being compounded by the blurring of job boundaries, which complicates the shortage in skill mix, as roles are multiple and expanding. One manager stated that:

> *'There's blurred boundaries between HCAs and nurses, there's blurred boundaries between nurses and doctors' (INTW:Manager).*

A nurse also argued that the role of a nurse appears to be unbounded, noting that:

'We are a ward clerk. We are pharmacists because we have to order the pharmacy. We are stores because we have to order our stores. We take out linen, we are laundry people' (FG:Nurse).

However, it was also recognised that the merging of job boundaries in some instances, helps to manage both skill and staff shortages with immediate effect.

The change in ***patient demand*** emerged as a key theme within work environment, and it was apparent among management that this change has impacted negatively on the work environment nurses were within. Three managers agreed that:

'There's a cultural change with the patients because it's like whoever shouts the loudest gets it […] they all think they've read this on the internet so why are we not using that? I have to say that is our gold standard. That's the guidelines. We can't just bring something in. They would rather blame you for something that's going wrong' (INTW:Manager),

'I just don't think that nursing's seen as it used to be' (INTW:Manager),

'You only hear negative things about the NHS […] it's a negative culture with the NHS' (INTW:Manager).

It can be concluded that the work environment is recognised by management as evolving and challenging, with significant emphasis being placed on the need for greater support, from emotional support to greater contract flexibility. All of which echo and acknowledge the feedback raised in the nurse-led focus groups.

F: Current nursing labour market conditions and workforce planning in England

Reports of skill and labour shortage within the NHS are well documented, as outlined in Section 2.2. Workforce planning within the NHS is confronted with a variety of uncertainties, both from the demand side and supply side of the nursing labour market. Effective workforce planning is considered by many[86] as important to combating and addressing forecasted challenges with service provision (Bosworth *et al.*, 2007; National Audit Office, 2020). Workforce human resource and succession planning should consider and monitor the

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[86] As explored in Section 2.2D.

movement of individuals in this internal labour market, both within and between the organisation and externally.

A significant focus by respondents was placed on the theme of **workforce planning**, and a variety of concepts emerged relating to the staff shortages, skill mix, and overall recruitment and retention. The initial focus was upon the existence of both labour and skill shortages, and the impact this had for both service delivery, and the consequent barriers to working practice, as identified above. Two nurses noted that the actual shortage of labour is not necessary reflected in number shortages, but skill shortages, identifying that:

> *'Our staffing isn't too bad at the moment […] Our problem is the skill mix' (FG:Nurse),*

> *'There's 14 on all the wards now and in departments, I've started on the wards and it says on a day, how many nurses there should be and how many we've got […] if there's supposed to be 12 and we've got 10, [with] two out to agency […] We've got 12, but what we haven't got is a good skill mix. So, we might have full staffing in their eyes. But we'll have two agency nurses that have never worked there before and never worked in ED before and can't do anything. Then it makes it more dangerous then with the fact that we're having to do our jobs as well as what someone else's' (FG:Nurse).*

Nurses stated that this use of **temporary labour**, in the form of agency staff, to fill both labour shortages and skill imbalances, presented an even greater challenge. However, many acknowledged that the skill imbalances is a consequence of the current labour market situation. Nurses acknowledged that the replacement needs of the workforce need to be assessed, as the turnover of experienced and qualified staff, namely due to retirement, is not being substituted with nurses of an equivalent level, which is further compounding the skill mix imbalance, and placing undue stress on those individuals providing the replacement. For instance, two nurses said that:

> *'[…] people have been in nursing a long time and they retire, they're not filing those gaps with more nurses that have been in the profession a long time […] they filled all those gaps with junior, newly qualified staff nurses. […] And you've not got the skill mix' (FG:Nurse),*

> *'You are putting people into positions that are not ready to go in. That is the situation we appear to be having now where you are putting people in who haven't consolidated everything and got enough knowledge to go into these positions' (FG:Nurse).*

With regard to workforce planning, and potential solutions to help address the current labour and skill imbalances identified above, nurses also reflected on the need to plan forward with regard to the replacement needs and how knowledge transfer is achieved, the consequent need to then attract suitable replacements, and retain and up-skill existing staff, for instance:

> *'If we motivate the staff that we've got we'll retain the staff that we've got. And then we can work on the others that we've got and train them properly, so we've got well trained people that have the good skill mix and then eventually down the line - and obviously, that's going to take money and time.' (FG:Nurse).*

This need to not only replace, where possible, those nurses on exit, but also to motivate and retain the current workforce to prevent, where possible, remains a common theme within the qualitative data collected.

Feedback from the management interviews focused further on the imbalance between **skill-mix and demand**. One interviewee identified that at the core of shortage, is the lack of resources and capacity available to train nurses up to a sufficient level, and to provide the level of care and service now required. However, the time-lags associated with both training and upskilling were identified as a consequent problem, as the need for skilled labour is current, reflecting that:

> *'...there's the demand out there to be a nurse, but we don't have sufficient capacity to train them, nor do we have the sufficient money. On the flip side, organisations like mine need higher level skills to be a nurse, to do the jobs that we expect them to do in here. So, we have a complete imbalance in the system, which has got people who want to do it, it takes three years to train them. I don't have sufficient training places to do it, and actually I need the skills now. And there's nothing I can replace them with. So, it's a mix of all those things' (INTW:Manager).*

Managers further emphasised the extent to which, within the West Midlands, demand is outstripping supply, and the significant costs associated with hiring to not only meet new demand, but also the replacement needs of the current workforce. One manager noted that:

'Vacancy position across the NHS is huge, it's more like 50,000 nurses [...] 14,000 I think in the West Midlands alone [...] Because obviously, you have people leaving, so you might have 200-300 permanents, that's what we have, about 200-300 posts constantly in the recruitment phase [...]you do checks, you've got HR, you've got interviews, there's a whole infrastructure just around making sure that you've got the supply right, just to manage the normal turnover and normal recruitment phasing of about 200-300 positions' (INTW:Manager).

These feelings in turn, were reflected upon further by two other management interviewees, who concurred that the consequent direct, and in-part, negative impact on both on patient care and ward safety associated with staff and skill mix shortages needed to be addressed, stating that:

'We've got loads of staff shortages everywhere, which impacts on patient care [...] they don't allocate enough money, that's why they have to keep within the budget [...] And depending whether we can get any new staff in. At the minute, we've had two healthcare assistants leave and they've replaced them with three band one NVQs [...] It's cost them more to employ three band ones than two band twos, which in some ways doesn't make sense, because they'll leave after a year so then we've then got to retrain someone else up so it puts even more pressure on the staff that are there.' (INTW:Manager),

'The staffing ratios on the ward need looking at to make them more safe, because it's not just the physical number of bodies you've got on the ward, it's your skill mix, so what seniority you've got around. Also, comparing that to the actual level of patients that you've got' (INTW:Manager).

Consequently, it was felt that the skill and labour shortages will continue. This raises questions over the effectiveness of current local and national policy. With an increasing number of individuals retiring, and increasing service-user demand, management felt the answer to the question on how to address the current skill and labour shortage within the NHS in England, and the wider UK remained unanswered. Attention was also paid, as a result, to recruitment into the profession to help address the current imbalance, and the commissioning of training and advertisement of vacancies inside and outside the hospital and profession. One manager noted that the demand is there, and advertisements are made, but given current cuts in commissioning, not enough students were graduating into the profession to apply for and fill the number of open vacancies, stating that:

'They put up posts [...] but I don't think there's enough nurses going through training. Then there's obviously loads that retire' (INTW:Manager).

Another management interviewee echoed the sentiments raised above, further, by reflecting upon the actual recruitment and assessment process, and the

> *'[There is a need to] employ more nurses, to start with, make posts more readily available, put more nurses through training […] employing more people, definitely, but employing the right people, and I suppose you can only do that with good interviews and assessments […]' (INTW:Manager).*

Thus, it can be deduced that management feel that efforts should be spent not only encouraging **recruitment** into the profession, but also selecting the correct individuals with the appropriate skill mixes for the job, with a budget made available for advertising and training at a variety of levels. Two management interviewees agreed that:

> *'They need to get some more career drivers in. Put nursing out there, make it look more attractive and say, "This is what you do and we'll support you to do this"'* (INTW:Manager),

> *'They need to […] make it more attractive and try to get more people on board or more people returning to nursing because a lot of people leave the profession […] that would increase the staff levels and maybe make sure people are definitely getting training, especially specific to their area. That will obviously make you feel more valued so you're able to work more effectively and productively. Then hopefully, the staff shortages will decrease' (INTW:Manager).*

It continues to be recognised, by both management and nurse employees, that the ability to resolve the challenges that arise, are limited due to resource constraints, and given the more recent financial cuts, a review of the job matching process, and recruitment into current vacancies could be an avenue for analysis within workforce planning. However, the barriers to workforce planning are identified further afield, which Bosworth *et al.,* (2007, pxxv) have previously attributed to

> *'the absence of wage adjustments though normal market forces; the long lead time in training staff; the necessity to ensure patient needs are met; and […] money is not wasted by training too many new staff'.*

Given the perceived shortages in both labour and skill mix within the current nursing workforce, the findings emphasis that efforts should be directed towards enhancing the techniques and methods adopted in workforce planning. The replacement needs of the current workforce were identified as a significant challenge in this planning process. The suitability of the current skill mix to help address the labour and skill shortages in the short run were

reflected upon, with emphasis being placed on the need to provide training to support employees in this transition between job roles. It was identified that demand for healthcare was outstripping supply, and given the current resource constraints and workforce challenges, it was having a negative impact on patient care and ward safety, and thus needs to be an area of priority.

