The Long-Term Experiences and Career Progression of International Nurses

Health and Wellbeing Academy

University of Huddersfield

Contents

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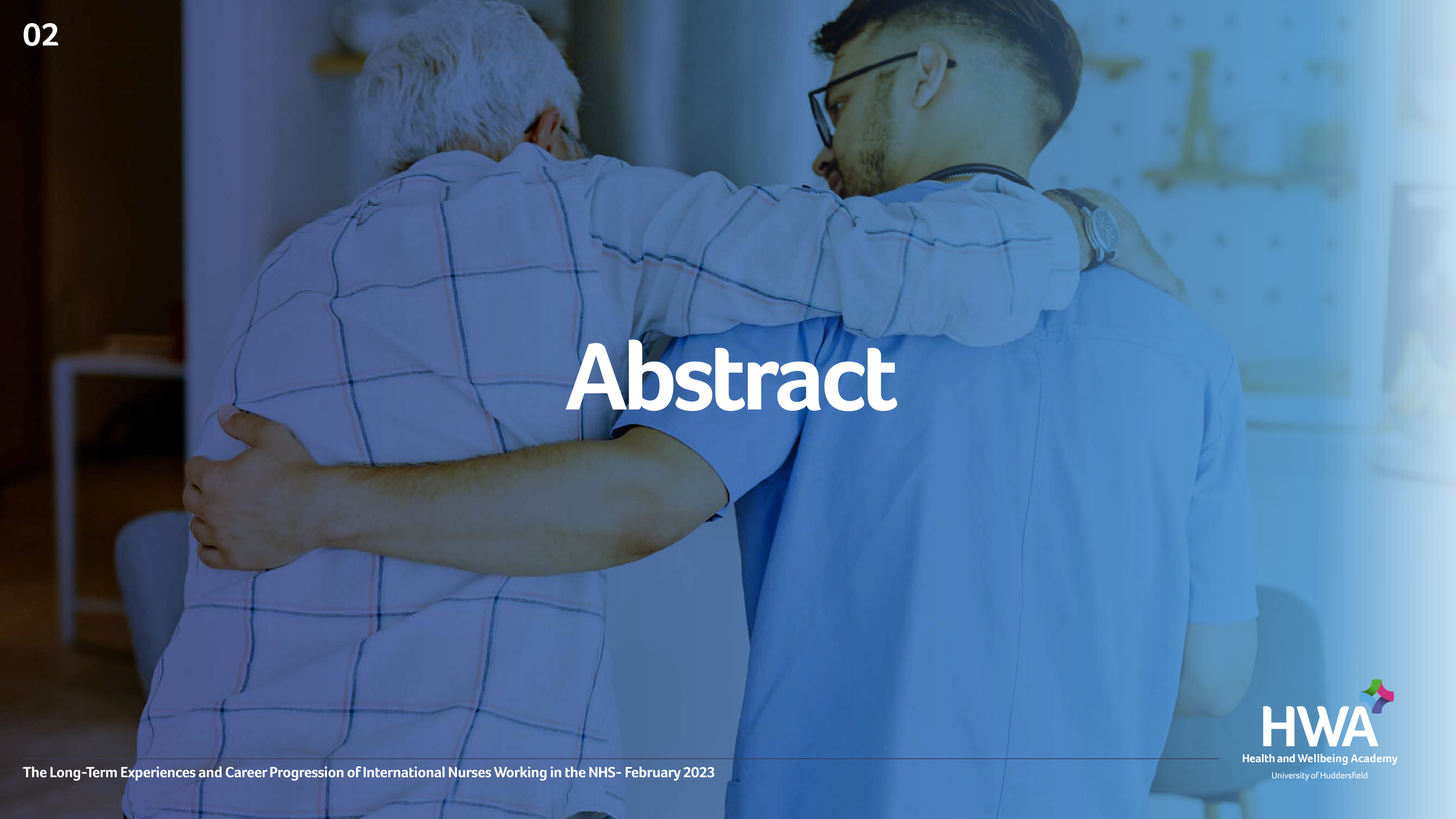

Abstract

Abstract

Background

In recognition of the national health and care workforce shortage, international recruitment is being implemented across the NHS at size and scale. However, at a time of recognised worldwide nursing shortfall, in a global market where demand for nurses outstrips domestic supply, the United Kingdom is one of many health and care systems competing to recruit, and importantly, retain international nurses. Of the migration motivations identified, a common driver for international nurses is career progression and professional development. Allowing international nurses to achieve migration aspirations and job satisfaction is key to any retention strategy. This research therefore aims to compare trends and understand enablers and barriers to career progression and the experiences of international nurses working longer term within the NHS to inform recommendations for future practice.

Methods

A mixed methods approach was conducted, with synthesised data collected in two distinct research phases. Firstly, using national Electronic Staff Record (ESR) data, Phase One comprised a quantitative analysis of progression rates through the NHS banding, systems comparing domestic and international nurses registered in the NHS between January 2014 and November 2021. Phase Two, utilising qualitative interviews, explored career progression experiences of international nurses working in the NHS for five years or more.

Findings

Phase One: of 611,912 nurses registered on the ESR system 496,741 were domestic nurses (81.2% of all nurses) and 115,171 were international nurses (18.8% of all nurses). It was demonstrated that progression from a Band 5 happens less frequently and more slowly for international nurses than for domestic nurses, with the median time to progress being 5.8 years for domestic nurses and 6.8 years for international nurses. However, differences in frequency of progression from higher bands between domestic and international nurses were less marked. In Phase Two, 22 interviews of international nurses with between 6 years and 26 years of NHS experience (mean 15 years) were conducted. Six themes were identified: three from the pre-progression stage: See Me and know I can thrive; Don't overlook Me; Embrace Me as I learn; and three from the post progression stage: I have power to influence; I can break down barriers; I lead and inspire others. In summary, despite initial inhibition and introversion, international nurses described characteristics of mettle, resilience and determination to succeed. And although challenged by many hurdles, following successful career progression, many participants demonstrated how they successfully influenced change and were passionate about being role models for other international nurses alongside a commitment to supporting others locally, nationally and internationally.

Conclusion

Our study represents the voice of nurses that have progressed, albeit challenged and delayed. Not routinely seeing international nurses as role models in leadership is an impediment to career progression, and prior to this research, studies describe a negative picture of international nurses being overlooked as the norm or discriminated at worse. This study highlights that through empowerment and representation, following succession, international nurses progress to be inspiring role models that will enable enhancing opportunities for career progression for future generations of international colleagues.

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Chapter One Introduction

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Chapter One: Introduction

In recognition of the national health and care workforce shortage, the strategic goal of the NHS Plan is to increase international recruitment across the sector. The NHS has several key attributes that attract international nurses, including career advancement, superior pay, prospects on offer in the United Kingdom (UK) and opportunities for continuing professional development and perceived opportunities for career development. However, at a time of recognised worldwide nursing workforce shortfall, in a global market where demand for nurses outstrips domestic supply, the UK is one of many health and care systems competing to recruit international colleagues. International nurses are highly mobile and have choice over country of migration, and consequently the growing necessity to attract international nurses requires health and care systems to understand how to futureproof themselves as exceptional host countries. Accordingly, as constraints of migration get tighter, countries must understand their key assets that attract and retain international nurses to afford leveraging a competitive advantage (Buchan et al, 2022; Young et al., 2014).

Evidence reveals a complex interplay of factors underpinning decisions to migrate. International nurses are not a homogenous population and as such have different priorities for conditions of employment from host employers (Palmer et al., 2021). Of the motivations identified, a common driver for international nurse migration is career aspirations, progression, and job satisfaction (Davda et al., 2018). With professional fulfilment and role satisfaction being mutually inclusive events, developing international nurses is important, as this leads to job satisfaction, that in turn creates a sense of worth and a feeling of being valued by the system (Adhikari & Melia, 2015; Salma et al., 2012). These factors manifest in greater engagement, better performance, and longer retention rates; to the reciprocal benefit of the system and ultimately quality of patient care (Leone et al., 2020; Shillingford, 2015).

In the face of rising competition in global nursing markets, employers must look to achieve sustained success and self-sufficiency by improving nurse retention. Considering that the weight of evidence leans more towards affirming the challenges and barriers to professional development, there is a need to understand more about the factors that facilitate international nurses to realise migration aspirations (Buchan et al., 2022). Studies touch briefly upon components such as inclusive environments, leaders and relationships with colleagues, voluntary deployment, and recognition of previous skills and experience through transparent and merit-based infrastructures, as some of the facilitators to developing international nurse careers, to fulfil professional potential. As such, the issue remains under-researched in the context of its sizable influence to close workforce gaps in the long run (Nursing & Midwifery Council (NMC), 2022; Chun Tie et al., 2019; Salma et al., 2012).

Recognising the paucity of research in this field, the team at the University of Huddersfield have undertaken a mixed methods research project aimed to understand the long-term experiences and career progression of international nurses working in the NHS. This paper presents analyses of national data quantifying comparative progression rates alongside the experiences of career progression among international nurses, examining how international nurses articulate experience of their career progression journey, reflecting on the barriers and enablers and explore factors that influence progression dynamics and professional integration. Recommendations present the identified factors influencing retention of international nurses to inform an international nurse career development framework to advise system level improvement and UK retention strategies.

Research Objectives

a. To determine comparative trends in international nurses' career profiles and progression data

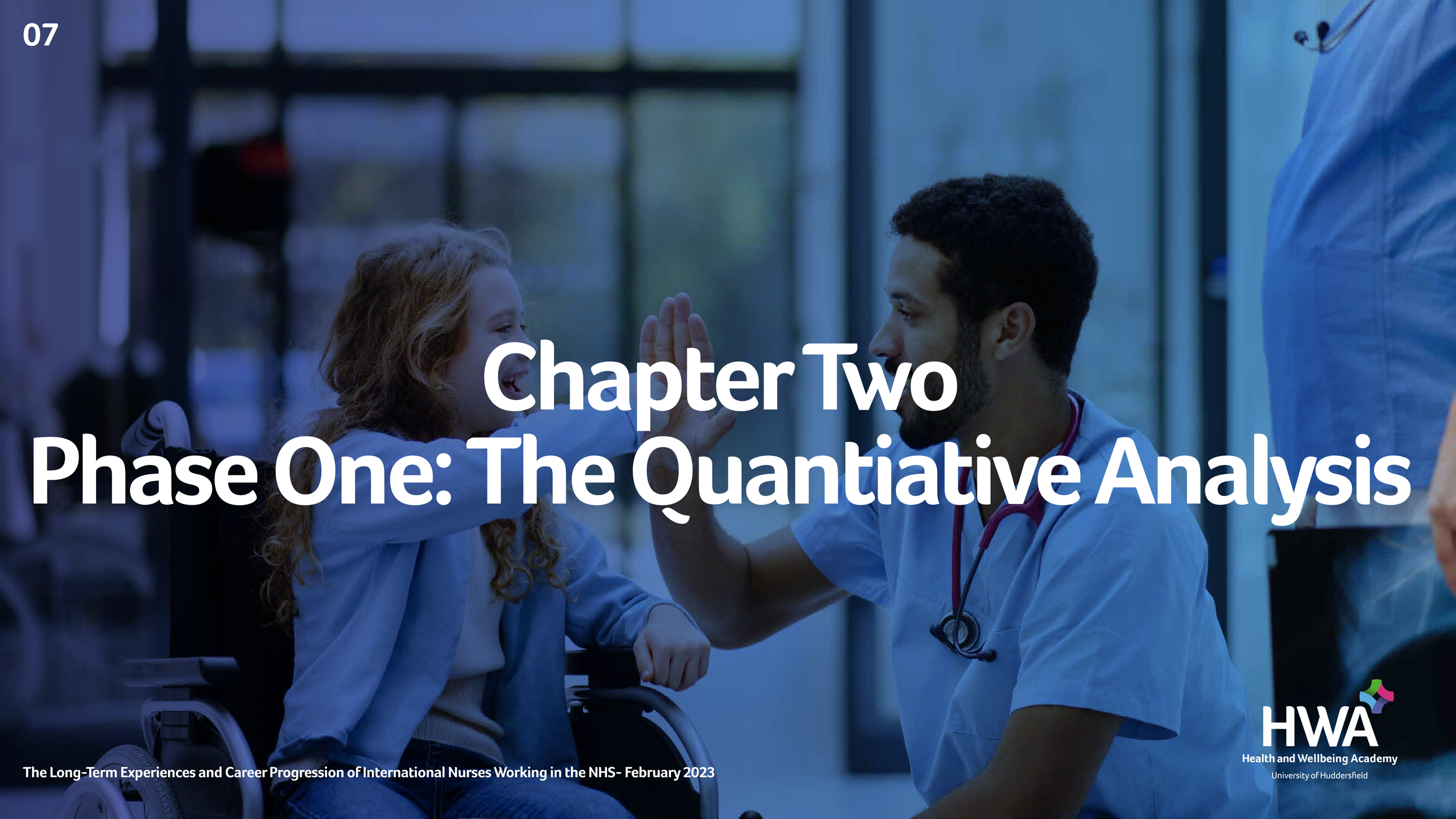
b. To analyse enablers and barriers to retention of the international nurses working in the NHS

c. To critically appraise international nurses career development and progression dynamics

d. To present evidence-based recommendations to inform international nurses' career and development frameworks

