



Research article

Newly qualified general nurses' experiences of pre-registration internship: A Republic of Ireland cross-sectional study

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ABSTRACT

Aim: The aim of this study was to examine Newly Qualified General Nurses' (NQGNs') experiences of and the value of the internship period.

Background: Internship was introduced as the final part of the undergraduate nursing degree in Ireland in 2002. The aim was to provide students with clinical experience, whereby they work more independently and in doing so, seamlessly progress their transition to the role of registered nurse.

Design: A cross-sectional, quantitative, descriptive study.

Setting and Participants: Newly Qualified General Nurses who completed their undergraduate degree in general nursing and graduated from Higher Education Institutions (HEIs) in the Republic of Ireland between 2018 and 2020 were eligible for inclusion in the study.

Methods: Participants were recruited using snowball sampling. Data were collected anonymously using the electronic Experience of Internship Questionnaire. Analysis was undertaken using the Statistical Package for Social Sciences (SPSS 27).

Results: Pre-internship preparation experiences differed across hospitals. The NQGNs would have preferred more support with their caseloads and help with understanding the rationale for care delivery. However, internship provided good opportunities to link theory to practice and was considered valuable by most in preparing them for practicing as a registered nurse.

Conclusion: Internship assists intern nursing students to link theory to practice. Further, support in internship is crucial when managing a caseload and to enhance understanding of the care provided. The value of internship was identified with suggestions on ways to strengthen the experience of internship.

1. Introduction

Nurse education consists of theoretical and experiential learning in clinical settings to enable students' link theory to practice [1]. New qualified nurses' transition to practice is considered demanding and stressful by many. Apprehension over the transition to practice is evident in the literature. While it is widely recognised that retention is crucial to sustaining the nursing workforce [2], it is also acknowledged that transition experiences affect the retention of newly qualified nurses in the workforce and in the profession [3–5].

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In the Republic of Ireland (RoI), nursing has evolved from a profession of limited recognition that lacked higher education award status, to a recognised third level degree programme. In line with recommendations from the Commission of Nursing and an evaluation of the Diploma in Nursing programme in the Republic of Ireland a four-year undergraduate General Nursing Degree programme commenced in 2002 [6]. The aim of the undergraduate nursing degree programme is to “ensure a graduate acquires the competencies for critical analysis, problem-solving, decision-making, collaborative team-working, leadership, professional scholarship, effective interpersonal communication and reflection” [7, p.20]. Unique to this four-year undergraduate nursing degree programme was the inclusion of a 36-week rostered internship period. The internship period aims to enable interns to link theory to practice, consolidate learning and achieve clinical competencies in preparation for their role as registered nurses [7]. In keeping with the requirements and standards for undergraduate nurse education in Ireland [7], the clinical performance of nursing interns is assessed by a preceptor and each intern is assigned to at least one preceptor in each clinical area.

1.1. Background

Nurse education in Ireland has a unique structure as the fourth year of the degree in nursing includes an internship period. This is a 36-week rostered period where the interns are part of the workforce and allocated the responsibility to manage a caseload under the distant supervision of a registered nurse (RN). Internationally, there are many pathways to nurse registration, with countries offering three- or four-year programmes [8]. China, Saudi Arabia, and Iran also offer internship periods. Some healthcare organisations have a variation of this, such as a structured support programme, residency, or transition programme to assist and support newly qualified nurses (NQNs) in their new role. However, some researchers have reported that NQNs only realise the reality of the nurse’s role once they are registered [9,10]. There is no consistent standardised recommended approach to transitioning NQNs to practice, therefore experiences are varied within and between countries. It is now 21 years since the 36-week internship period was initiated as part of the undergraduate nursing degree programme in Ireland and this study set out to formally examine NQNs’ experiences of internship and its value in preparing them for transition to the role of registered nurse. The study was guided by Benner’s novice to expert framework as students’ progress through the various stages throughout their training.