6.3 Conclusions

This chapter has explored the factors that influence both the occupational choice and labour supply decision-making of nurses from the perspective of a variety of participants within the nursing labour market in England. From each stage of the data collection process, several themes were derived from the responses collated from the semi-structured questionnaires, focus groups and interviews. The groupings of each of the identified themes were driven by the concepts and statements raised by the participants, and were structured by the survey questionnaire, focus group and interview agendas. Each theme was reflected upon, in turn, in Section 6.2, though, given the non-discrete nature of the concepts that emerged, there exists some overlap between the themes.

The first theme that emerged from within the data focused upon the multifaceted nature of the pecuniary and non-pecuniary factors that influence an individual's **occupational and educational choice.** Attention was given to the main factors that influence and motivate an individual's decision to undertake degree level training to become a qualified nurse. The predominant factor that emerged from the survey and focus group data, as driving this decision-making behaviour is the **desire and willingness to care for others** (non-pecuniary factor). This factor was also identified as the primary reasoning for entering the nursing labour market and nursing profession once qualified.

Pay (pecuniary factor) was identified by recent graduates as not very significant in their decision to enter the nursing labour market in England, and in particular the NHS. However, both currently employed nurses and mangers felt that pay needed to be reviewed. Not only to provide a level of pay that reflects the demanding nature of the front-line care provided, but also to make it an **attractive and comparable profession** to join and remain within. In relation to the effect policy has on nurse perceptions and expectations, it was noted that the then proposed removal of both **enhancements** for those nurses currently employed within the profession, and the removal of the fee-paying degree structure would have a negative impact on the labour market from the perspective of those currently employed. However, this was

perceived by management to have a positive impact, from both a resource and incentive perspective. Many nurses stressed that with the removal of enhancements, many could not **maintain a suitable standard of living**, impacting on individual motivation.

Interesting insights were gained when comparing and contrasting the views and perceptions of those currently employed, with recent graduates and management. When exploring the occupational choice decision of recent graduates, it was identified that hours worked and **flexibility with working patterns** was not a significant influence in their labour decision-making process. However, in contrast, both current employees and managers felt that the expectations of and flexibility with hours worked was an issue. Both recognise that there is a need to encourage more flexible working patterns, and resolve the stigma and expectation attached to working beyond an individual's contracted hours.

Recent graduates stressed the need to **manage individual expectations** of entry into the profession, and their adjustment to the environment they are expected to work within. The focus was mainly upon **resource constraints and staff shortages**, demonstrating how individual expectations and perceptions are not only affected by policy and exogenous factors, but also how they evolve once an individual is qualified.

Furthermore, when exploring this initial decision-making process, attention was paid to the **suitability of the degree programme**, with recent graduates, employed nurses and managers concurring that the modules, assessments and placement allocations needed to be reviewed. Greater emphasis should be placed on an apprenticeship style programme, with more practical applications and an overhaul of the **mentor allocation process**. Management also identified that the current labour shortage will not necessarily be resolved by encouraging more individuals to join the degree programme, as many graduates use the degree as a form of "currency" to work outside the NHS, in the UK more generally or overseas. Management also identified that there was also insufficient resources and capacity to train staff to help manage the **skill imbalance,** from within the organisation, that would help to provide a further resolution of this problem.

Participants paid significant attention to the impact non-pecuniary factors, including employment conditions and the work environment had on their labour supply decision-making behaviour. The focus groups and questionnaires surveys carried out with currently employed nurses within the NHS places great emphasis on **barriers to practice**, from both a resource and ability to care perspective. These barriers included physical and mental demands, additional financial burdens, and contractual obligations. The findings from the management interviews furthermore focus primarily on the problems faced with **workforce planning**, and

the impact both internal and external conditions had on the delivery of care from a service user perspective. This reflects the impact and consequences of recent policy decision within the healthcare market and externally. These included the state of the current work environment as a result of previous and more recent labour market policy changes, and also the impact of *Project 2000* on professionalising nursing.

Previously, within the literature limited attention has been paid to labour market conditions and workforce planning. A significant area for reflection within the current findings is the **re-entry of nursing qualified individuals** who have left the profession wholly or partly and wish to re-join. Management recognise that attention should be paid to the process of re-recruitment, and both advertisement and transition, to help provide a more immediate remedy to both the skill and labour shortage currently present within the nursing labour market in England.

There is also the need to recognise, for those individuals currently employed, the **pressurised environment** individuals are working within, and the barriers they face in delivering a service. This was further reflected upon, with many nurses currently employed stressing that they feel they are unable to carry out their primary role of caring for patients due to: the heavy load of paperwork; the change in accountability; patient turnover targets and administrative duties. This is all having a significant negative impact on their **emotional well-being and patient care**. Thus, identifying and reflecting upon how individual behaviour and decision-making is influenced by non-quantifiable factors is very important. The evidence gathered here suggests that many nurses derive utility and satisfaction from the emotional aspects of their job role, and thus from the emotional labour associated with being a nurse. However, this is not easily monitored or quantified.

The current management of labour shortages, and the hiring of **temporary labour** was identified by both managers and nurses, to be exacerbating skill shortages, given there is a delay in temporary labour embedding themselves into the environment and hospital processes. Both groups saw the need for **retention strategies** that better acknowledge the evidence cited above relating to why qualified individuals choose to leave their current job role, employer, or profession.

In addition, it was recognised that, given the ageing demographics of the nursing workforce, greater efforts should be made to assess the specific skills needed in the recruitment process to replace individuals. Where possible, individuals should be **replaced before exit**. This would stimulate the transfer of knowledge from those with significant experience and human-capital wealth and focus upon the areas of health specialism in which graduates signal an

interest. Management, however, also argued that the focus on labour shortages was over played. In many instances, it is specific skill shortages that are creating issues. These are in part attributable, as recognised above, to the structure of the degree programme and inadequate resources for internal training.

Appendix to Chapter 6: Summaries of Survey Findings : New - Graduates and Employed Nurses

This appendix presents a summary of the findings from the questionnaire survey's distributed to recent graduates and employed nurses, as discussed in the above analysis.

<u>New Graduates</u>

A.6.1 Factors ranked in order of influence in the occupational choice decision-making process

Survey question 8 – New graduates: "What factors influenced you in selecting to study a nursing related degree/diploma?".

The highest ranked factor that was felt by the new graduates surveyed to influence their decision to obtain a nursing degree was the 'desire to help and care for people', with both males and females across the age categories perceiving this to be the key driver. The second highest factor was the 'potential for career progression once graduated' with males in age bands 28-32 and 33-37 being significantly represented in this category. One of the lowest ranked motivational factors, for females age 23-27, males aged 28-32, and for ages 38-45 was the perceived 'flexibility due to childcare/family commitments'.

A.6.2 Changing perceptions of 'nursing' once enrolled onto the programme of study

Survey question 9 – New graduates: "Have your perceptions of 'nursing' changed since you joined your programme of study?".

The overall perception of the new graduates surveyed was that 40% of respondents, across both males and females, and across all age bands 'agree or totally agree' that their perceptions of 'nursing' had changed once they had enrolled onto their programme of study. The reasons given can be found in Table A.6.1 below.

Table A.6.1 Reasons given for whether the respondents perception of 'nursing' had or had not changed since joining their programme of study

Additional comments	
Was not aware of the strains nurses are under previously	Minimal time to complete task. So much documentation- patient contact reduced
I didn't understand how much responsibilities nurses have	Very demanding and challenging in a good way
Media portrayal of profession - Government cuts and their opinions of nurses	More paperwork than initially anticipated
Government cuts	Managing time. Lots of documentation - feel like not enough time to spend with patients
Didn't realise the amount of stress and responsibility on the nurses' head	Time constraints. Pressured environment
It is much more complex than first anticipated, and much more rewarding when you see how much of a change you can make to someone's life	The environment is more pressurised than I expected, and the organisation less efficient than expected
No, this is the profession that I never thought I would get into, I dreamed this since I was a child	More challenging than anticipated
Didn't know much about the role. No previous healthcare experience	Not enough time to deliver a highest possible standard of care. Not enough contact time

Source: New graduates surveyed (prior to employment)

A.6.3 Changing perceptions of becoming a 'nurse' once enrolled onto the programme of study

Survey question 10 - New graduates: "Have your perceptions of becoming a 'nurse' changed since you joined your programme of study".

The overall perception of the new graduates surveyed, across both males and females, and across all age bands was that 35% of respondents 'agree or totally agree' that their perceptions of becoming a 'nurse' had changed once they had enrolled onto their programme of study. 28% of respondents did however agree that their perceptions had not changed, with the majority clustered around the age bands 18-22, 23-27 and 28-32. The reasons given can be found in Table A.6.2 below.