The research objectives were achieved through a dual phased mixed methods approach. Phase One comprised undertaking a quantitative analysis of Health Education England (HEE) profile and career progression data for international and domestic nurses working within the NHS. Phase Two was undertaken sequentially using qualitative in-depth individual interviews of international nurses with more than five years of experience working in the NHS. In consultation with an expert advisory group, critical appraisal and evidence synthesis informed the recommendations for future policy and practices.

Within this report, Chapter Two presents the findings from the quantitative data ananlysis, followed by the qualitative review in Chapter Three. Chapter Four presents the synthesis, conclusion, and recommendations from the findings. We conclude with the methodology Chapter detailing the methods undertaken to support the research process.



Chapter Two
Phase One: The Quantiative Analysis

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Chapter Two: Phase One The Quantitative Review

Introduction

Phase One reports the analysis of time to progression through the NHS banding system for nurses registered with the NHS at Band 5 or above in England during a period of approximately 7.8 years between 31st January 2014 and 30th November 2021. The analysis compares progression times out of each band for domestic and international nurses, using parametric time-to-event analysis methods. For the purposes of this quantitative analysis, international nurse data were considered to be all those nurses who were not UK nationals, regardless of where their training had taken place.

The data for this analysis was collected by Health Education England (HEE), who conducted all necessary data cleaning before supplying the data. Analysis was conducted on all domestic and international nurses registered with the NHS in England, UK, who were recorded as having joined one or more of the following bands: Band 5, Band 6, Band 7, Band 8a, Band 8b, Band 8c, Band 8d, or Band 9 on a particular date between 31st January 2014 and 30th November 2021. For all such nurses, the date of joining the band under consideration was recorded. The status of each nurse (classified as domestic or international) as defined above was also recorded. No other nurse-level demographic variables were recorded.

Results

The database comprised data from 611,912 nurses, including 496,741 domestic nurses (81.2% of all nurses) and 115,171 international nurses (18.8% of all nurses). Descriptive statistics and all parameters of models conducted on nurses registered on all bands considered are detailed in Appendix 1 and summarised in Table 1.

Within Table 1, the upper rows present the number and percentage of domestic and international nurses in each banding; the lower rows present the proportion of nurses in each category for whom progression was recorded to the next band. For example, the top left-hand cells demonstrate that 24.4% of the Band 5 cohort were international nurses. In the cells below, of those who were recorded as progressing to Band 6, only 15.3% were international nurses. Therefore, based on these statistics we can conclude that international nurses were under-represented in the cohort who achieved successful progression from band 5. The same feature occurs when we highlighted progression out of Band 6 and higher; for example, 12.0% of Band 6 nurses are international nurses; yet international nurses make up only 9.5% of those who progress out of Band 6.

Figures 1-7 then illustrate progression of domestic and international nurses from Band 5 to Band 8d.

Model Parameter	Band 5	Band 6	Band 7	Band 8a	Band 8b	Band 8c	Band 8d
			Total Numbers				
Domestic Nurses	307,948 (75.6%)	249,339 (88.0%)	125,990 (91.9%)	33,608 (93.5%)	9,287 (94.7%)	4,028 (94.3%)	1,603 (95.1%)
International Nurses	99,686 (24.4%)	33,962 (12.0%)	11,104 (8.1%)	2,323 (6.5%)	517 (5.3%)	242 (5.7%)	82 (4.9%)
			Progression Recorded				
Domestic Nurses	134,818 (84.7%)	72,925 (90.5%)	22,515 (93.1%)	6,052 (94.3%)	2,219 (95.2%)	946 (94.8%)	284 (96.0%)
International Nurses	24,359 (15.3%)	7,625 (9.5%)	1,669 (6.9%)	365 (5.7%)	112 (4.8%)	52 (5.2%)	12 (4.0%)

Table 1: Model of nurses registered as joining given band

Figure 1

Progression from Band 5

Figure 1 illustrates a substantial level of differentiation between domestic and international nurses. Time-to-event curves for both types of nurses modelling the event of progression from Band 5 illustrates a substantial level of differentiation between domestic and international nurses. At all times the proportion of domestic nurses still remaining on Band 5 is lower than the corresponding proportion of international nurses, and this gap appears to be widening over time. The difference in proportions of domestic and international nurses achieving progression within the analysis period is significant at the 5% significance level. However, 50% progression in both groups is achieved within 2500 days (6.8 years approximately) from joining Band 5. Rates of progression are almost linear in both groups.

Figure 1: progression from Band 5

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Figure 2

Progression from Band 6

Figure 2 illustrates that differentiation between domestic and international nurses observed in the analysis of progression out of Band 5 remains; but at a lower level; again, progression happens quicker for domestic nurses. Progression out of Band 6 is for both types of nurses is slower than progression out of Band 5: median progression is approached, but not achieved, in either group by the end of the analysis period. The difference in proportions of domestic and international nurses achieving progression within the analysis period is significant at the 5% significance level. However, there is some evidence that progression rates accelerate marginally towards the end of the analysis period.

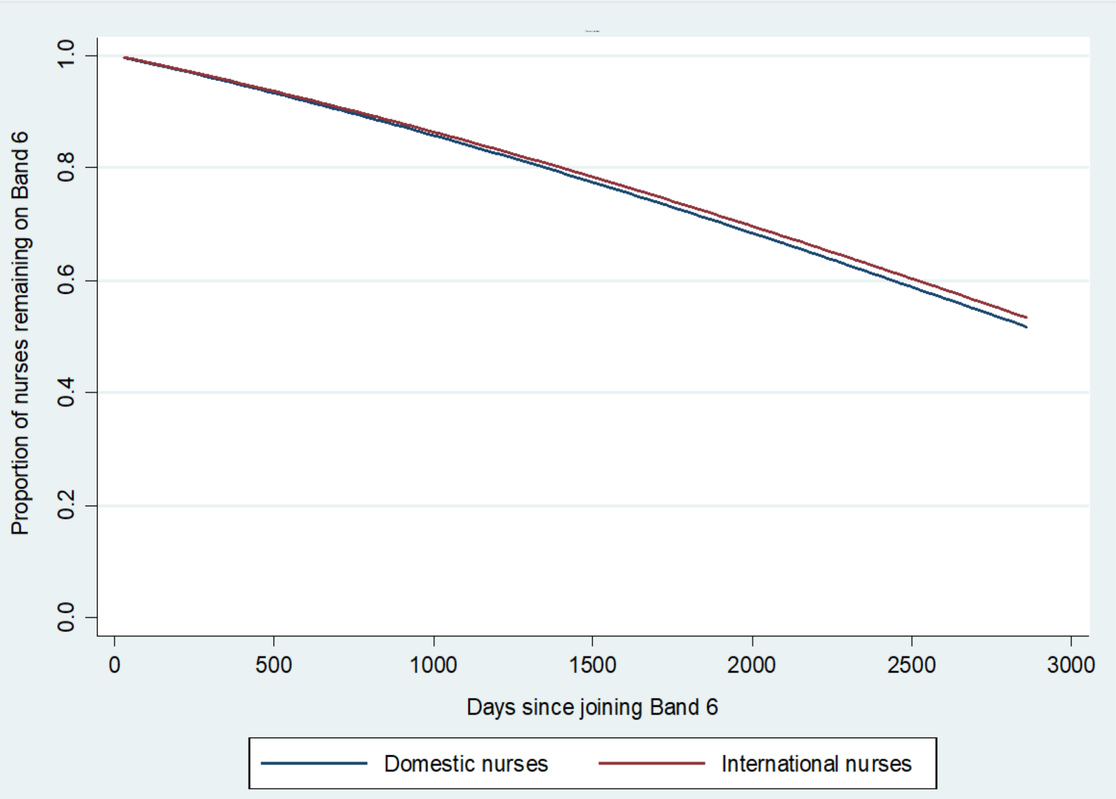

Figure 2: progression from Band 6

Figure 3

Progression from Band 7

Figure 3 illustrates low levels of differentiation between domestic and international nurses observed in the analysis of progression out of Band 7; and substantially decreasing rates of progression in both groups. Median levels of progression are not approached in either group throughout the analysis period, indicating generally slower progression than is seen out of lower bands. Terminal progression proportions are about 30% in both groups. While the proportions of domestic and international nurses achieving progression within the analysis period are significantly different at the 5% significance level, the effect is very small in magnitude. There is some evidence that progression rates accelerate marginally towards the end of the analysis period.