Studies employed mixed methods (2), quantitative (1) and qualitative (1) methodologies to examine practice readiness including factors that impacted the perceptions of competency levels [11–14]. Several studies utilised qualitative (3) and quantitative (1) methodology reported reality shock and varying emotions that NQNs experienced during the transition phase [15–18]. At first, a sense of achievement was felt once the NQNs had completed the nursing programme [15–18]. However, these feelings changed to nervousness and apprehension regarding their level of knowledge and ability to address every situation [14]. The level of responsibility of a RN was only realised once they were qualified. Fear ensued about caseload management, time management and the fact that patients relied on them for care. Graduate nurses felt anxious and insecure with the level of responsibility, particularly if they had to perform new tasks [15]. Graduate nurses experienced reality shock and tremendous stress as they were challenged mentally and physically in their new role in their first few months [16–18]. The reality of the role, fast pace, lack of confidence, lack of ward familiarity and insufficient time to spend with patients, increased their anxiety [15]. Lack of readiness for the role was identified as workload was a challenge and a source of anxiety for the nurse graduates in many studies. The work was described as emotionally and physically challenging due to the heavy workload that it entailed [19]. Support mechanisms such as preceptors and Clinical Placement Coordinators were no longer available, and this further increased their anxiety and stress [15]. Similar findings were highlighted in another study as stress and anxiety were experienced due to the perceived change in mentality from student to RN [14].

1.2. Theoretical framework

Benner’s model was considered the best fit for this study as it applies to current practice that recognises the gradual progression of nursing students as they become competent nurses. As the NMBI have already endorsed Benner’s framework [7], it was fitting to choose that theoretical framework for this research. The Benner Framework is intrinsic to the research undertaken and is aligned to the professional and philosophical stance that acknowledges the value of experiential learning in clinical practice and the gradual progression of nursing students in the development of clinical skills that prepare them for the role of RN. The research undertaken aims to examine the experience and value of the internship period. The skills and experiences acquired and developed through the 4-year education programme are fundamental to the RN role and are practiced at independent level during internship where the nursing interns are part of the nursing workforce and manage a caseload of patients independently with a preceptor available as a distant supervisor. In Benner’s theoretical framework NQNs are at the advanced beginner level and they reach the competent level at two to three years post registration. In the RoI fourth year nursing students are expected to perform at advanced beginner level during their final supernumerary placement. During internship, the last 36 weeks of the programme the interns are expected to perform at competent level.

2. Methods

The aim of this study was to examine NQNs’ experiences and value of the internship period. In the RoI, the 36-week internship comprises of divided placements (usually 4) in medical and surgical clinical areas to enable the interns to consolidate their learning and work at independent level under the distant supervision of a RN to achieve clinical competency. The final internship weeks should be conducive to interns transitioning to the role of RNs and permit opportunities to practice skills and abilities in critical analysis, problem-solving, decision-making, reflecting, and managing [7]. During the internship period the interns are employed by the health

service and experience the different shift patterns including night duty. This was a cross-sectional, quantitative, descriptive study, and a bespoke instrument was developed for it. The instrument measured the experience of internship. There are two phases to the study; phase one is a quantitative phase, the results of which are reported in this paper. Participants in phase one were NQGNs employed in hospitals in the Republic of Ireland (RoI) following completion of the Bachelor of Science in General Nursing programme during 2018–2020. Some NQGNs from the RoI who graduated in 2016 and 2017 ($n = 10$) also participated and their data were included in the final analysis as these graduates had experienced internship and would have been considered NQGNs at that time of data collection.

2.1. The research instrument

The research instrument used for phase one of the study had two components - 1. demographic data (age, year of commencement and completion of internship, number of weeks taken to complete internship, HEI attended, if they had a part-time job during internship, type of placement where they completed each of their internship placements); 2. Internship experience, which had three components: (i). Pre-internship preparation, (ii). Internship experience, (iii). Value of Internship Placements.

The questionnaire was developed using several sources of evidence, including a pre-existing instrument that addressed internship experience [20]. The literature provided the rationale for the inclusion of selected domains of interest in the questionnaire and finally, focus group interviews were conducted with representatives from clinical practice. The contributors to the focus groups included clinical placement coordinators, reflective practice facilitators and student allocation liaison officers. The following four subscales were measured as part of the internship experience: support during internship, feedback during internship, protected time for competency assessments during internship and reflective practice during internship.