Table A.6.2 Reasons given for whether the respondents perception of becoming a 'nurse' had or had not changed since joining their programme of study

Additional comments	
Role has a lot more responsibility	Less patient contact that initially anticipated
The nurses are much more skilled, and have a wider breadth of knowledge, providing much more room for development	More stressful than I thought
No, because becoming a nurse is rewarding especially if you have been acknowledged and appreciated at work	More paperwork than expected. Time constraints prevent fantastic care. Less patient contact
It is too demanding, too much bureaucracy, and poor attitude of some senior staff	The environment feels less valued than 20 years ago with less respect for nurse's commitment and efforts

Source: New graduates surveyed (prior to employment)

A.6.4 Perceptions of whether the nursing degree/diploma equipped the individual to become a 'nurse'

Survey question 11 – New graduates: "In general, how well do you feel the nursing degree/diploma equips you to become a 'nurse'".

41% of graduate respondents 'agree or totally agree' that their higher education training equipped them (with the skills and transferable knowledge) to become a 'nurse'. However, comparatively, 31% of respondents 'disagree or totally disagree' that the training equipped them to become a 'nurse'. The majority of respondents that 'disagree or totally disagree' with this statement were aged 38 or over (i.e., mature graduates).

Table A.6.3 Reasons given for whether respondents did or did not feel the nursing degree/diploma equipped them to become a 'nurse'

Additional comments	
The degree does not prepare the main nursing aspects and lack of skills	Not very well
The skills yes. Responsibility and accountability no.	Depends on student's enthusiasm and work ethic what you get out of a degree
As a student, I felt I was able to complete the same role as a newly qualified nurse with the exception of medications	Prepared me in a way I was exposed to a variety of fields
Yes, there are still a few gaps that we face as newly qualified that would be better if addressed as students	I remember how I felt on my 1st placement and how I felt on my management, there were huge differences
It does not equip you to become a nurse	Don't learn until you are in practice
Received enough training	It equips you with general knowledge and how to provide basic skills, but I feel I have developed more now I am qualified and working more closely with the team on my ward
Placements and theory at university education helped immensely	I feel competent
It does not equip you enough for nursing	Placements are beneficial however, most of the modules and coursework are irrelevant and time could be spent learning valuable skills
Degree not only equipped me practically (skills wise) but also equipped me with theoretical knowledge and how we can implement those knowledges into practice	Depends on placements that are chosen as some are better to prepare you for nursing
Very well because it was my stepping stone to become a nurse	Depends on placement experience. Some assignments were not relevant to the role
Would have helped if placement allocations were better. More time in practice would have been beneficial	Nothing really prepares you for the leap from student to a qualified nurse
In some scenarios, I feel out of depth, however this comes with experience of a qualified nurse. As a student, you are protected more than a staff nurse	I feel the course should be more practical, more interactive. Some of the content of the course I felt was not relevant i.e. leadership and management and produce a business proposal
Both theory in university and practical placements is good	Placements do if you have a variety of placements, but it's different once you qualify
University and theory/study in university did not equip me for being a staff nurse	Some students, including myself, did not have equal opportunity to study on placement. Therefore, struggle with basic things at the start of employment
Not enough clinical skills training. I don't feel as If there was much preparation for being qualified especially in placements.	Some of the modules did not feel relevant as opposed to learning/practising clinical skills we would be doing on the job
Such a large jump from student - qualified nurse responsibility	Different placements within different specialist wards exposed me to various conditions experienced by patients and its management
University wasted time on modules that weren't relevant to nursing when out on practice	More skills should be taught, maybe more time on placement
As the course is 50% practical it enables student nurses to be hands on in placement to understand and a feel of what is expected of a nurse	I feel like you learn better on the job, so should have more time on placements
Better understanding (theory)	Poor medicine management teaching. Placement provides most learning
Good use of theory/practical combination at university	Not enough time during course managing patients and workload

Source: New graduates surveyed (prior to employment)

A.6.5 Exploring degree/diploma attrition

Survey question 12 – New graduates: "Do you plan on using your nursing related degree/diploma to enter the nursing workforce to become a registered nurse once graduated?".

From the new graduates survey, 91% of the sample planned on using their nursing related degree/diploma to enter the nursing workforce to become a registered nurse once graduates. However, 9% did not plan, on retrospective reflection, to use their education and training to enter the nursing labour market.

A.6.6 Factors which drive nursing labour supply

Survey question 13 – New graduates: "What factors have and will influence your decision to enter the workforce as a registered nurse once you have qualified?".

The highest ranked factor that was felt by the new graduates surveyed to influence their decision to enter the nursing labour market in England was the 'desire to help and care for people'(also the highest ranked factor when exploring degree selection and entry), with both males and females across the age categories perceiving this to be the key driver. The second highest factor was the 'desire to use and apply [their] nursing related degree/diploma'. It is worthy of note that a significant proportion of males across the age bands also ranked the 'potential for and availability of further education once graduated' as a motivating factor. The lowest ranked factors, were the 'flexibility due to childcare/family commitments' and 'pay'.

A.6.7 Newly qualified individual perceptions of the current nursing labour market

Survey question 15 – New graduates: "What are your current perceptions of the nursing labour market you will be graduating into?".

The vast majority of the graduate students surveyed perceived the nursing labour market in 2015/16 as being 'over stretched, 'under resourced', and 'prone to labour shortages', which reflects the general consensus presented in Chapter 2. However, participants did also reflect that the nursing labour market did, from their perspective, provide 'plentiful opportunities for promotion/career advancement'.

A.6.8 Exploring whether participants thought about moving to a different department

Survey question 43 - Employed nurse: "I often think about moving to a different department".

From the employee sample surveyed, the majority of respondents, both male and female, across all age ranges were not considering moving departments within their hospital (choosing 'disagree' or 'totally disagree' on the Likert scale). It is worthy of note however, that those respondents that were considering a move were concentrated in the age bands 33-37 and 38-45.

A.6.9 Exploring whether participants felt the career gives them ample room for progression and growth

Survey question 52 - Employed nurses: "The career gives me ample room for progression and growth".

From the employee sample surveyed, the majority (71%) of respondents felt that their career gave them ample room for progression and growth (choosing 'agree' or 'totally agree' on the Likert scale), However, it is worthy of note that 20% of respondents disagreed with this to varying degrees. Furthermore, these respondents were typically more mature in age range.

A.6.10 How many people in the last 12 months the individuals had witnessed leave the profession

Survey question 55 - Employed nurses: "How many people do you know that have left the profession in the last year?".

From the employee sample surveyed, 39% of respondents reported that they had not witnessed any colleagues (or people they know) leave the profession within the 12 months prior to the survey. 14% of respondents did however witness 1 or 2 colleagues exit the nursing profession. Furthermore, 9% of the sample had witnessed 10 or more colleagues (or people they know) leave.

A.6.11 Specialisms nursing respondents were interested in

Survey question A – Employed nurses: "What specialisms are you interested in?".

From the employee sample surveyed, the majority of respondents were interested in accident and emergency, critical care and cardiology. The least interesting specialisms were dietetics/endocrinology, urology, maternity, nephrology, neurophysiology and nutrition/dietetics.

A.6.12 Exploring whether participants enjoy the emotional aspects of their work

Survey question 37 - Employed nurses: "I enjoy the emotional aspects of my work".

The majority (67%) of employee respondents either agreed or totally agreed when reflecting upon whether they enjoyed the emotional aspects of their work. However, 16% of respondents reported that did not enjoy (selecting 'disagree' or 'totally disagree') the emotional aspects of their job role.

A.6.13 Exploring whether participants felt they were given the right level of responsibility for their job

Survey question 39 - Employed nurses: "The responsibility I am given is the right level for my job".

The majority of respondents (64%) agreed or totally agreed that they were given the right level of responsibility for the job. In contrast, 17% of the sample, ranging across all ages and genders 'disagreed' or 'totally disagreed, reflecting that they felt they were not given what they perceive to be, the right level of responsibility for their job.

A.6.14: Exploring whether participants felt they are free to carry out their work in the way they see best

Survey question 42 - Employed nurses: "I am free to carry out my work in the way I see best".

Just over half of employee respondents (54%) agreed or totally agreed that they felt they were free to carry out their work as they thought best. However, 28% of respondents, mostly female, disagreed or totally disagreed with the statement, reflecting that they perceived they were not free to carry out their work in the way they see best.

A.6.15 Likert scale exploring whether participants felt the need to worry about their personal safety at work

Survey question 41 - Employed nurses: "I never have to worry about personal safety at work".

From the employee sample surveyed, 61% agreed or totally agreed that they worry about their personal safety at work, with a large concentration of these respondents being aged 38 years and above. In contrast, 36% of respondents felt they did not need to worry about their personal safety.

Chapter 7: Conclusions

7.0 Introduction

The nursing labour market is associated with labour shortages and skill imbalances. There has been much discussion particularly around the causes and consequences of the reported high labour turnover rates and ageing demographics of the nursing workforce.

As identified in Chapter 3, England has experienced a rising trend in the number of registered, FTE nurse and midwifery staff between 2004 and 2019 (NHS Digital, 2020). The workforce continues to be female dominated, and there is a growing concern over the widening of gender-pay gaps. During this period, there have been peaks and declines due to a variety of factors, including the 2008 financial crisis, the 2010 general election and Brexit. Furthermore, over this period, the number of unfilled nursing vacancies has increased dramatically, and the turnover rate continues to rise. The rising level of nurse turnover is attributed to a variety of factors including staff dissatisfaction and the ageing demographics of the nursing workforce. By 2019, the nursing labour market in England was in a position of net outflow, with more staff leaving than joining.