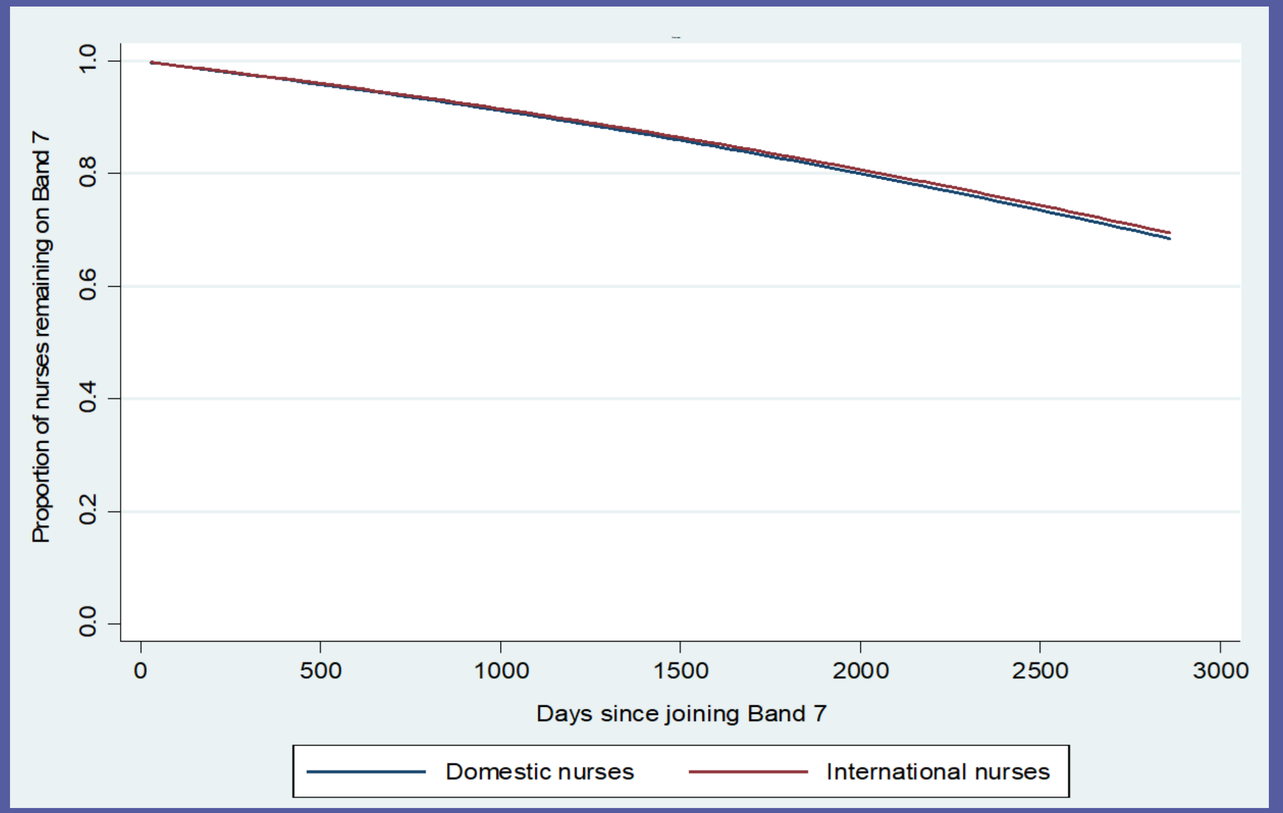

Figure 3: progression from Band 7

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Figure 4

Progression from Band 8a

Figure 4 illustrates that slightly greater levels of differentiation between domestic and international nurses compared with the analysis of progression out of Band 7; but the difference remains statistically non-significant. Overall rates of progression are similar to rates of progression out of lower bands and are almost linear in both groups. Terminal progression proportions, at about 30% in both groups, are similar to those seen in the analysis of progression out of band 7. While the proportions of domestic and international nurses achieving progression within the analysis period are significantly different at the 5% significance level, the effect is very small in magnitude.

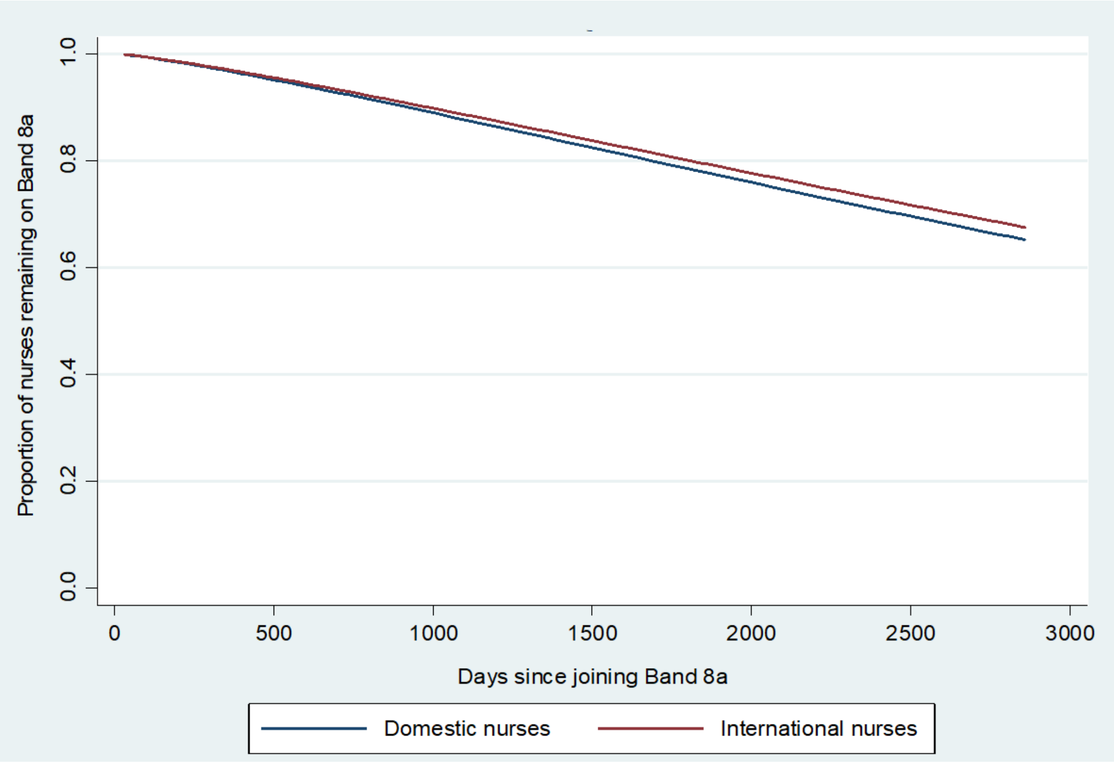

Figure 4: progression from Band 8a

Figure 5

Progression from Band 8b

Figure 5 illustrates that while the low levels of differentiation between domestic and international nurses observed in the analysis of progression out of other bands remains, the shape of the survival curves has changed: initial rates of progression appear high in both groups (steeper portion of the curve) before slowing down at about 400 days after joining the band. Terminal progression proportions are slightly higher than those seen in the analysis of progression out of bands 7 and 8a; at about 40% in both groups. There is no evidence for a difference in the proportions of domestic and international nurses achieving progression from this band during the period of analysis.

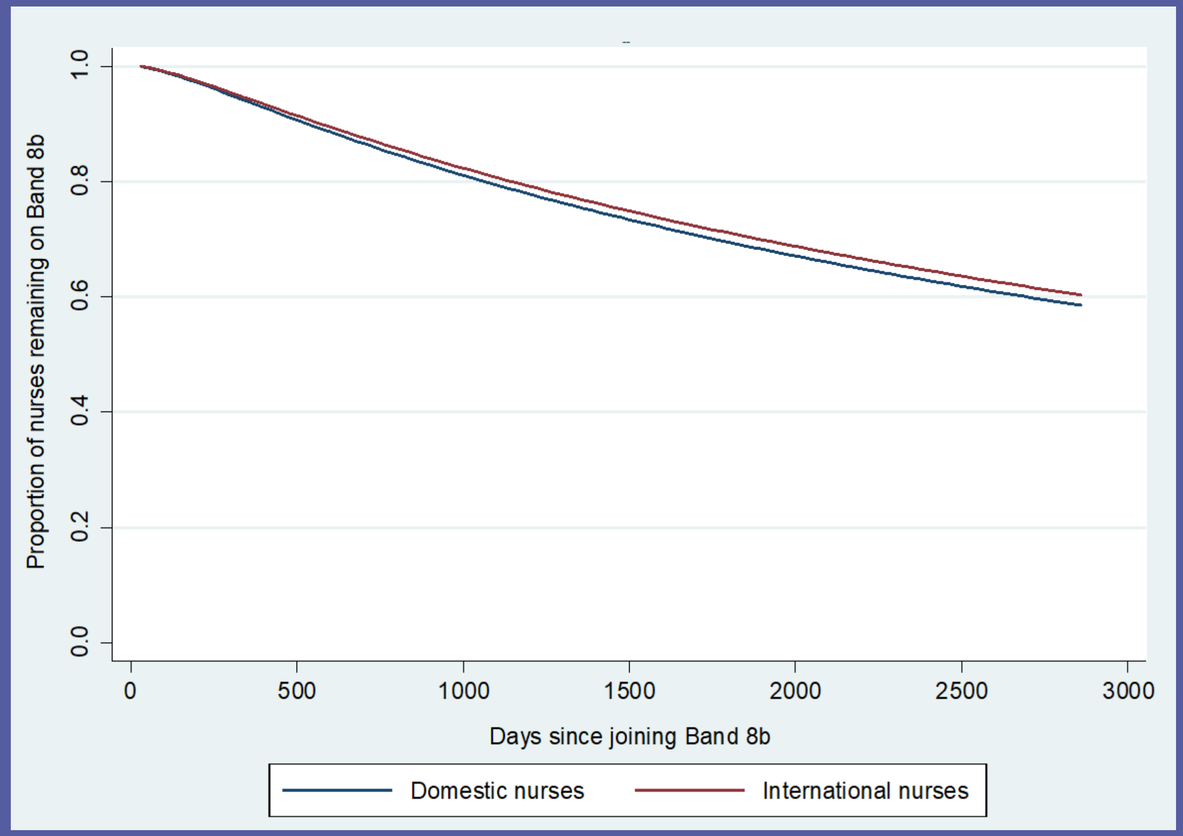

Figure 5: progression from Band 8b

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Figure 6

Progression from Band 8b

Figure 6 illustrates that progression out of band 8b is very similar to progression out of band 8a; in terms of: low levels of differentiation between domestic and international nurses; the shape of the survival curve (with initial rates of progression appearing higher in both groups); and terminal progression proportion, which are about 40% in both groups. There is no evidence for a difference in the proportions of domestic and international nurses achieving progression from this band during the period of analysis.

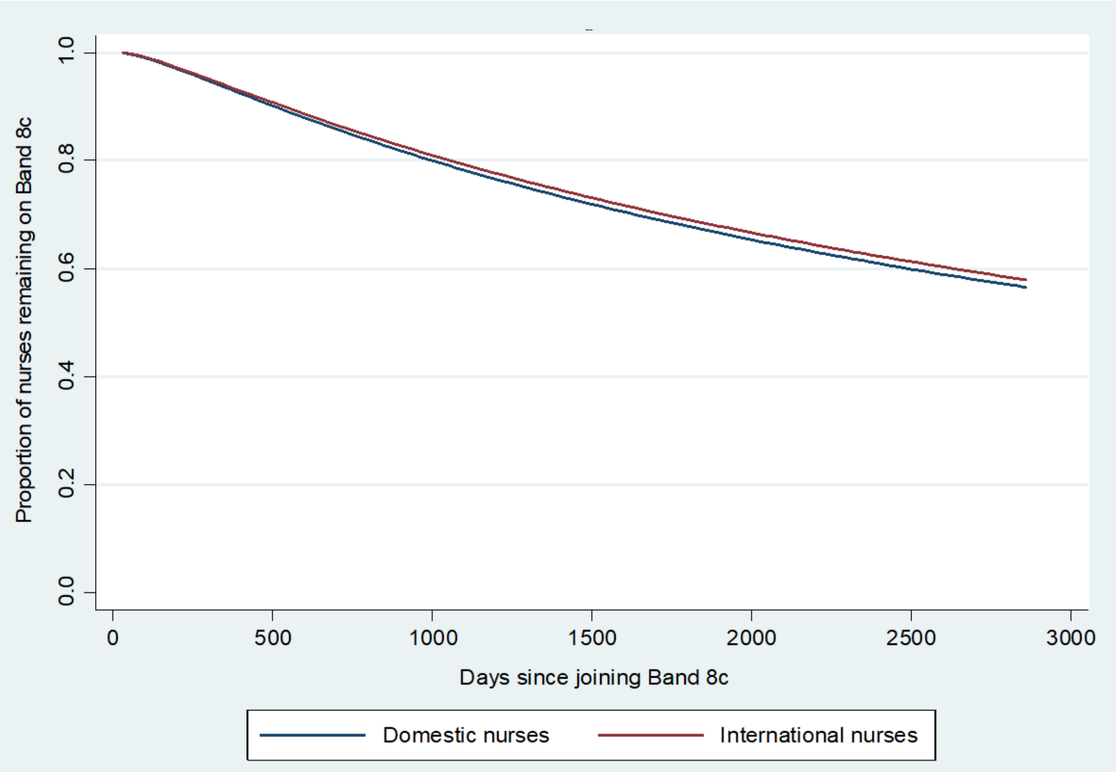


Figure 6: progression from Band 8b

Figure 7

Progression from Band 8c

Figure 7 illustrates that progression out of band 8c is very similar to progression out of bands 8a and 8b, but with slightly higher levels of differentiation between domestic and international nurses. There is no evidence for a difference in the proportions of domestic and international nurses achieving progression from this band during the period of analysis.