International nurse migration into the UK more generally has also fluctuated considerably over the period 2004-2019. On average, over this period, there has been a growing number of EEA registrants. However, post 2016 this declined, and in 2018 the number of registrants outside the EEA was greater than those from the EEA. This is attributed heavily to result of the UK's referendum on Brexit.

Over the period 2004-2019, the number of applicants to nursing related degrees in the UK has also fluctuated considerably, though broadly rising between 2004 and 2011, then declining from 2011 onwards. Overall, the changes have been attributed to a rise in the number of NHS commissioned places through workforce planning, followed by government austerity reducing the number of commissioned places and removing the student nursing bursary. There has also been a reported increase, since 2011, in the number of students dropping out of nursing degree programmes. The introduction of TNAs and the nurse apprenticeship, it is hoped, will help address the challenges for workforce planning.

Given the various challenges faced in such a dynamic landscape, both by those concerned with the working lives and welfare of nurses, and those responsible for recruitment and

retention issues, this thesis has aimed to explore the factors that influence an individual's decision to enter into and engage with the nursing labour market in England. The focus was upon the behaviour of individual actors and the decision-making behaviour of these actors at different phases of career progression, as well as the consequent implications for perceived labour shortages and service delivery. The research focused on the following research questions:

1. What factors influence an individual to choose to study nursing at degree level?

2. What factors influence an individual to remain on the degree programme until graduation?

3. What are the determining factors that drive the participation decision of an individual to supply their labour to the nursing labour market in England once qualified?

4. What are the determining factors that drive an individual to choose to leave their current position/the nursing labour market in England? i.e. What drives nursing turnover?

5. What do nurses within the identified care settings perceive to be the causes of labour turnover?

6. What implications do the factors that drive turnover and retention have for helping to address labour shortages?

Whilst the above are the principal research questions that guided the research, this final chapter does cut across them in summarising the main findings.

In order to address these questions, a mixed methods research approach was adopted. It has centred on both the study of individual perspectives collected through qualitative research methods and analysis of secondary LFS data using econometric methods.

The remainder of this chapter is in 4 parts. Section 7.1 identifies the main contribution of the thesis to the development of a mixed methods approach to labour market research. Section 7.2 summarises the key findings of the empirical research. Section 7.3 highlights the policy implications of these findings. Finally, Section 7.4 explores the limitations of the research, and the implications these have for further research.

7.1 The development of a mixed methods approach to labour market research

The novel focus of this research was to explore these issues using mixed methods rather than to rely on just econometric or qualitative approaches alone. As identified in Sections 4.1 to 4.4, this approach was used to enable, where possible, triangulation of the findings to help compare and contrast the results from the econometric modelling with the more qualitative analysis. The thesis explored the transitional behaviour of individuals, starting from the factors that motivate entry onto a nursing degree programme, through to labour market entry, participation and the potential drivers of turnover. In contrast to previous econometric modelling attempts (Section 2.3), it sought to provide a deeper understanding of the actor's behaviour through both econometric and qualitative means, and in doing so, develop a mixed methods approach to labour market research.

The econometric analysis focused on the development of a stochastic model that explains nursing labour supply within England, using national LFS data for 2004-2019 (Section 4.2). It has examined the factors that influence the decision-making behaviour of nursing qualified individuals to participate in the nursing labour market in England, as well as those factors that influence their hours of work decision. The econometric modelling technique chosen took the form of a Heckman-two-stage procedure (Section 5.1).

This was informed by exploring the qualitative aspects of nursing motivational behaviour and occupational choice using other methods (Section 4.3). Such exploration was key to developing labour supply models which are representative of the behaviour of nursing labour in care settings where wastage and shortages exist within England. The econometric research built on previous studies conducted (Skåtun *et al.*, 2005) to explore the behaviour of individual actors in the labour market for nursing within different practice settings, and at different stages of career progression (Section 2.4).

The findings from the more qualitative analysis involved primary data collection, including two small survey questionnaires, focus groups and interviews (Section 4.3). These data were analysed using thematic analysis. The results from this analysis were utilised partly to assess the results of the econometric model estimation as well as to explore the current situation, and to provide further insight, explanation and clarification not possible from the econometric evidence (Section 4.4).

The collection of data from the survey questionnaires, focus group and interviews, focused on a variety of actors within the nursing labour market in England. The study population for the

surveys, focus groups and interviews was represented by those individuals registered within England (the West Midlands) who met the identified sample selection criteria, as explored in Section 4.3. The focus was upon several practice settings within four hospitals, to create a platform encompassing a variety of aspects that can be linked to nationally based data.

The sample sizes varied between the qualitative and econometric data collected (Section 4.4). There were 7,473 observations from the secondary LFS data for the whole of England (Sections 5.1; 5.2). The surveys, focus groups and interviews involved: 76 recent graduates and 127 practising nurses from the primary surveys; 27 participants from 3 focus groups; and 4 management interviewees (all from the West Midlands) (Section 6.1).

The LFS sample was over a period of 15 years[87] (2004-2019), whereas the survey, focus group and interview data were collected, at varying points in time, between 2014 and 2017. The LFS sample included those individuals who were employed within the labour market in England and held a nursing related qualification. In comparison, the primary survey and focus group data included individuals who had completed their training and were employed as nurses within the nursing labour market in the West Midlands region of England.

Juxtaposing modelling and qualitative research narratives

The modelling efforts to explore the participation and hours of work decisions of married and single, nursing qualified individuals demonstrate that not all actors behave in the same way (Section 5.2). From the econometric modelling of the participation and hours of work decision for those nursing qualified individuals who are married, the Heckman two-step generated statistically significant values for both lambda and rho (Section 5.2). Lambda represents the level of sample selection bias, and rho represents the potential correlation between the error terms in the first and second stages of the equation. For those nursing qualified individuals who are married there was a statistically significant value of lambda equal to -8.6, and a value of rho equal to -0.8 (5.2.1). Therefore, with regard to the former, it can be concluded that the unobserved factors that make participation in the nursing labour market more likely, could have a negative impact on the hours worked. For example, the desire to care drives participation in the nursing labour market, however the associated emotional labour (and the links between surface acting and individual wellbeing) may consequently also have a negative impact on the hours worked. Furthermore, with rho being equal to -0.8, it can be concluded that the errors in the participation and hours equations are negatively correlated, thus as one

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[87] This 15-year period is in comparison to the time spans used by Hanel *et al.,* (2014) of 8 years and Condliffee *et al., 2019*) of 12 months.

variable increases, the other decreases. For example, in the hours of work equation that follows the participation equation, as the hourly wage increases, the number of hours worked decreases. Similarly, for those nursing qualified individuals who are single, the Heckman two-step generated a statistically significant value of lambda equal to -6.8, and a value of rho equal to -0.7 (Section 5.2.2). These findings confirm those previously found by Skåtun *et al.*, (2005), who also found lambda to be negative and statistically significant (Section 2.3B).

The wage elasticity, in respect of hours worked, for both married and single, nursing qualified individuals are both estimated as -0.3. This implies that a 10% increase in the hourly wage leads to a 3% reduction in hours worked per week (this is equivalent to almost 2 minutes per hour, per week, based on an average working week). The wage elasticity calculated for participation for married individuals is 0.5, but 0.8 for single individuals. Thus, a 10% increase in the hourly wage increases the likelihood of single nurses participating by 8%, and the likelihood of married nurses participating by 5%.

The findings from the primary surveys, focus groups and interviews highlight the disparity between the influence the wage is perceived to have on new recruits in contrast to the influence on employed nurses (Sections 6.2A; 6.2E; 6.2F). This suggests that monetary returns to work are multifaceted. There was a general consensus within the focus groups among those nurses currently employed that the service they offer should not focus on the financial value attached to it. Consequently, policy needs to recognise the significance of non-monetary aspects of the rewards nurses get from their jobs. The analysis of this relationship using econometric methods should also take this into account by quantifying these aspects where possible.

A key area for reflection that emerged from within the data collected from the primary surveys, focus groups and interviews, and one that is scarcely reported within the existing nursing literature (Chapter 2), is the debate around whether nurses earn a suitable standard of living to remain within the profession. From the findings it can be seen that many nurses felt that they would not be able to afford to continue to work within the NHS as a nurse if enhancements were removed (Sections 6.2A; 6.2B; 6.2E; 6.2F). Many nurses are the primary household earner, and are struggling to maintain a basic standard of living. This has a significant impact on both turnover and entry into the profession, and in particular, nurses entering the NHS to practice.

The econometric analysis suggests that the age of the individual has a varied impact on the participation and hours of work decision of both married and single nurses. Many nurses from the "baby boomer" generation are choosing to delay retirement. This finding suggests that

initiatives to introduce 12-hour shift patterns to help tackle the reported labour shortages could be effective (Section 6.2E). In addition, it also suggests that attention should be paid to understanding the retention and pre-retirement decisions of older nurses (as identified in Section 2.2E) and the implications these have for workforce planning and workforce flexibility. Furthermore, regarding workforce flexibility, the large number of nurses that have dependents (as in the LFS sample), points to a need to provide more family friendly working patterns. This is reinforced in the data from the focus groups and interviews, which confirm that these practices enable nurses to work longer hours (Sections 6.2E; 6.2F).

7.2 Key findings

Section A begins by identifying the motivations behind the labour supply decision-making of nursing qualified individuals, focusing upon occupational choice and hours of work. Section B examines what individuals perceive to be the existing barriers to their current working practice. Section C reflects upon pay and remuneration within the nursing labour market. Finally, Section D explores the existence of skill and labour shortages, and the challenges faced with recruitment into the profession.

A.   Labour supply decision making: occupational choice and hours of work

From the initial exploration of occupational choice and labour supply (Section 2.3) it was clear that up-to-date research into the nursing field within England, from a econometric perspective, was sparse and lacked development. This present research has extended the now dated research by Skåtun *et al.*, (2005).

The findings from the primary surveys, focus groups and interviews highlight that the unobserved factors influencing these relationships could reflect the emotional aspects and demands of the job role, (as explored in Section 6.2E). For example, as concluded from the focus groups discussions, a key motivation for many individuals entering the profession was their desire to care for others. The findings suggested however, that there is a growing level of dissatisfaction derived from individuals feeling that they were unable to care and carry out their job role sufficiently, due to, for example, increasing paperwork and staff shortages. This was felt to have a negative impact on their willingness and ability to work more hours. These findings have significant policy implications when exploring the mechanisms by which to incentivise the current workforce within England to supply more hours of work to the profession in order to help manage the shortage of labour in the short term (see C below).

Regarding the motivations influencing labour supply, the findings from the primary student survey, and focus groups further allows for investigation into the other potential factors that influence an individual's initial decision to choose to study nursing at degree level to enable them to participate in the nursing labour market in England (Sections 6.2A; 6.2C; 6.2D; 6.2E). These factors are not always easily quantified in the econometric analysis. This decision-making process is key to understanding the initial factors that influence an individual to participate and supply positive hours of work to the nursing labour market. The themes identified from the student questionnaire highlight the multifaceted nature of the factors that influence and motivate an individual's decision to undertake degree level training to become a qualified nurse.

Furthermore, from the student survey, it was identified that the backgrounds of recent graduates choosing to enter the profession varied with regard to their previous experience or occupation prior to joining the degree programme. The predominant factors identified as driving their occupational choice decision were the desire and willingness to care for others, coupled with the perceived opportunities for career progression within the nursing labour market in England (Section 6.2A).

The findings from the primary student survey, focus groups and interviews also suggest the importance of an individual's changing perceptions of both nursing and becoming a nurse, once the degree programme has been completed (Section 6.2C). Such changing perceptions are key to understanding the turnover intentions of recent graduates in the nursing labour market in England. The causes of nurse turnover and intentions to leave the profession, as identified above, are well documented. However, there is a relative paucity of literature that explores these factors relating specifically to those recently employed graduates, given the reported high levels of graduate turnover (Sections 2.2D; 2.2G; 3.1). Among management in the health service, there is a general consensus that professionalisation of nursing has been positive, as has standardisation of nursing practice and qualifications across the higher education sector (Section 6.2B).

In contrast to previous research however, recent graduates stressed the need to review and reflect upon the suitability of the degree programme in managing individual expectations on entry into the profession (Section 6.2C). Many felt the motivations behind why they chose to join the degree programme were not met or fulfilled on entry. Both mentors (preceptors) in the focus groups, and 43% of recently graduated nursing students in the survey sample, felt that the nursing degree programmes offered is not necessarily sufficient in developing the

necessary skill and knowledge base for future employment. However, 57% of survey respondents did reflect that the degree programme was suitable and provided an active learning environment in equipping them to become a nurse in practice. In addition, recent graduates expressed the desire to specialise primarily in accident and emergency or critical care (Section 6.2D). These are ranked jointly as the highest areas of interest for recent graduates, followed by cardiology and cancer services. Currently (within the West Midlands region) Accident and Emergency, and Cardiology are two of the main shortage areas. It is noteworthy that there is significant interest from recent graduates in these areas of specialism.

Furthermore, graduates reflected that the work environment they found themselves working within creates significant barriers to carrying out their trained role as a nurse (Sections 6.2B; 6.2E; 6.2F). In many instances, they are sheltered on placement from the realities of both resource constraints and staff shortages that exist within the labour market. The focus groups and surveys carried out with currently employed nurses within the NHS also echoed these findings, with an even greater emphasis on barriers to practice, from both a resource and ability to care perspective. These barriers included physical and mental demands, additional financial burdens, and contractual obligations. There was also a general consensus, as is present in the more recent literature findings (Section 2.4), that there is an increasing need to help support and develop emotional resilience, particularly when managing job satisfaction and turnover intent, especially in new recruits into such professions.

Interesting insights were gained when comparing and contrasting the views and perceptions of those currently employed, with recent graduates and management (Sections 6.2E; 6.2F). When exploring the occupational choice decision of recent graduates further, hours worked and flexibility with working patterns were not found to be a significant influence in their labour decision-making process. In contrast, both current employees and managers felt that the expectations of, and flexibility with, hours worked was an issue. Both recognised there is a need to encourage more flexible working patterns, and resolve the stigma and expectation attached to working beyond an individual's contracted hours.

The findings from the primary surveys, focus groups and interviews highlight that it is evident that the UK nursing labour market more generally continues to be female dominated. Given this composition, many individuals have responsibilities outside of work, which need to be considered. As identified in Section 2.4B, potential gender bias and gender wage gaps in the nursing profession exist. The gender pay gap is attributed to the larger proportion of men who

are employed in more senior roles within the workforce, and the overall female dominance of the profession.

From the econometric results, gender was statistically influential on both an individual's participation decision and hours of work decision (Section 5.2). The results suggest that women are more likely to choose to participate in the labour market than men. The finding also suggests that women are more likely to work reduced hours than men, up to 8 hours less. The results presented are therefore consistent with previous literature, as women may feel the need to work reduced hours because of family commitments and career breaks.

These conclusions are also verified by the findings from the employee surveys, focus groups and interviews, that concluded that women feel the need to work reduced hours as a result of other commitments. The findings further echo the impact gender has on hours worked, and its importance from a management perspective in workforce planning. Both management and current nurse employees reflected that current working contracts are not as flexible or as family friendly as they could be given that the profession continues to be female dominated (Section 6.2A). Consequently, as identified in Section 2.2, this level of perceived inflexibility motivates some nurses to become agency or bank nurses.

B. Working practice and potential barriers

The existing literature reveals an emerging momentum to explore the reported dissatisfaction of the current UK nursing workforce to get a greater understanding of both turnover intent and disengagement (Section 2.2). This dissatisfaction is influenced primarily by the high levels of shortages and their impact on front-line care and service delivery.

The findings from the employee survey and focus groups highlighted how those individuals currently employed within the nursing labour market feel. Their main concern was that they are unable to carry out their primary role of caring for patients due to heavy paperwork, the change in accountability, patient turnover targets and administrative duties (Section 6.2E). This is having a more significant negative impact on their emotional well-being and patient care in comparison to previous research (Sections 2.2 and 2.4), as was highlighted throughout the focus group discussions. This is in light of the evidence that many nurses derive utility and satisfaction from the emotional aspects of their job role, and thus from the emotional labour associated with being a nurse (Section 2.4). This cannot be easily monitored or quantified; however, the findings are overall consistent with previous research. The ability to address

these concerns is imperative to maintaining the quality-of-care delivery (NHSPRB, 2019). Furthermore, the misalignment in expectations relating to the transition of graduates into the profession, and the barriers preventing nurses from carrying out what they perceive to be their job role, is a significant factor driving graduate nursing turnover (Section 6.2C). This has yet to be recognised, in depth within the policy literature within England.

The current management of turnover, labour shortages, and the hiring of temporary labour was identified by both managers and nurses to be magnifying the present skill shortages reported (Sections 6.2B; 6.2E; 6.2F). This was felt to be as a result of delays in temporary labour embedding themselves into the environment and hospital processes. Consequently, the focus was upon the need, from both a nurse and management perspective, to address the causes of labour turnover. This requires retention strategies aimed at exploring and resolving the reasons behind why qualified individuals choose to leave their current job role, employer, or profession, and thus focusing upon aspects of, for example, organisational value and the management of workload expectations.

Those nurses currently employed concurred that the main factors driving turnover, aside from retirement, are the mismanagement of individual expectations and the associated barriers to satisfactory practice faced within the work environment (Sections 6.2E; 6.2F). Management also identified, in contrast to previous research findings (Section 2.2D; 2.2E; 2.2G), that such retention strategies should be regionally focused given the different demographics of patient demand, and the availability of nurse labour.

The changing demographic profile of the nursing labour pool reflects an ageing workforce, with 1 in 3 nurses looking to retire from 2018 onwards (Sections 2.2E; 3.1). This places significant focus on the replacement needs of the NHS workforce in England, given the loss of experienced and senior nurse specialists. There continues to be significant reflection among students, employees and management about the replacement needs of the nursing workforce (Section 6.2F), and extent to which both skill and labour shortages are impacting on patient care delivery, and also hospital efficiency, as previously highlighted by Rafferty (2019).