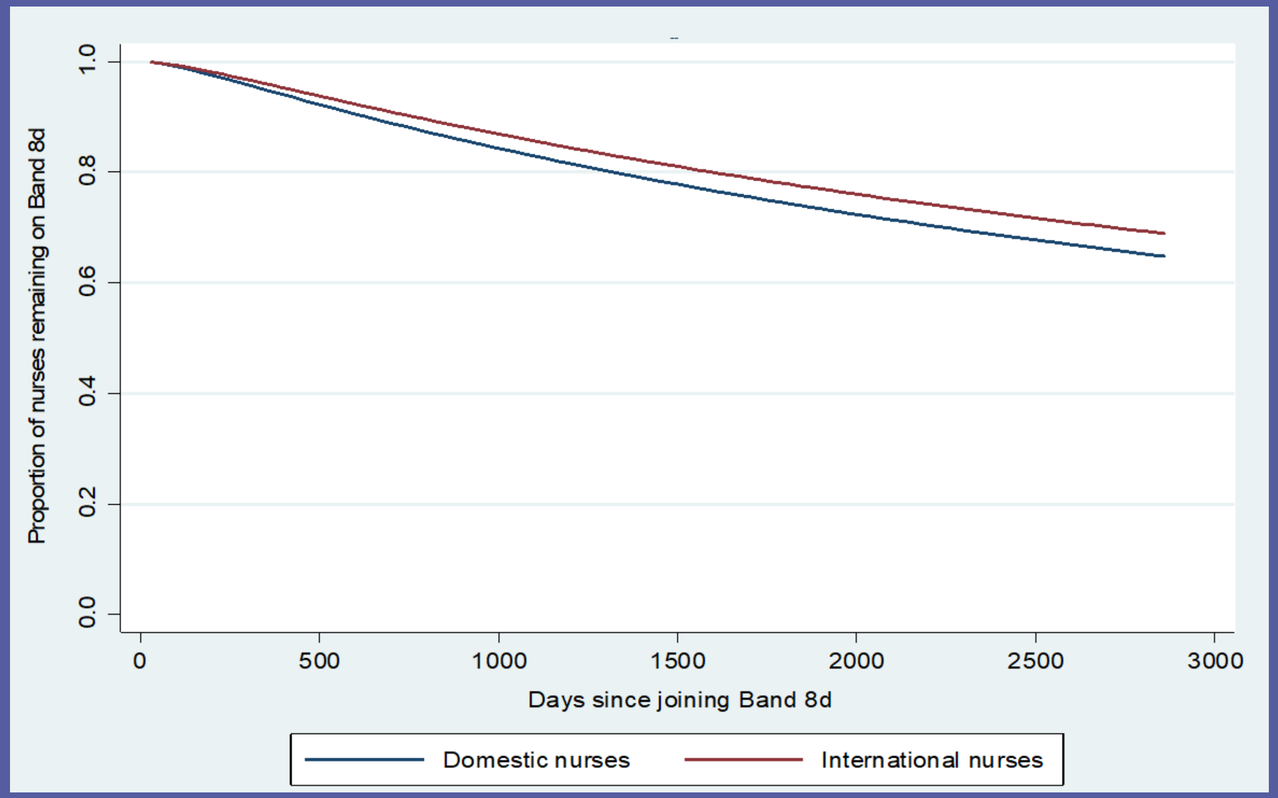


Figure 7: progression from Band 8c

Summary

The analysis reveals that during the data timeframe (2014 to 2021) progression appears to occur less often for nurses of either type as they rise through the banding scale from band 5 (39.0% achieving progression out of this band during the analysis period to band 7 and 17.6% achieving progression out of this band during the analysis period). There is no clear pattern beyond progression out of Band 7 in terms of overall proportion of progression: the proportion achieving progression from band 8d into band 9 (the highest band considered) is in fact the same as the proportion achieving progression out of band 7, with slight variations around that figure for intermediate progressions. There is evidence for a significant difference in proportions of domestic and international nurses achieving progression during the analysis period out of all bands up to and including band 8a. However, the magnitude of the effect in all cases except progression out of band 5 is low.

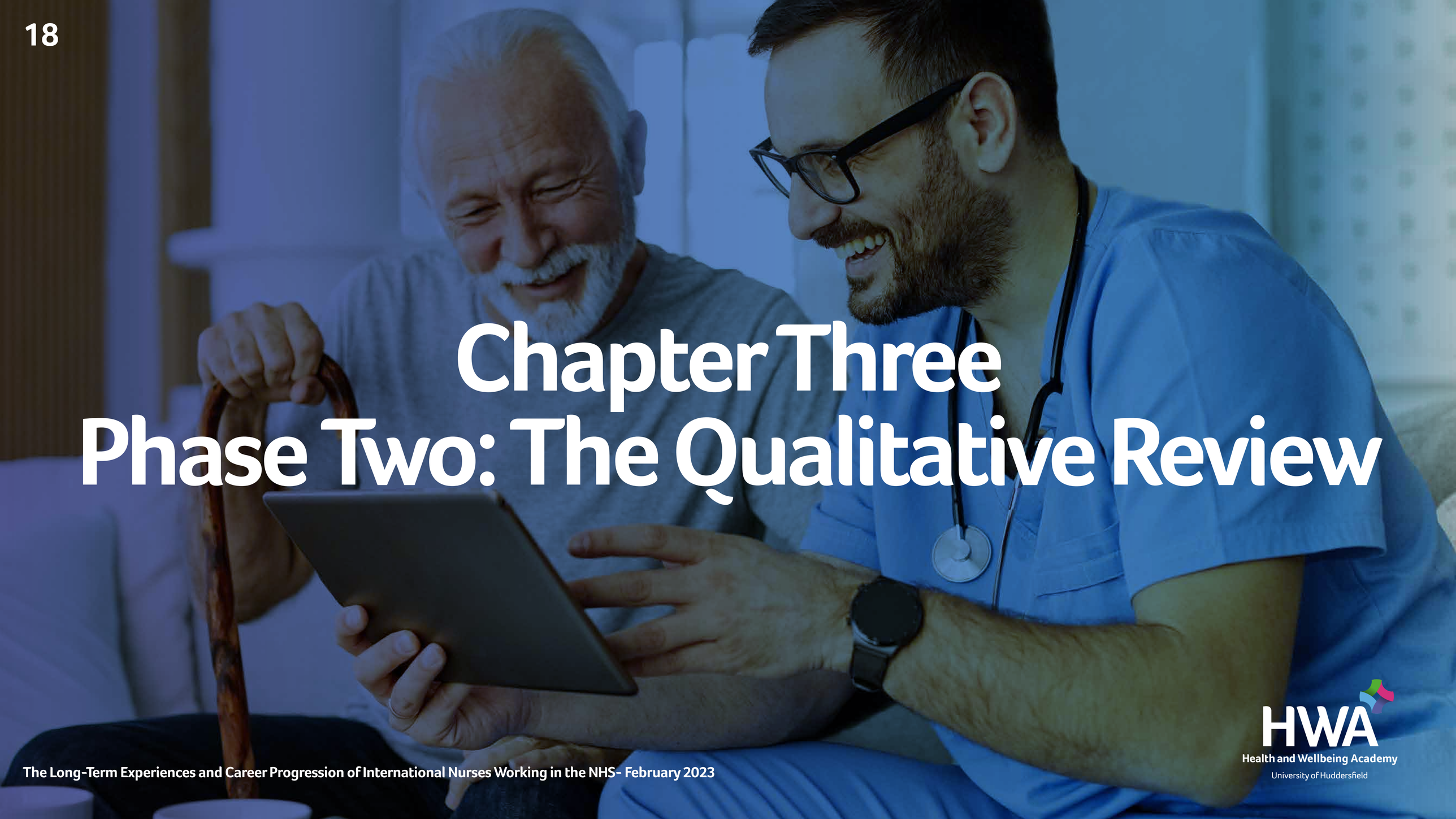
With the exception of progression from Band 5 to Band 6, in which 50% of domestic nurses achieve progression within 5.8 years and 50% of international nurses achieve progression within 6.8 years, 50% progression out of any band was not achieved by either type of nurse within the analysis period; hence the calculation of median times to progression is precluded in most cases.

The analysis also reveals that progression is less frequent for international nurses than for domestic nurses at all bands. The proportion of international nurses decreases almost completely monotonically through the bands; from 24.4% of all nurses in Band 5 to 4.9% of all nurses in Band 8d. Also, for all bands, higher proportions of international nurses are found in subgroups of cases in which no progression is recorded than in subgroups of cases in which progression is recorded. However, lower incidence of progression for international nurses may be due to reasons which would not necessarily apply to domestic nurses, such as desire to return to country of origin or expiry of visa (Palmer, 2021).

However, progression trajectories for the two types of nurses are significantly different (at the 5% significance level) only for progression from Band 5 and Band 6. Survival curves reveal substantive differences between nurse types only for progression out of band 5, where progression, if it occurs, is substantially slower and less frequent for international nurses than for domestic nurses

As expected, the number of nurses of both types decreases monotonically up the banding scale: hence analyses of progressions out of higher bands have lower power than analyses of progression at lower bands; and estimates derived from analysis of progression of nurses registered on higher bands are subject to greater degrees of uncertainty. This may reflect the non-significance of effects found in all progressions out of band 7 and above.

The likelihood of progression from the lower grades increases with time spent on that grade for both types of nurses. However, the rate of progression out of all bands beyond band 8b is maximised after about 1 year of a nurse being registered on a particular band, with a slow decline in incidence thereafter.



Chapter Three
Phase Two: The Qualitative Review

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Chapter Three: Phase Two The Qualitative Review

Introduction

Phase Two involved in-depth individual interviews designed to explore the enablers and barriers of career development, progression and retention for internationally recruited nurses working in the NHS.

Following ethical approval, potential participants who identified as internationally educated nurses were invited through NHS England's directorate networks. A participant information sheet and consent form was given to all invited persons. Participants were then selected following completion of the invitation expression of interest (EOI) survey, based on identifying and including international nurses at various pay bands and roles, who had worked in the NHS for a minimum of five years, but were born and trained outside the UK. Data including nationality, country where they had originally trained to be a nurse, years of working for the NHS, years of living in the UK, and their current NHS bands and roles were collected as part of the EOI.

Findings

Characteristics of the final 22 participants are presented in table 2.0.

Despite Phase Two recruitment aimed across all international nurses working within the NHS for five years or more, nurses working at Band 5 were under-represented in this sample; however, representation from the higher bands were more evenly distributed. The final sample included two Band 5 nurses, seven Band 6 nurses, seven Band 7 nurses, and five nurses in Band 8+ roles. During analysis, saturation was achieved with this number. The participants were from a mix of clinical, managerial and education specialisms and their nationalities included India (n=11), Spain (n=2), Romania (1), the Philippines (n=4), Zambia (n=2) and Italy (n=1).

All nurses had been working in England within the NHS for over five years, ranging from 6 to 15 years (mean 15 years). Many of the narratives and accounts provided in this research are reflective, and therefore not necessarily based on contemporary practices within today's NHS.

With career progression embedded as the principle objective of this research study, the findings and themes/ subthemes are presented in logical order to highlight the pre-progression phase of the international nurses' career in the NHS, followed by their experiences of applying for higher roles, and concluding with the achievements of those who progressed into the more senior roles within the NHS.