The suitability of temporary staff to fill labour shortages is viewed both positively and negatively. Many respondents within the focus groups and interviews felt the flexibility of temporary staff from an agency pool, for example, not only provided flexible working practice, but also helped to provide a more immediate solution to staff shortages within England. However, it was also noted that the skill level and unit familiarity of temporary staff,

which more recently have been of HCA level, have created an extra burden on staff, as the individuals are not direct substitutes for the unit requirements (Sections 6.2E, 6.2F). Previous research has focused on the '*need to use temporary staff more effectively*' (Buchan *et al.,* 2013, p5), and what strategies could be adopted to achieve this. However, previous research efforts have also placed limited focus on whether such strategies have been effective (Section 2.2F), thus the current findings help to address this narrative. Such research efforts are even more imperative given the introduction of the TNA and nurse apprenticeship to help alleviate the current skill and labour imbalances.

Significant emphasis in the focus groups was also placed on the additional drivers of exit and turnover within the profession, above and beyond the ageing demographics of the workforce, and the implications these have for the replacements needs of the current nursing workforce in England (Sections 2.2A; 2.2E)). These are associated with barriers to working practice, including the administrative burden preventing individuals providing care and being able to 'nurse'. Once again, such factors are identified as key in driving both the occupational choice and labour supply decision, and are found to be consistent with those previously reported within the field.

C. Pay and remuneration

The influence and significance of pay and remuneration on an individual's decision-making behaviour is of importance from a policy perspective, and is consequently explored substantively in the field of nursing research (Sections 2.2 and 2.4). Nurse pay within the NHS has previously been subject to NHS sector cuts, scrutiny over gender and wage inequality, pay freezes and more recently, major revisions as a result of the 2018 Agenda for Change (AfC) deal.

From the econometric findings, for married nurses, the hourly wage offered was statistically influential with respect to both participation decision, and hours of work decision (Section 5.2.1). The findings suggest that the monetary reward has a small positive effect on the participation decision-making process, but a relatively more significant impact on the hours of work decision. The results suggest that a 10% increase in the hourly wage paid increases the likelihood of participation in the nursing labour market in England by 5 per cent, and reduces the hours worked by just over 3 per cent. This finding is further corroborated by the findings from both the focus groups and employee surveys (Sections 6.2A; 6.2E), which emphasise that nurses rank the wage paid as a low motivating factor in the participation

decision, but a more significant factor in the hours of work decision. Such findings are consistent with those found by Hanel, Kalb and Scott (2014).

As noted in Section 7.1, the wage elasticity in respect of hours worked, for a married, nursing qualified individual is calculated as -0.3 (Section 5.2.1). This would suggest that the labour supply, denoted in this instance by hours worked, for married, nursing qualified individual is inelastic with respect to wages. Furthermore, the wage elasticity calculated for participation is found to be 0.05. Thus, a 10% increase in the hourly wage leads to a 3% reduction in hours worked per week (this is equivalent to almost 2 minutes per hour, per week, based on an average working week), and an increase in the likelihood of participating in the nursing labour market by 0.5%. The potential rationale for this level of unresponsiveness is presented once again in the findings from the primary survey, focus groups and interviews, which suggest job attachment, and the reward derived from providing a caring role, outweigh the monetary return for working. This finding is also in line with previous literature (Chapter 2), in which hourly wage elasticities of -0.12 (Hanel *et al.*, 2014), -0.5 (Wilde, 2009); and -0.3 (Skåtun *et al.*, 2005) are found.

Further support for this finding was found when exploring the participation and hours of decision-making process of single nurses (Section 5.2.2), in which a 10% increase in the hourly wage offered increased the likelihood of participation within the market by 8 per cent, but reduced the hours worked by 3 per cent. The wage elasticity in respect of hours worked was calculated as -0.3, and is consistent with that found for their married counterpart. This once again would suggest that the labour supply, denoted in this instance by hours worked, for single, nursing qualified individual is inelastic with respect to wages. Furthermore, the wage elasticity calculated for participation was found to be 0.8%. Thus, a 10% increase in the hourly wage leads to a 3% reduction in hours worked per week (this is equivalent to almost 2 minutes per hour, per week, based on an average working week), and an increase in the likelihood of participating in the nursing labour market by 8%.

Thus, in aggregate, the econometric findings suggest that pay is not a significantly influential factor in influencing participation and hours worked. This is further corroborated when individuals are asked directly (Section 6.2A). However, the level of responsiveness could change in light of the 2018 AfC pay rise, in which wages are being substantively increased. This may change how influential individuals feel the wage is to their decision-making behaviour, and also their perspectives on how the returns to being a nurse compare to other professions.

The latter is an area reflected upon within the focus groups and management interviews, with a general consensus being that, in comparison to other professions that require significant training, the returns are much less (Section 6.2A). In addition, the data collected within the focus groups and survey questionnaire from current NHS employees suggests that the merging of job roles, and unclear practice boundaries, means that the wage paid does not relate well to the actual job role and content. The impact job and wage comparability has on motivation is given little attention within the existing literature currently, but within this research the evidence suggests it is a key area for investigation.

Yet, from the findings from the primary surveys and focus groups, with regard to an individual choosing to undertake and graduate from the nursing degree programmes in England, pay was identified by those *recent graduates* surveyed (Section 6.2A) as insignificant in their decision to enter the nursing labour market in contrast to previous research (Section 2.2). One reason for the conflicting findings may be as a result of the time period in which the data on recent graduates was collected. Between 2015 and 2016, the pay restraint in the public sector was on-going (Section 3.2), and consequently it could have been possible, that given the pay freeze, individuals did not consider pay as a key motivating factor given that it was not variable.

In contrast however, both *currently employed nurses and mangers* corroborated the existing literature findings and felt that pay needed to be reviewed not only to provide pay levels that reflect the nature of the front-line care provided, but also to make them attractive and comparable to other professions (Section 6.2A). The latter point however, was not a predominant area for reflection within the existing literature. Given the introduction of fees for graduate nursing study however, the notion of pay comparability to other professions is expected to take centre stage in the literature. This is also in light of the impact the 2018 AfC may have (Sections 3.2; 3.3). This has seen all nursing staff who are employed by the NHS receiving a pay rise of at least 6.5%, with a 30-60% increase for shifts worked at weekends, nights and bank holidays between 2018 and 2021 (RCN, 2018).

From the perspective of those currently employed and recent graduates, the findings from the primary student survey, focus groups and interviews suggest that the then proposed removal of both enhancements for those nurses currently employed within the profession, and the removal of the student bursary would have a negative impact on labour supply (Sections 6.2A; 6.2E). In contrast however, from a management perspective, these removals would have a positive impact from a from both a resource and incentive perspective. Many nurses stressed that with the removal of enhancements, many could not maintain a suitable standard of living,

impacting on individual motivation. This in turn may impact on an actor's perception on whether pay is significant in their decision-making process to both enter the profession, but also on their decision to engage positively with the nursing labour market within England. The impact of these changes are yet to be explored in depth in the nursing literature, thus these findings provide a novel perspective to the nursing literature.

With regard to the removal of the nursing bursary in 2017 (Sections 3.2; 3.3), this was associated with a 32% decrease in the number of applicants registering for nursing courses in England in 2018, and the 9% fall in programme acceptance rates. The change has impacted significantly on mature applicants, over the age of 25, with applications, since 2016, down by 40%, and further decreasing in 2020 (RCN, 2020). In light of this, a part reversal of this policy has been proposed, and from September 2020, a £5,000 per year maintenance grant will be paid to all student nurses in England.

D.   Shortages and recruitment

There is a newly emerging focus within the field, addressing why graduates and currently employed nurses feel that their *expectations are not being sufficiently managed* (Section 2.4). This is a key concern, given the reported high turnover within the profession. From the findings collected through the primary student survey and focus groups, when exploring the initial decision-making process, attention was paid to the suitability of the degree programme (Section 6.2C). Recent graduate employed nurses and managers concur that the modules, assessments and placement allocations needed to be reviewed. Greater emphasis should be placed on an apprenticeship style programme, with more practical applications and an overhaul of the mentor allocation process. Management during the interviews, also noted that the current labour shortage will not necessarily be resolved by encouraging more individuals to join the degree programme, as many graduates use the degree as a form of "currency" to work outside the NHS, in the UK or overseas (Sections 6.2A). Management also identified that there were insufficient resources and capacity to train staff to help manage the skill imbalance from within the organisation (Section 6.2F). Such findings are key for local and national policy, especially when exploring educational provision. However, the removal of the bursary, and the introduction of the TNA and nurse apprenticeship is aimed at addressing such issues.

Following on from the exploration of the initial occupational choice and participation decision, further discussion around an individual's labour supply decision making behaviour

from the focus groups and interviews, focused upon the factors that influence nursing turnover, and attachment to the profession, and what actors perceived to be the causes and implications of labour turnover. Within the existing literature (Sections 2.2D; 2.2E), limited attention has been paid to the re-entry of nursing qualified individuals who have left the profession wholly or partly and wish to re-join. In the new analysis managers recognise that attention should be paid in advertising and arranging transition to the process of re-recruitment so as to help provide a more immediate remedy to both the skill and labour shortage (Sections 6.2A; 6.2E; 6.2F). There was also reflection on the management of expectations, which provided further insight into the need to review the role of the degree programme and mentors to ease the transition for new graduates into the profession. In addition, there is the need to recognise, for those individuals currently employed, the pressurised environment individuals are working within, and the barriers they face in delivering a service. This is corroborated in recent work by Rafferty (2019).