Band	Country of Origin	Year of Arrival in UK	Type of Role
8+	India	2010	Clinical
8+	India	2001	Managerial
8+	India	2004	Managerial
8+	India	2003	Managerial
8+	India	1996	Managerial
7	Spain	2015	Managerial
7	Spain	2011	Clinical
7	India	2006	Managerial
7	Philippines	2003	Clinical
7	India	2002	Clinical
7	Italy	2015	Clinical
7	India	2011	Clinical
6	India	2014	Clinical
6	Romania	2016	Clinical
6	India	2008	Clinical
6	India	2016	Educational
6	Zambia	2003	Clincal
6	Zambia	2002	Education
6	India	2005	Clinical
5	Philippines	2016	Clinical
5	Philippines	2016	Clinical

Table 2: Characteristics of the 22 international nurses participating in the interviews

The following section presents the themes identified: three from the pre-progression stage; namely:

See Me and know I can thrive
Don't overlook Me
Embrace Me as I learn

Within this section we explore the *barriers* and the *professional development* experiences of our participants.

Finally, we present the post progression themes:

I have power to influence
I can break down barriers
I lead and inspire others.

Pre -progression

See Me and know I can thrive

Overall, the participants provided rich and detailed accounts of their experiences living in England and working within the NHS. We understandably found that individual characteristics varied greatly. However, despite some inspiring, but also challenging encounters, both at work and at home, most participants often described themselves as initially inhibited and introverted, whilst demonstrating commitment and characteristics of mettle, resolve, and/or resilience, yet ultimately a clear determination to succeed. This determination was coupled with a fortitude around 'putting in' the additional work that was required to ensure they proved themselves to achieve their ambitions. Several international nurses, however, described how they felt that they had to work harder to demonstrate this compared to their domestic colleagues:

I've always been very, I don't know what's the word, enthusiastic … eager to learn, so I always wanted to know things … [And] my aim was to get to that job.'

[Participant A]

'I was not afraid of putting the time and the effort and whatever was needed because I wanted that job and I wanted to prove that I wanted it … no matter what it took. I was willing to work towards it…'
[Participant L]

Several of the international nurses, particularly those with greater years of experience working in the NHS, initially saw themselves as different and unique to the environment that they found themselves working and living within. In turn, these feelings had a significant impact on their confidence which they felt held them back from progressing their careers:

'I looked around me and colleagues who have come from backgrounds like me … weren't really applying for senior positions, so I thought, well, I'm never going to stand a chance… I always shut myself down and said no you're not going to get it…it's not worth applying … and some of it is my own fault because I never thought I was good enough initially, I never thought I was smart enough or good enough to apply for an advanced position.' [Participant R]

'…its always harder when you're the only one that looks like this, you know. People want to know, well what makes you special…'
[Participant D]

Pre -progression

Don't Overlook Me

International nurses often described themselves as 'an outsider' or not part of 'the NHS clique'. They felt external to the unique cultural NHS environment, and they perceived that this was the reason that their talent was overlooked, and which in turn inhibited their career progression. Some international nurses suspected this may be the case; others were defiantly informed of this by their domestic colleagues:

'… I wasn't part of the clique so I would never stand a chance. I would not even be shortlisted for opportunities that I did think I was capable for…' [Participant R]

'I didn't want to think or accept that I'm outsider and that is why I didn't get to the next level, but my colleagues, local people, they were saying, "you know why you are not getting [the job]" It's not the same ethnicity person saying this it is somebody else who is local or who is white, who is telling me … "it's because of your colour, it's because of who you are, that's why you are not getting any further"… that was very upsetting…' [Participant N]

The participants who described that even in the organisations that employed other international nurses, they did not routinely see nurses '*like them*' in leadership positions and not routinely seeing international nurses as role models in leadership roles was an impediment to career progression:

'…I did not have somebody that could tell me, give me answers or show me where to get answers and things like that because there was nobody ahead of me that had gone through this. Who would explain things to me and show me how to get where I want to be and so yeah, it was very hard, it's difficult, it's complicated…' [Participant T]

One insightful participant saw the 'outsider' position as a situation where domestic colleagues just needed to get to know them by seeing them at work and the experience and skills that they brought to the team:

'They've never had somebody you know, an overseas person work with them, so they were a bit cautious in the beginning they wanted to find out more… once they got talking, by nature I talk very well… you know I like to talk and you know, make friends so that really helped me and people did value the skills that I had … once they observed that…' [Participant V]

Pre -progression

Embrace Me as I learn

Pre-progression, nearly all the participants described a mentor, a manager, or a team who '*took them under their wing*' who recognised their skills, believed in them and supported them to develop and take the next steps. The managers/mentors who took the time to get to know the participant, valued their experience and opinions and allowed them to thrive. In turn, this afforded self-assurance, motivation and a belief that they could progress:

'It purely depends on your manager… whoever is sitting above you if they find your qualities. I always say my manager found a quality in me, then the support came from there. So that is actually what motivated me to go for a further level up…' [Participant H]

The detailed descriptions of welcoming, inclusive teams and the positive cultures and environments promoted the confidence for international nurses to contribute, grow and progress:

'…They were all really welcoming, and they were all really happy to have me and they've always valued my experience or my opinions. I mean, I suppose that's why I am where I am today…' [Participant S]

Many international nurses came to the NHS with energy and enthusiasm, but observed certain nuances and differences in nursing practices working in the UK, compared to their home nursing practices. The participants discussed their need to be able to ask questions and seek clarity in a non-judgemental working environment, without fear of reprisal or their capability being judged:

'I think it is very important to have someone you can ask those questions to without putting the [job] offer at risk, because depending on how you approach that conversation, … [sometimes] you can give the wrong impression…when it's actually a very innocent and honest question. If I'm not familiar with this terminology, can you please clarify like I'm a 5-year-old asking endless questions …I think it's important to have a person that you can ask those questions you can raise your concerns in a safe way …'

[Participant L]

Participant D provided a further example of a supportive mentor and how the positive caring culture enabled and promoted a psychological safety which allowed them to professionally progress and grow:

'I think she saw our worth early on … I had a mentor on the ward, a lady called (xxx) [who] looked after me and really cared for me and when I made mistakes, and I did because we do sometimes you know, it's a human factor issue… I made mistakes and they sat me down and they talked me through how you do this better, what, you know, when things go wrong, how we handle it, how we manage it… We're not going to fire you … because [in my mind] I'm getting on the first flight back to (xxx), I've made my first mistake and they were like no we don't do that here, we really look after you…' [Participant D]

That feedback was important to develop learning and a key part of that affirmation supporting their development journey:

'… when the 360 feedback came back… there was a quite a lot of … positivity [which] made me feel OK, I have been valued by the colleagues, but no one has said so far… it's good to know that I have been valued [the feedback showed] they take my opinion seriously …which was good. Since then, … I started to have a strong belief in myself… I can do this, I can push myself, I can go further. So, I started from that time onwards there was no stopping me…'
[Participant N]

Pre -progression

My Barriers

Despite most of our participants successfully navigating career progression in the NHS, most did experience challenges on the way.

Health and care process and nursing practices can compare very differently in the UK to many other countries. For example, there is often a well-defined process or progression milestones to achieve career progression in developing countries which can lead to confusion when navigating career progression processes in the NHS:

'You think there is a clear-cut process that you should follow and if you work hard enough then... everything will fall into place, but it's very confusing, it's very complicated and I guess people don't know what information you need… because they've not lived your experience and they don't understand where you're coming from …' [Participant T]

Many of the participants discussed negative experiences through their career and some of the challenges learning the NHS systems and processes: Participant G did not want any special treatment: they simply requested guidance and a positive learning experience to navigate the NHS systems. Not receiving this led to what was perceived as an avoidable situation:

'… you cannot put or invoke the capability policy on me when you haven't showed me how your system works... and yes, if I do dumb things after that then yes, you're right to invoke this…' [Participant G]

Despite challenges with an individual within the team, participant J recognised that the organisational leadership provided a supportive culture:

'…She initially went to our head of nursing complaining... I was always challenging her about her care provision. The trust had supported me throughout that period. I didn't feel for a minute that I wouldn't be supported…' [Participant J]

Positive environments and cultures are clearly enabling. Conversely negative environments and cultural misunderstandings, large or small, can impact on international nurses' mental health and wellbeing and motivation:

'… because of the difference in cultures of different teams that you encounter, I think it takes your energy away. You get demotivated by some of the things that go on, some of the attitudes … in some of the teams, so you can feel demotivated, but I would like to believe I'm that kind of a person who wants my drive to be from me, but the environment should be enabling...' [Participant T]

'Those little traumas …they get you down quite a lot…everything was just so dramatic…and painful...' [Participant O]

Pre -progression

My Professional Development

Education and professional development are approaches to improving clinical practices through learning and self-development; thereby improving progression potential. Many participants discussed learning either formally or informally as essential to their career development. Some described a planned educational approach to maximise their prospects and ensuring that their career aspirations were known:

'…utilise your education opportunities in the best possible way and I've done that. I've been quite clear and picky about how I've educated myself. You know, the things I've studied have been with intent.' [Participant D]

Several of the participants highlighted frustrations with the formal requirements of higher education and found themselves repeating some qualifications, even basic level skills. These participants then reflected on the positive learning experience:

'I had to do one exam for English and Maths because I didn't have the qualifications required, that GCSE. I think it's obviously because I did school in an [EU country], I didn't have that qualification, so I had to do a further exam to show that I had the competencies … it wasn't too bad…it was just time-consuming.'

[Participant M]

Another participant reflected on the challenges of GSCE Maths and English:

'That was a challenge in itself because I didn't know anything about the GCSE level. Our system is very more focused on the American curriculum, so that was challenging…' [Participant C]

Participant C went on to discuss the feelings of frustration in repeating some of the academic qualifications previously obtained yet again; they did, however, reflect on this as a positive learning experience:

'…why do they have to take a diploma course? Some of us you know, like we've got a degree, we got our masters and then like we'll be coming here just to go for this course, but to be honest, I'm not regretting that journey because it gave me wide experience about the educational system in the UK…' [Participant C]

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Progression

All participants discussed the experiences of applying for promotion, and many described the challenges that they encountered, particularly through the interview processes. Several described the many unsuccessful applications before they achieved success, with one participant applying and being interviewed for around 20 jobs before being offered the promotion. The constant disappointment did impact on motivation and mental wellbeing. Despite this, there was a determination to succeed and draw positives in the experience of previous interviews preparing them well for the next one:

'… it takes a lot of courage to keep applying and applying and applying … I'm not saying I haven't felt disheartened [but] it never put me off… I just kept on trying and on my 10th interview …I started looking outside…even my family was like why are you sticking to one area… you know I should just check next door. So that's how I moved to [a different area] and I got the job straight away there…' [Participant I]

The interview feedback received from several participants reflected that some employers recognised and only deemed relevant their NHS experience. This, therefore, did not consider their many years working in other international health and care settings in various, even senior nursing roles:

'…I wanted to progress, and I just kept trying continuously… [and was shortlisted] maybe 15 to 20 times… but was not successful [and the interview feedback suggested that] …I did not have enough NHS experience … [Or] we have a stronger candidate [Or] … you don't have as much NHS experience than the other candidates.' [Participant Q]

Participant Q further reflected on the application process:

'I don't know because in the resumé, in the application online they don't see us. When we are here for the interview… maybe when they see us and that's a barrier…'

'…I come with 10 years of experience… Then I've done whatever the course they say [supported with some examples] … Then I sit on the interview a couple of times, but I didn't get the job…even though I do my job at a good level and I'm capable of doing things in a better way, still, I was not appreciated… and whenever I get the feedback, sometimes I feel like the feedback is not honest…' [Participant U]

Reflecting further on the feedback given, communication skills were highlighted for some as a reason for not being appointed into a more senior role.

'…They said I'm good…you are very ambitious … but your communication skills aren't that good. I said OK, so it's good for me to speak with the patient… it's good to speak to the CQC… it's good to speak with their management team… but it's not good to go to the next level…I was not happy…' [Participant N]

As highlighted several times, the feedback process was extremely important with fairness and honesty a request. This would in turn enable the international nurses to address their limitations to progression:

'So, I kind of felt OK if that's what they say, but every time there's opportunity coming, you're trying to think about going for the opportunity and they say you're not ready yet…that kind of demotivates me [BUT] If you come to me and say, look, I have an issue and these are the issues, and I would like you to work on this and get this resolved… fine!' [Participant N]

Similarly participant R wanted to know exactly how they could manage their learning needs:

'*I have applied to several jobs, and I remember getting shortlisted and interviewed for one and the ward manager … that interviewed me says, you're brilliant. Your answers are great, but you need more managerial experience. I said, OK, that's great, thank you for the feedback, but how do I get the managerial experience? … I realised I've got to look for opportunities myself… it was on me. I was doing things outside my working hours so I could try and tick some boxes and get the right sort of experience to do better.'* [Participant R]

Post -progression

I have power to influence and break down barriers

Having successfully navigated the challenges of progression into more senior roles we heard detailed accounts of how our participants were now being recognised and were using their experiences to support and make positive challenges therefore enabling other international AND domestic nurses to maximise their potential. As they progressed to leadership positions, they had been given a voice to speak for themselves and others:

'I felt like I was not listened to … but now I am heard better. Yeah, so I can make an impact... I can make positive changes from my position…' [Participant U]

We heard accounts whereby the participants used their personal experiences to inform priority agendas and raise awareness at higher levels:

'Career progression was one of the big things … so, I was working with them to see how we can support how we can address the issues that I have done a couple of presentations to board about breaking the invisible glass ceiling, where that glass ceiling is, and also to tell them my personal experience.' [Participant N]

'The bolder you become, the braver you become. You deal with it in a better way. But I could have done this job about... I would say about 2012, which I'm doing right now, so it's delayed my progression by nearly ten years...' [Participant O]

Remembering and building on the examples set by their role models:

'…Then I gained lots of knowledge which helped for me for my development so that I do for the new people... when I was a band 7 … my matrons were supportive. I don't have words to express my thanks to them.' [Participant H]

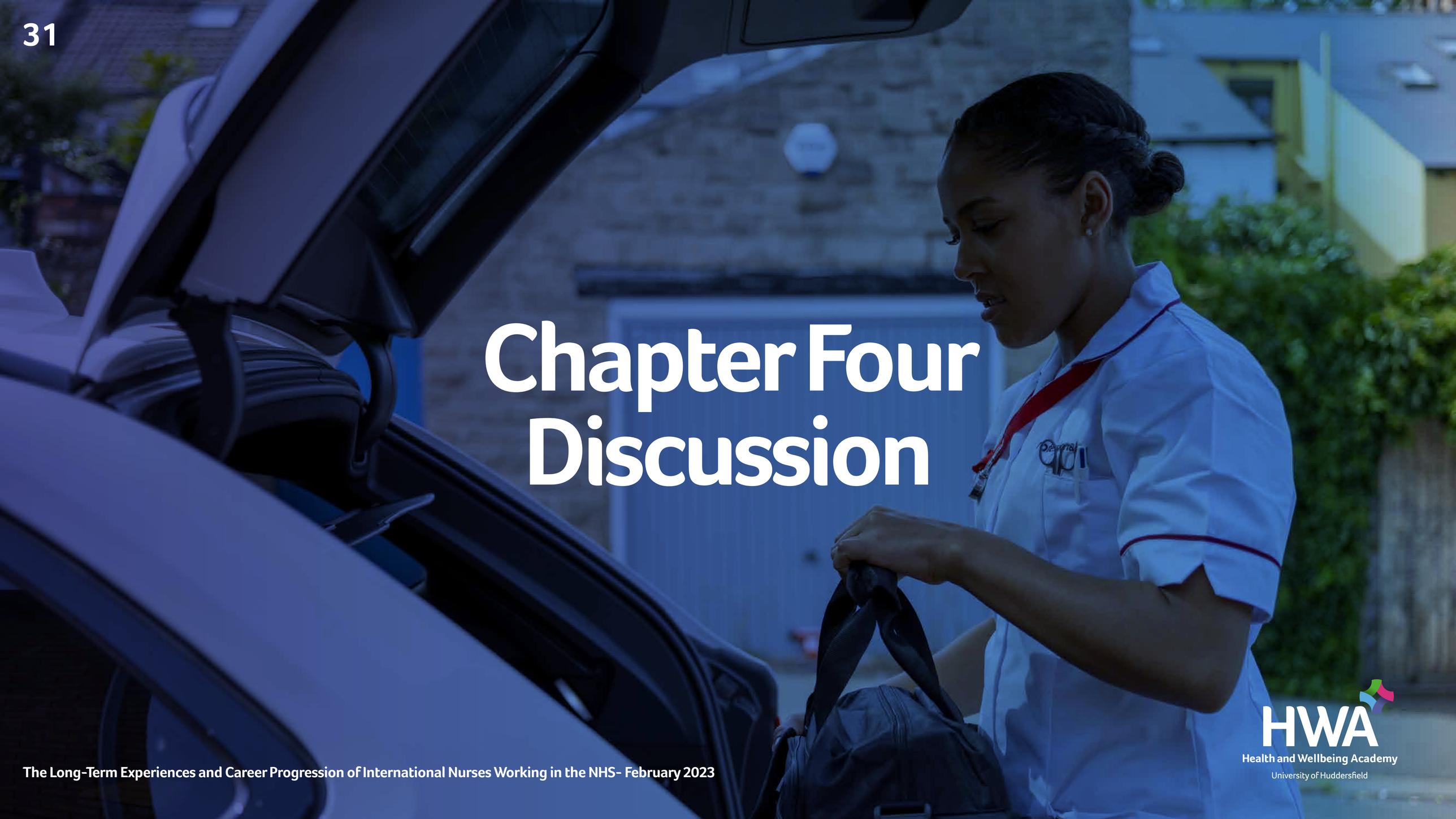
I Lead and Inspire Others

Finally, several participants talked about using their knowledge and previous experience to help others to navigate the system and promote a greater sense of what might be possible in their future:

'I recently did a leadership talk, and I think that was my message. If this talk can inspire one other person who thinks they're useless like I did. If this inspires one other person to speak up, get out of their comfort zone and challenge themselves and think they're better than what they currently doing. That's the job done…' [Participant R]

And discussed respectfully waiting for a time that the NHS was ready for the advanced skills set that many international colleagues brought to the UK, and now a clear determination to lead changes within that arena:

'I knew that the UK probably just wasn't ready for this sort of internationally educated nurse with this set of skills to be recognised in a different country. So I was respectful of that to a degree, but also frustrated by it and that's just how it is, you know, that's how it was. I want to change that for the future, and I have said that already, I do want to change that for the future.' [Participant D].



Chapter Four Discussion

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Chapter Four: Discussion

Worldwide, internationally educated nurses make an invaluable contribution to the health and care workforce and rising demand for nurses is increasing necessity to attract and importantly retain (Dahl et al.,2021). To be self-sufficient in the longer term, workforce leaders within health and care systems must strive to achieve a competitive advantage in global markets (Buchan et al., 2022). This necessitates understanding the multifarious interplay of factors underpinning realising longer term career fulfilment to allow retention opportunities to be maximised.

Whilst an argument to promote international nurse professional development and career progression is evident, evidence describes a suggestion of terminal barriers and challenges that seem unfathomable to navigate without systems change (Palmer et al., 2021; Leone et al., 2020; Adhikari & Melia, 2015; Young et al., 2014). International nurses described being overlooked, feeling silenced, and experiencing marginalisation, resulting in examples of being held back professionally, and stress to individual wellbeing (Chun et al., 2019; Dahl et al., 2017; Salma et al., 2012). These issues, if evident within systems and organisations, pose a threat to the acculturation and longer-term retention of international nurses (Pressley et al., 2022; Alexis & Shillingford, 2015).

On account of considering the existing global evidence, it is difficult to look past a narrative of international nurses feeling professionally 'frustrated' and 'stagnant', working in roles they describe as mismatched to their extensive nursing education and skills (Palmer et al., 2021; Davda et al., 2018). Studies describe this being the result of (mis)management and an oversight in workforce planning. Reason aside, it is hard to see beyond the consequences of the many individual international nurse stories that together report an overwhelming account of missed opportunity, as there have been few studies undertaken that verify this sequence of events reporting on the positive bias (Adhikari & Melia, 2015). For that reason, more knowledge of career development and progression dynamics of internationally educated nurses working in the NHS was needed to inform efficacy of systems and to mitigate against the risk of this highly mobile workforce leaving (Leone et al., 2020).

Our study draws parallel with the limited existing global evidence on international nurses' career progression; in that if it occurs, it is substantially slower and less frequent for international nurses than for domestic nurses; and in the same way, the personal narratives reiterate known barriers to career development. That said, whilst echoes of the wider-known issues challenging global migration experiences are again captured, this study ascertains a contemporary narrative of enablers to career development to advance existing knowledge (Buchan et al., 2022).

Acknowledging the weight of existing evidence affirms the challenges and barriers to professional development and provides understanding of the factors that facilitate international nurses to realise career aspirations and professional fulfilment. This study presents the complex interplay of pre-progression and post progression factors underpinning international nurse experiences that have advanced in careers working within the NHS. This insight allows us to identify a framework to career progression for international nurses (Figure 8).

Differentiating the stages of career development identified the conditions and situations in which international nurses progressed. Other evidence suggests international nurses perceived themselves as invisible in the system, and not recognised for their skills, experience and qualifications; thus making it harder to advance their careers (Davda et al., 2018; Newton et al., 2012). In turn, the opposite was described by nurses who progressed, whether personally, through individual determination, putting themselves forward to be seen, or leaders recognising and spotlighting potential: it was noted that circumstances prevailed to reveal

their talent (Chun Tie et al., 2019). Intrinsically, the first stage of career progression is identified as 'see Me and know I can thrive' being the starting point to unlocking career prospects (Dahl et al., 2018).

The next obstacle for career progression is navigating being 'overlooked'; both at the application and interview stage. While the narrative is clear that career advancement should be linked to merit and capacity, studies describe qualifications, expertise and experience are largely discounted (Adhikari & Melia, 2015; Young, 2014). Although often contrary to current practices, when appointed into areas of choice and where skills and experience are best placed, nurses find it easier to demonstrate expertise and thrive (Alexis & Shillingford, 2015). Subsequently, when international nurses want promotion, guidance on completing unique and cultural to the NHS application forms and interview techniques is something that could help prevent them being overlooked. Likewise, if unsuccessful at interview international nurses requested indiscriminate feedback. Consistent with prior research, countries must act inclusively to allow individuals to thrive and to and prevent them feeling devalued and demotivated (Davda et al., 2018).

Further to requiring acknowledgement of skills and experience, and inclusive and equitable recruitment processes, international nurses prosper when employed in psychologically safe environments and when working in teams where relationships supported learning and development. When work environments endorse asking questions without fear of judgement of professional capability or reprise, international nurses revealed feeling comfortable to request guidance as they learned the idiosyncrasies of nursing in a host country which allowed them to succeed (Chun Tie et al., 2019).

Extensively, in existing literature and throughout this study, the role and authority of members of staff in leading positions is repeatedly evidenced to

Pre-Progression
See Me and know I can thrive
Don't Overlook Me
Embrace me as I learn
Post Succession
I have power to influence
I can break down barriers
I lead and inspire others

Figure 8: career progression framework

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positively impact careers through engendering inclusion, promoting feeling valued, growing confidence, and building agency (Pressley et al., 2022; Leone et al., 2020; Alexis & Shillingford, 2015).