As identified in Section 3.1, the ageing demographics of the nursing workforce in the UK has been widely reported. From the findings collected through the focus groups, it was recognised by those nurses currently employed that, given the ageing demographics of the nursing workforce, greater efforts should be made to assess the specific skills needed in the recruitment process (Section 6.2F). This is to replace individuals, where possible, and before exit, to stimulate the transfer of knowledge from those with significant experience and human-capital wealth.

For **married**, nursing qualified individuals, age as a variable is identified in the econometric analysis (Section 5.2.1) as being significantly influential in an individual's participation making decision, but not in the hours of work decision. In this instance, for each additional year of age, the likelihood of participating increases by 0.03 of a percentage point. With regard to the magnitude of the effect, the impact on participation was relatively small. The significant, albeit small, positive impact age has on participation, and the insignificant impact age has on the hours of work decision is not as expected, and is in conflict with the existing literature reviewed in Section 2.3B. This found that age typically had a negative impact on both participation and hours worked. The theoretical literature suggests that there is typically a gradual decline in both participation and hours of work with age, in particular in those job roles that place physical demands on the individual. However, as previously noted, contract arrangements with regard to retirement have enabled various workers to claim a fraction of their pension whilst continuing to work a reduced number of hours, as opposed to retiring from the profession completely. In addition, many nurses from the "baby boomer" generation

are choosing to delay retirement. In this instance, therefore, age could be seen as having a positive impact on the participation decision. With regard to the insignificant impact age has on the hours worked, the finding could be argued as being expected, given the fixed nature of contracted hours in the NHS, for both full-time and part-time contractual obligations. This however does have implications for policy when exploring the exit and/or re-entry decision of mature nurses.

In comparison, the econometric findings suggest that age, for **single**, nursing qualified individuals, had a significant, negative impact on the likelihood of participation and hours worked (Section 5.2.2). The results indicate that for each additional year of age, the likelihood of participation falls by 1 percentage point, and hours worked falls by 2 hours. One rationale for the finding may be that a single status individual, given the physical demands of the job role for example, has greater flexibility to reduce the hours they work as they get older. They do not have the same pressures as an individual with a partner, and potentially dependents has, but do have other competing pressures. Casper, Marquardt, Roberto and Buss (2015, p1) identify that *'singles without dependent children have a variety of family, relationship, and personal demands, which often compete with work, leading to inter role conflict'*, and such pressures change throughout the different stages of life, and the conflicts may become more prominent with age. Once again, the difference age has for the participation and hours worked decision of married versus single individuals is key from a policy perspective.

As identified above, in 2019 the nursing labour market in England was in a position of net outflow (Section 3.1). Previously, the health sector within the UK more generally has been heavily dependent on the inflow of healthcare workers from international labour movements. However, this is expected to change given the UK's exit from the EU (Brexit). EEA entrants to the NMC significantly increased and peaked between the period 2013 to 2016, then dramatically declined in 2016, attributed to Brexit (Section 3.3C). This shift has resulted in the UK witnessing a net outflow of nurses from the EEA. Consequently, modelling efforts should consider the push and pull factors that influence the labour market movements of migrant nurses.

From a policy perspective, reflecting upon the impact different ethnicities have on participation and hours worked in the nursing labour market in England, it is vital to ensure a multi-cultural workforce is supported. The ethnic origin of married and single nursing qualified individuals within the econometric model was identified as being statistically influential in both the participation decision, and hours of work decision for a variety of different ethnic groups (Sections 5.2.1; 5.2.2). Ethnicity was identified as being statistically

significant in the participation decision and hours of work decision for those individuals who identified themselves as, for example, South Asian and Black. However, an interesting finding, and in contrast to previous research, was that the variable representing South Asian origin was found to be statistically significant in influencing the participation decision of single individuals positively, but Chinese ethnic origin not statistically significant. The reason for the variable representing South Asian origin being statistically significant and positive in the participation decision of single, nursing qualified individuals, may be as a result of the social norms within this ethnic group. Brinton and Eunsil (2019) conclude that more generally, single status individuals from this ethnic group are more likely to participate in a labour market than their married counter-part due to the pressures on the latter of other commitments, including childcare and housework. Such areas for investigation are however limited in the exiting nursing literature. From the results presented here it is evident that future labour initiatives should consider such nuances.

The areas of shortage were also reflected upon by current nurse employees and management (Section 6.2D). A significant focus was upon cardiology as an area experiencing both staff (number of individuals employed) and skill (suitable and varied skill levels) shortages in the West Midlands region. But in contrast, it has been found that this area of specialism has been identified as one that attracts interest from newly qualified nurses. Thus, it can be deduced that focus should not necessarily be placed on attracting newly qualified individuals into the specialism, but on retention strategies and addressing, as previously identified, the management of expectations and workplace support. Several other specialisms attracted minimal interest, namely diabetics, urology, and nephrology, which consequently in the future may face both staff and skill shortages. Consequently, workforce planning and forecasting in this areas is recommended.

7.3 Policy implications

Changes in Government policy and funding over the last two decades or so have had major impacts on the decision-making behaviour of individual nurses, both those looking to enter the profession and those already qualified. Focus group participants, along with management, reflected significantly on these changes, including the evolving impact of *Project 2000* on **professionalising nursing** (Section 2.2C), local and national resource cuts and the proposed removal of the student bursary.

The management interviewees observed that the focus on **labour shortages** is over played, when in many instances it is skill shortages that are creating issues (Section 6.2F) - a

contrasting finding to the conventional view summarised in Section 2.2. This they argued was, in part, attributable to the degree programme not developing and fostering the necessary transferable skills, and the limited resources available to provide internal, on-the-job training. The ***suitability of the degree programme*** was consequently a key area for reflection among all participants in the focus groups and management interviews as identified above. This finding has implications for the structure and development of the nursing degree programmes being offered, with many participants suggesting that changes needed to be made as a matter of priority. It is expected that given the introduction of the TNA and nurse apprenticeship schemes that the issue of the suitability of the degree programme will become a dominant issue for policymakers and researchers.

In addition to programme content, the (then) proposed changes to both ***degree funding and bursaries*** (for both students and employees) is an emerging prominent area for debate. Many respondents, both student and employee, believed that the removal of student funding would deter future entrants into the profession (Sections 6.2A; 6.2B; 6.2E; 6.2F). As observed in Section 7.2C, this materialised, with a 32% decrease in the number of applicants registering for nursing degree courses in England, a year after the bursaries were removed in 2018 (Hitchcock *et al*, 2018). In 2019, UCAS figures continued to show a decline in the number of applications and acceptances onto undergraduate nursing degree programmes. This fall in potential labour supply is exacerbated further by the demographics of entrants on the degree programme (NHSPRB, 2019). Almost half are mature students aged 28 years and above (35 participants i.e., 46% of the students sampled for the new graduates survey), and have other financial burdens (Section 6.1). Both nurse and management respondents expected the impact of these changes on existing skill and labour shortages within the NHS to be a challenge for future ***workforce planning*** (Section 6.2F). Management, furthermore, noted that this was in addition to the need for NHS hospitals to make ***efficiency savings*** throughout practice, causing significant cuts within the nursing workforce. However, the impact of the financial cuts in degree funding will not be felt or realised for 3 to 6 years following the policy implementation.

Current employees also reflected on the relative low ***pay*** of staff within the nursing profession, given the demands of the job role (Sections 6.2A; 6.2E; 6.2F). They stressed that the ***bursaries*** provided in the form of ***enhancement***s helped to provide a suitable standing of living. As highlighted above, pay was identified to be influential in the participation and hours of work decision from the econometric results (Sections 5.2.1; 5.2.2). The discrepancy in the findings from the primary surveys, focus groups and interviews between pay not being a motivating

factor for new recruits, but a motivating factor for those currently employed, suggests that pay and enhancements available are key factors once employed within the profession. Furthermore, in comparison to previous research (Ranstad, 2019), it would suggest that enhancements are more influential in the decision-making behaviour than the basic wage paid. Therefore, policy should focus upon the impact basic pay and enhancements have on an individual nurses' standard of living, and whether a nurse can financially afford to work as a nurse if enhancements are removed.

To try and capture the impact of local/national policy intervention and changes in economic climate on the nursing labour market in England and individual decision-making behaviour, time dummies for each year, 2004-2019 were used in the econometric analysis (Sections 5.1; 5.2). The years 2012 to 2019 are identified, on average, as being statistically significant, and negative in influencing the participation of both married and single qualified nurses.

With reference to the hours worked for married individuals, in 2013 for example, the results suggest they worked just over 2 and a half hours more than they did in 2004. As noted above, this could be attributable to declining public sector employment, and the **use of temporary workers** (i.e., agency and bank nurses), causing an increase in the demands placed on the existing nursing workforce, as reflected upon in Section 2.2. Consequently, the increase in the number of hours worked could be a result of the existing workforce being asked to work more hours to reduce the reliance on temporary workers. Focus group participants also echoed that there has been a general move towards nurses having to work longer hours due to the shortage of labour, a key findings of this research (Sections 6.2A; 6.2B; 6.2E; 6.2F). Furthermore, the findings from the primary surveys, focus groups and interviews point to the significant negative impact this is having on both **nurse satisfaction and turnover** within the profession.