Additional to sociocultural and relational influences that can positively determine professional development are educational and recruitment factors affecting career progression experience. International nurses described frustrations with navigating formal requirements of higher education and applications for promotion, and interview processes slowing down realising career ambitions (Sands et al., 2020). The challenge in the global narrative is for health and care systems to find a way to release the potential of each health professional (Buchan et al., 2022; Young et al., 2014). Overcoming processes to achieve this, each nurse needs to feel valued: following succession, international nurses repay with interest through their contribution to leadership (Adhikari & Melia, 2015; Alexis & Shillingford, 2015).

This study demonstrated that progression out of all NHS bands occurs less often for international nurses than for domestic nurses. However, the difference in proportions is significant only for progress out of Bands 5 to 8a inclusive, and substantive only for progress out of Band 5 and Band 6. Progress out of all NHS bands, when it occurs, also occurs later for international nurses than for domestic nurses. The difference (in terms of the progression trajectory) is significant only for progress out of Band 5 and Band 6 and substantive only for progress out of Band 5. Estimates associated with progression from higher bands are less precise due to reduction in numbers of nurses achieving these bands.

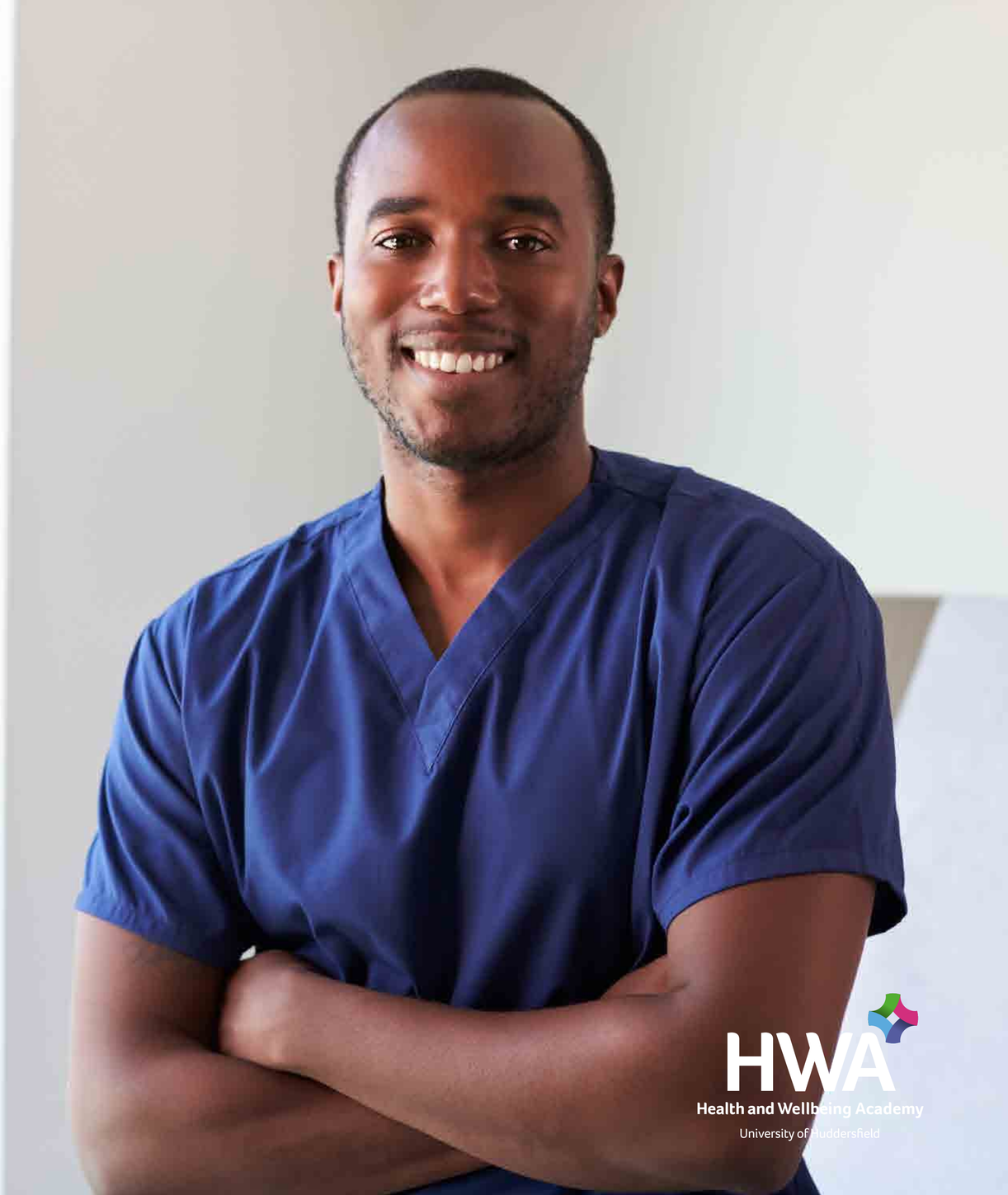
Once international nurses achieve initial career progression, progression dynamic change and following achieving promotion, chances of further promotion increase. More importantly, following achieving career progression there was a stark change in confidence of position. More senior international nurses described becoming 'bolder and braver', seemingly having their power to influence now validated through the endorsement of promotion. If initially the environment can create opportunity for career development and once in leadership positions and when afforded more control over their environments we see international nurses empowered to challenge breaking down the barriers that caused frustration and delay (Alexis & Shillingford, 2015; Young et al., 2014). Once in leadership roles, and seemingly visible, international nurses described using their positions to lead and inspire others.

Exploring experiences of career progression, evidence suggests overall a negative picture of international nurses being overlooked as the norm and discriminated at worse. Arguably, whilst many of the difficulties described could have deterred professional development and continuing to seek career progression opportunities, the reverse is seen. Therefore, to overcome the potential of future missed opportunities, for aspiring more junior international nurses, senior international nurses describe themselves as role models striving to make opportunities. The transience of any pre-progression limitations are overturned by reinvesting in shaping opportunity for future generations of international nurses (Dahl et al., 2017).

Limitations

The findings of this report should be considered within the limitations of the research itself. The quantitative data collected during Phase One represents an analysis of career progression data available from January 2014 to November 2021. Whilst we are confident in the accuracy of the data in the sample, it only represents career progression during a limited time period. No demographic data was available besides the nurses 'status', i.e., whether they were domestic or international nurses. This precluded controlling for effects such as age and sex in the quantitative analysis. International nurses in the data were considered to be defined as any nurse born outside the UK. Therefore even nurses who were educated in the UK were also categorised as international nurses.

In Phase Two, we collected qualitative data from 22 participants. Whilst this stage is not intended to be generalisable, data saturation was reached. And finally, due to unknown reasons, Band 5 international nurses were challenging to recruit to Phase Two of the study, so we do recognise that this group's voice may not have been fully represented.



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Chapter Five Recommendations

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Chapter Five: Recommendations

The following section presents the recommendations for policy, practice and further research. These have been developed following presentation of the research findings to an expert advisory group. This research and the subsequent recommendations do not recognise existing NHS workstreams managing and developing the international nurse experience.

This report sets out key recommendations for health and care systems, policymakers, organisations, and leaders to release the potential and optimise long-term careers of international nurses.

Now working in a senior role and responsible for international recruitment within their organisation Participant S considered minimal progression made over the years, but also recognised that if practices do not move forward, retention will be challenged significantly.

'We recently started with recruiting international nurses directly and I think this has brought back a lot of memories for me. In that I'm thinking this is coming up to 18 years and they're going through the same struggles that I went through ... I feel we've not made that much progress in 17 years, and that is a shame ... we should try and learn from the lessons ... otherwise we'll be going round in a circle where people are coming and going without staying ... it's a vicious circle we really need to look at it and see where we can improve our practices...'

Participant S

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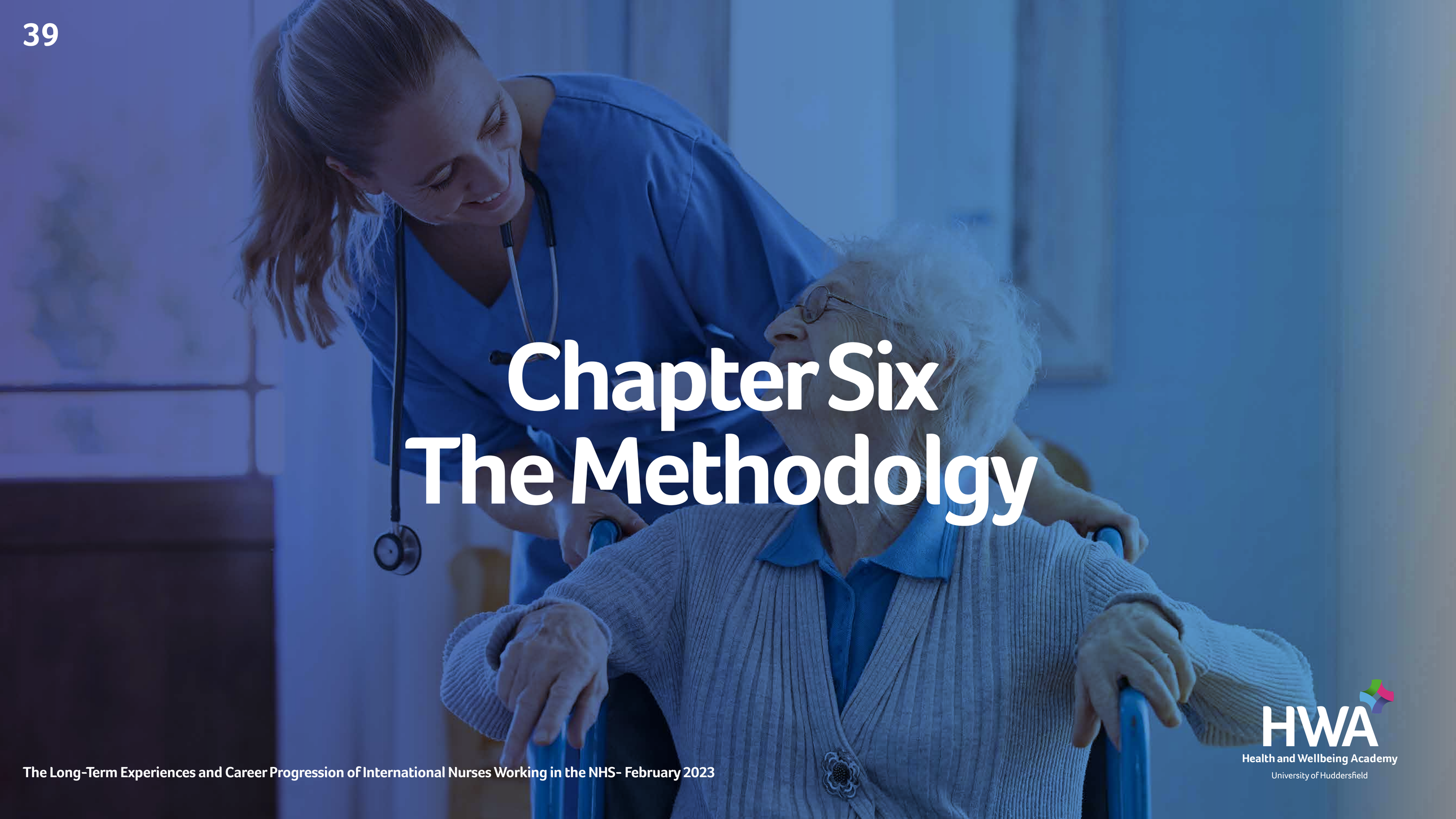
See me and know I can thrive
To unlock talent in health and care systems: pathways and policies should be clear and accessible.
To support timely career progression and professional growth: career development support and coaching should be available at all career stages.
To enable the opportunity to speak freely about career development experiences, challenges, and opportunities: safe spaces should be made available.
Don't overlook me
To assure parity of career progression: health and care leaders should review and reform career development processes and frameworks.
To monitor talent management support offers: Systems and/or organisations should undertake local impact assessments.
To ensure transparency and inclusion: career pathways should provide equitable information and access to professional development resources.
To guarantee equity of career development: all outcomes should be merit based.
Embrace me as I learn
To spotlight the career potential: line managers should act as positive change agents to embrace unlocking the potential of international nurses.
To capture trust and build relationships: starting out in practice is an important time, to alleviate fears and promote psychological safety.
To engender and promote career fulfilment: line managers should undertake regular career conversations recognising previous experience and future career aspirations.
To support the formal process of career development: consideration should be made to support international nurses applying for jobs, writing personal statements and understanding the English recruitment system.
I have power to influence when:
Leadership training and continuing professional development opportunities are inclusive of international nurses
Leaders of health and care systems work to create cultures characterised by psychological safety, with a focus on just cultures and learning.
Inclusive behaviours are modelled and practised at every level of the health and care system.
Disciplinary procedures, and complaints are fair and just.
I can break down barriers when …
International nurses have representation at all levels to shape decisions, policy, practice, work processes and culture in organisations.
Cultures guarantee that everyday discrimination does not go unchallenged.
I lead and inspire others when …
Leadership at all levels is inclusive and diverse.
There are means to evaluate response to concerns from international nursing staff, and ensure there is focus on listening, learning and compassion.