In comparison, the years 2010 and 2014 were found to be statistically significant in the hours of work equation for single individuals. In 2010, single individuals worked just over 2 and a half hours more than in 2004, and over 3 and a half hours more in 2014. In comparison however, the years 2010 and 2014 were found to be statistically insignificant for those individuals who identified themselves as married. As identified in Section 3.1, within England there was an increasing trend in the number of registered, FTE nurse and midwifery staff between 2010 and 2018. In particular, between the period 2013 and 2016, there was a peak in the number of new registrants to the NMC register in 2014 (RCN, 2019). Over the period 2013 to 2018, there has been significant growth in the number of '**younger' and 'older' registrants** to the NMC register. These findings overall reflect the challenges faced with workforce

planning with the NHS and impact staff shortages and NHS funding cuts are having on the nursing workforce.

Overall, the research presented points to the dangers of over-simplification in public policy discussion; the findings highlight that a **'one size fits all'** approach to combatting shortages in terms of both nurse labour and skill level is unlikely to suffice. There needs to be a more sophisticated discussions around the complex nature of an individual's decision to join the profession initially, and then to enter and engage with the nursing labour market. The findings identify the need to consider many factors that influence this decision-making behaviour when developing and implementing both local and national polices.

Further effort should be made to understand the **emotional aspects of the job role, and the current barriers perceived to exist within nursing practice that are demotivating the current workforce**. These should be explored from the perspective of a variety of actors, including graduates, current employees, and management. Consequently, workforce planning at a disaggregate level needs further consideration to provide a micro perspective on both skill and labour shortages within each area of specialism. A key focus should be on both the stocks and flows of labour, and labour and/or resource inefficiencies within each area of specialism. The current findings suggest that different types of individual are drawn to different specialisms given their skill sets, previous exposures and interests. However, the complexity of a nurse's role - complicated by the blending of job boundaries, changing customer expectations and resource constraints - needs to be understood from both an emotional and wellbeing perspective. Thus, policies and actions need to be developed to cater not only to the different phases of career decision-making, but also to the profile of the individuals within the different areas. That is in addition to providing, formally or informally, support and recognition for the impact the reported challenges are having on an individual's wellbeing.

The **transition of recent graduates into the profession and nursing labour market** is also an area that needs further consideration. The management of expectations, with regard to the suitability of the degree programmes offered to provide the necessary skills, and realisation of the job role needs to be further reflected upon by the programme co-ordinators of the degree programmes, nursing management and policy makers. This is even more prevalent given the introduction of the TNA and nurse apprenticeship schemes within England, and the UK more generally. Graduates have a positive view of the nursing labour market within England but feel, on market entry, that the role they perform is quite different from that developed during the course. The role of mentors, both during the programme and on entering the profession, also needs to be reviewed. This is in light of the current climate constraining the ability of mentors to dedicate the time required to training in house, but also the effectiveness of

mechanisms to manage expectations and provide emotional support. It is therefore recommended that the mentoring scheme is reviewed to ensure it is suitable and practical given the findings presented and current challenges faced. In addition, greater emphasis should be placed on a graduates transition in skill-based learning from a degree setting to a practice setting, and the potential barriers they perceive that stop them from being able to 'care' and carry out the job role.

Several ***factors influence the decision-making behaviour of both new graduates and nurse employees, and current retention and incentive strategies need to be considered by both nursing management and policy makers given these new research findings***. These suggest that individuals feel that the proposed removal of enhancements will have a negative impact on entry and retention within the nursing labour market, given the already negative feelings from previous pay freezes. In addition, the findings suggest that removal may also prevent some nurses from remaining within the profession due to the basic pay not providing a sufficient standard of living. It is thus clear that financial enhancements play a large role in an individual's willingness and ability to participate in the nursing labour market in England (Chapter 2). It is therefore recommended that there is further investigation into this proposal from the perspective of current employees and management in order to get an understanding of how significant enhancements are in the decision-making process. Feedback from the focus groups and interviews suggests that otherwise such factors will significantly increase turnover within the profession. The forecast impact of this change must be considered as a matter of priority.

The ***use and allocation of temporary labour*** to help combat the labour and skills shortage is also a key issue. In some instances, this is reported to worsen the perceived skill shortages further, and to create more challenges and barriers for staff to deal with. From the findings it is evident that the shortages of labour and skill are having a direct impact on nurses delivering frontline care, with many working longer hours as a result, and potentially compromising patient health and safety. It is thus recommended that the matching of skills to shortage areas when deploying temporary staff should be a priority, with an aim to improve the mechanisms by which temporary staff are placed and the communication of the service needs. This problem will be further compounded by Brexit and COVID-19.

Recent policy initiatives to reduce the entry of overseas healthcare professions into the UK nursing labour market also need to be reconsidered. The present results suggest that the migration of overseas nurses into the UK nursing labour market more generally has helped to manage the skill and labour shortages. Furthermore, given recent spending cuts, and the

reduction in budgets for both training and commissioning of student places, it is recognised that the hiring of qualified nurses from overseas can help to mitigate these challenges. Consequently, this reconsideration is very important, given the positive impact migrant workers have on the labour market.

The final recommendation highlighted is that government should take much more seriously the need to provide a strong basis for modelling the supply of nurses at a disaggregated level, including differentiating between different marital statuses, and allocate the resources for such work to be carried out on a regular basis. This is pursued further in the last section of this chapter.

7.4 Limitations of the research and implications for further research

As identified in Chapter 4, there are a variety of limitations to both the methodology used and the data collected. Firstly, although qualitative data collection methods were used, the concepts amenable to operationalisation, and the sizes of the samples do raise questions of how representative and reliable the findings are. The participation levels in the survey questionnaires, interviews and focus groups were restricted by geographical location and the willingness and ability of participants to engage with the data collection process, given the demands of front-line care.

Secondly, the LFS, has been heavily criticised for its level of representativeness due to declining response rates, and potential sampling and non-sampling error (Office for Statistics Regulation, 2017). In addition, the use of proxy responses further compounds the issue of representativeness and also introduces potential measurement error. For the purposes of this research however, given the size of the dataset and availability of variables from nurse respondents, the LFS was preferred for the purposes of the econometric modelling. The results do, however, need to be considered in light of these caveats.

Thirdly, the ability to triangulate the findings is limited given the differences in qualitative and econometric samples. The differences in coverage does restrict the ability for the results of the qualitative research to inform the econometric research and *vice versa*. In addition, in parts, the triangulation of the findings corroborated what is already published within the field of literature, as opposed to generating new evidence, and this limits the contribution to the field.

Finally, the research was conducted in the context of working for a part-time PhD. This presented its own logistical challenges in terms of planning the survey questionnaires, focus groups and interviews so as to maximise agreement to participate by individuals and achieve actual participation. It also involved coping with some constraints imposed by the institutions being dealt with.

In light of these limitations, **further research** within the field would be enhanced by the development of a larger, representative survey for the NHS that explores these avenues further, and builds upon the LFS, to create a database for forecasting within the nursing labour market. This would enable econometric modelling beyond the capabilities of the datasets currently available. Furthermore, it would enable such models to more closely reflect a variety of factors and nuances that are potentially, especially important, in the context of the NHS.

In addition, it would be beneficial to scale up the qualitative research via methods adopted here both for the West Midlands and beyond. This would allow for more reliable analysis over time, and comparative analysis of the challenges and constraints faced within and between different regions of the UK.

Moreover, attempts should also be made through regular NHS supplementary survey work to generate a database which quantifies those factors, currently not captured in the LFS, but which are deemed to be important determinants of supply based on the evidence of the qualitative research. The aim should be to exploit qualitative insights so as to generate new operational variables. These could then be used along with current LFS variables so as to introduce more elements of behaviour into econometric models, making them available for projection and scenario planning exercises to support policy development. This would also enhance further mixed method approaches to labour market research.

In the more immediate future, the role of pay enhancements on labour supply from a quantitative and qualitative perspective should be a particular focus. From the research findings presented in this thesis, pay enhancements play a greater role in an individual's ability and willingness to practice than is alluded to in the existing body of literature. If pay enhancements are removed, many nursing qualified individuals feel they would not be able to earn a sufficient income to give them a suitable standard of living. A variety of individuals consequently stressed that they would be forced to live on the poverty line if they continued to work as a nurse in the NHS. This is a key area for policy reflection, especially in light of the potential impact that Brexit and COVID-19 could have on both the nursing labour market and healthcare market more generally.

Finally, from the findings of the survey questionnaires and focus groups, individuals would feel more empowered if they felt that sharing their experiences and feedback would help to change local or national policy for the better. Furthermore, systematic improvements in both quantitative and qualitative analyses of the nursing labour market are needed to address the challenges faced with workforce planning, including the factors that influence an individual's participation in the nursing labour market; the impact current working practices have on nurse satisfaction and turnover intent; the factors that influence recruitment into the profession, and the implications of both skill and labour imbalances on care delivery.

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