Table 3: Recommendations from the research



Chapter Six
The Methodolgy

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Chapter Six: The Methodolgy

Introduction

Mixed methods is a formal research methodology designed to enable the combination and interconnection of quantitative and qualitative data. This mixed methods approach combined the quantitative data analysis alongside qualitative interviews. This allowed us to gain research breadth, through collecting quantitative data from the national nursing data set, whilst also retrieving in-depth responses and lived experiences of international nurses who had many years of experience working within the NHS (Creswell and Plano Clark, 2018). Integrating the benefits of both approaches provides the opportunity to utilise the strengths of each methodology to explore research objectives in full and to gain a complete and meaningful picture of the career progression experiences of international nurses (Dawadi et al., 2021).

Phase One

The data supplied for the quantitative analysis was collected by Health Education England, who conducted all necessary data cleaning before supplying the data. Analysis was conducted on all domestic and international nurses registered with the NHS in England, between 31st January 2014 and 30th November 2021 who were recorded as having joined one or more of the following bands: Band 5, Band 6, Band 7, Band 8a, Band 8b, Band 8c, Band 8d, Band 9 on a particular date. For all such nurses, the date of joining the band under consideration was recorded. The status of each nurse (classified as domestic or international) as defined above was also recorded. No other nurse-level demographic variables were recorded.

For all nurses who subsequently progressed to a higher band within the study period, the date of progression was recorded, and the time spent on the band under consideration before progression was calculated from this date and the recorded date of joining the band under consideration. In almost all cases, progression from a band implied joining the band immediately above it in the scale: in a very small minority of cases, some bands were ‘skipped’, and nurses progressed directly to bands two or more positions above the band on which they had been registered.

For nurses for whom no progression date from the band under consideration within the study period was recorded, the date of the last appearance in the data set of that nurse was recorded. For nurses

remaining in the study at the end of the period, the date reported was the date of study curtailment; 30th November 2021. For nurses who had left the NHS (for example due to retirement or new employment) before this date, the date of leaving was recorded.

The sample was summarised descriptively. As an exploratory analysis, for each band under consideration, the proportion of nurses of both types who did, or did not, achieve progression within the analysis period was cross-tabulated and tested for significance of association using chi-squared tests of association, with magnitude of association reported using Cramer's V statistic.

A series of fully parametric time-to-event analyses were conducted on the data. A separate analysis was conducted to model progression from each of the bands of interest, considering the event of interest to be progression from the band under consideration. The 'time zero' for the event was the date at which the nurse was registered with a particular band. Nurses for whom progression out of a particular band was recorded were treated as positive observations. Nurses for whom no progression out of a particular band was recorded were treated as right-censored observations.

Several candidate time-to-event distributions (exponential, Weibull, Gompertz, log-logistic, lognormal) were considered and tested as modelling distributions for the analysis of each progression. The exponential, Weibull, and Gompertz distributions were parameterised in the proportional hazards metric: the 'hazard' of progression out of the band under consideration at any given time since registration in that band for a domestic nurse is assumed to be proportional to the 'hazard' of progression out of the band at that time for an international nurse. The hazard function for the exponential distribution is constant while the hazard functions for the Weibull, and Gompertz distributions increase or decrease monotonically. The log-logistic and lognormal distributions are parameterised in the acceleration factor metric. In accelerated failure time models, the time to progression out of a band under consideration for an international nurse is a multiple of the time to progression out of that band for a domestic nurse. The hazard functions of both the log-logistic and lognormal distributions allow for hazard functions to be non-monotonic.

The best-fitting distribution of all candidate distributions was selected for each progression according to Akaike's Information Criteria (AIC). Proportionality of hazards, where appropriate, was assessed by visual inspection of hazard functions. The shape of the selected hazard function for each progression (monotonic or non-monotonic) was recorded. P-values, hazard ratios and associated 95% confidence intervals were reported for all proportional hazards models. P-values, exponentiated acceleration factors (time ratios) and associated 95% confidence intervals were reported for all models parametrised in the accelerated failure time metric.

Survival curves were constructed to visually compare progression from the band under consideration in groups defined by levels of the status variable (i.e. domestic and international nurses). Median time to progression from each band under consideration for either type of nurses in all progressions was calculated where 50% proportion had been reached. Rates of incidence of progression per unit time (days) were calculated for both types of nurses for all progressions.

Phase Two

The data for the second phase of the research was collected through the conduction of individual virtual interviews. Twenty-two participants were recruited through email expressions of interest (EOI) distributed through NHS England's directorate networks. We adopted a purposive sampling method (based on identifying and including international nurses at various pay bands, who had worked in the NHS for a minimum of five years). Participants were selected following completion of the EOI survey which requested years or service and current role in the NHS.

Ethical approval was received from the University of Huddersfield's School Research Ethics and Integrity Committee prior to dissemination and analysis. The research was confirmed by HRA decision tool as not requiring HRA/IRAS approval, as it was not medical research or a clinical trial and did not involve service users. Informed consent was required prior to undertaking the interviews which reassured respondents that confidentiality and anonymity would be maintained, and individuals would not be identifiable in any reports or other documents resulting from the research.

The interviews were facilitated using Microsoft Teams (hosted by the University of Huddersfield) and video and audio recorded. The recordings were made available only to members of the project team.

Interviews were semi structured and focused on:

- migration motivations and aspirations
- integration experiences (professionally and socially)
- career progression experiences and opportunities
- enablers/barriers for career progression
- role models within the NHS
- long-term career planning

Qualitative data extraction processes were formed following Braun and Clarke's (2006) six stage inductive thematic review process to identify, analyse and report patterns and themes in the research findings. An initial and open coding process was thus established using NVivo qualitative data analysis software, to classify the categories of information emerging from the research findings. As coding developed it became clear that overlap was present, and codes were collapsed, and initial themes identified and compared against the quantitative findings. Final themes were presented to the project advisory group who informed the development of recommendations.

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Appendix

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Appendix 1: descriptive statistics and model parameters: all progressions

Model Parameter	Model of nurses registered as joining given band						
	Band 5	Band 6	Band 7	Band 8a	Band 8b	Band 8c	Band 8d
Total number of records of nurses in given band Domestic nurses International nurses	307,948 (75.6%) 99,686 (24.4%)	249,339 (88.0%) 33,962 (12.0%)	125,990 (91.9%) 11,104 (8.1%)	33,608 (93.5%) 2,323 (6.5%)	9,287 (94.7%) 517 (5.3%)	4028 (94.3%) 242 (5.7%)	1603 (95.1%) 82 (4.9%)
Total number of records of nurses in given band Cases with no progression recorded Cases with progression recorded	248,457 (61.0%) 159,177 (39.0%)	202,751 (71.6%) 80,550 (28.4%)	112,910 (82.4%) 24,184 (17.6%)	29,514 (82.1%) 6,417 (17.9%)	7,473 (76.3%) 2,331 (23.7%)	3,272 (76.6%) 998 (23.4%)	1,389 (82.4%) 296 (17.6%)
Cases with no progression recorded Domestic nurses International nurses	173,130 (69.7%) 75,327 (30.3%)	176,414 (87.0%) 26,337 (13.0%)	103,475 (91.6%) 9,435 (8.4%)	27,556 (93.4%) 1,958 (6.6%)	7068 (94.6%) 405 (5.4%)	3082 (94.2%) 190 (5.8%)	1319 (95.0%) 70 (5.0%)
Cases with progression recorded Domestic nurses International nurses	134,818 (84.7%) 24,359 (15.3%)	72,925 (90.5%) 7,625 (9.5%)	22,515 (93.1%) 1,669 (6.9%)	6,052 (94.3%) 365 (5.7%)	2219 (95.2%) 112 (4.8%)	946 (94.8%) 52 (5.2%)	284 (96.0%) 12 (4.0%)
Tests for association between nurse type and progression	$\chi^2_{(1)}=1.2 \times 10^{-4}$	$\chi^2_{(1)}=678.4$	$\chi^2_{(1)}=56.6$	$\chi^2_{(1)}=7.80$	$\chi^2_{(1)}=1.34$	$\chi^2_{(1)}= 0.588$	$\chi^2_{(1)}=512$
Significance level for χ^2 test	<0.001	<0.001	<0.001	0.005	0.246	0.476	0.474
Cramer's V statistic for χ^2 test	0.170	0.049	0.020	0.015	0.012	0.011	0.017
Best fitting modelling distribution for progression out of given band	Weibull[2]	Gompertz	Gompertz	Weibull[2]	Lognormal	Lognormal	Lognormal
Type of modelling distribution	Proportional hazards	Proportional hazards	Proportional hazards	Proportional hazards	Accelerated failure time	Accelerated failure time	Accelerated failure time
Hazard function shape	Monotonic[3]	Monotonic[3]	Monotonic[3]	Monotonic[3]	Maxima[4]	Maxima[5]	Maxima[4]
Hazard / time ratio for progression to next band[6]	0.765	0.953	0.962	0.918	1.087	1.067	1.217
95% CI for hazard / time ratio	(0.755, 0.776)	(0.931, 0.976)	(0.915, 1.01)	(0.825, 1.02)	(0.882, 1.31)	(0.790, 1.41)	(0.685, 0.213)
Significance level for hazard /time ratio	<0.001	<0.001	0.127	0.113	0.468	0.710	0.512
Median time to progression Domestic nurses International nurses	2101 days 2467 days	Not recorded[8] Not recorded[8]	Not recorded[8] Not recorded[8]	Not recorded[8] Not recorded[8]	Not recorded[8] Not recorded[8]	Not recorded[8] Not recorded[8]	Not recorded[8] Not recorded[8]
Incidence rates per unit time (days) Domestic nurses International nurses	3.37×10^{-4} 2.44×10^{-4}	1.98×10^{-4} 1.82×10^{-4}	1.17×10^{-4} 1.10×10^{-4}	1.35×10^{-4} 1.23×10^{-4}	1.96×10^{-4} 1.88×10^{-4}	2.10×10^{-4} 2.08×10^{-4}	1.60×10^{-4} 1.20×10^{-4}

[1]According to AIC statistics: candidate distributions were exponential, Weibull, Gompertz, log-logistic and lognormal

[2]Parameterised in the proportional hazards metric

[3]Increases from point of joining given band

[4]At approximately 400 days from joining band

[5]At approximately 350 days from joining band

[6]Reference category = domestic nurses

[7]Time ratio; exponentiated acceleration factor (AF). AF > 1 indicates longer times to progression

[8]Due to an insufficient number of nurses achieving progression before study curtailment