2.2. Pilot study

Using a four-stage Likert scale, a pilot study with registered nurses who had experienced internship prior to 2018, was conducted to test the questionnaire and to determine the amount of time that it would take to complete. The pilot study data were not included in the final analysis. From the pilot study, it was identified that it took participants up to 30 min to complete the questionnaire. Although lengthy, a decision was made to retain the full questionnaire in order to comprehensively examine the internship period using all relevant variables. The pilot participants liked the four stage Likert scale as it required them to be decisive and not take a middle of the road stance as the 'neither agree nor disagree option' was not available.

2.3. Reliability & validity

A test blueprint was used to check for content validity [21]. Internal consistency was assessed by calculating the Cronbach's alpha for the questionnaire and its sub sections. The Cronbach's alpha for the entire questionnaire was calculated at 0.92 and this was verified by a statistician. The Cronbach's alpha for the Pre-Internship Preparation Section was calculated at 0.79, Experiences of Internship Section 0.91 and the Value of Internship Section was 0.73. A Cronbach's alpha of 0.70 or higher is considered an acceptable level of reliability [22].

Ethical approval

Overall, ethical approval for phase one of the research was obtained from the Ethics Committee at the University (COM_01_18.19). This ethical approval was accepted by the four participating HEIs. All responses were anonymous and there were no questions that could differentiate respondents.

2.4. The sample

All NQGNs who graduated in the RoI from 2018 to 2020 were eligible for inclusion in the study. At the time of the study, the annual national average number of general nurse training places was 925. Hence, the total available population was 2775 nurses.

2.4.1. Sample size

The sample size was calculated using the G Power calculator version 3.1.9.7 to estimate the sample size needed to ensure adequate representation of the population. Type I error (alpha) measures the probability of falsely rejected H_0 and picking up a false positive effect [23,24]. This alpha is usually fixed at 0.05, resulting in a less than 5 % possibility of obtaining a false-positive conclusion [24]. The effect size is low if the value of r varies around 0.1, medium if r varies around 0.3, and large if r varies more than 0.5 [25]. In consultation with a statistician, an effect size of 0.3 was selected. The following information was inputted: effect size 0.3, alpha size 0.05, confidence interval 95 %; this calculated a sample size of 147.

2.4.2. Inclusion and exclusion criteria

Newly qualified general nurses' who graduated from the national Bachelor of Science in General Nursing programme or any such programme at any institution in the RoI in 2018–2020 were eligible for inclusion in the study. Exclusion criteria were newly qualified nurses who received their undergraduate nurse education outside Ireland. Also excluded were interns who are currently on their internship placements.

2.5. Access to the participants

All HEIs were invited to participate. Four HEIs participated by allocating a gatekeeper who distributed the electronic research packs to the graduate nurses by email. The electronic research pack included a link to Survey Monkey which housed the Experience of Internship questionnaire. Due to the introduction of General Data Protection Regulations (GDPR) in 2018 the other HEIs were unable to send the research packs to the graduates and were therefore unable to partake. In order to access the graduates' alternative methods were used to advertise the study. Snowball sampling was introduced to enable fellow graduates to be alerted to the study by their colleagues and peers. A webpage was set up and the link was shared via twitter and the nurses' Facebook page. An advertisement was also placed in the NMBI electronic newsletter and the World of Irish Nursing Magazine.

The researcher contacted the Head of School in each of the four participating HEIs to seek a nominated gatekeeper. The gatekeepers varied from site to site and included Heads of Nursing, Heads of Undergraduate Nursing Programmes and Student Allocation Officers. The researcher emailed each appointed gatekeeper with information about the study and a research pack for electronic distribution. The research pack contained a cover letter with the link to the electronic questionnaire, and a participant information leaflet. A reminder email was sent to the gatekeepers after two weeks. This process was followed in 2018–2020.

2.6. Data collection

The data were collected using the electronic questionnaire that was developed in Survey Monkey. Consent to participate was implied by the return of the completed questionnaire and by ticking the consent box at the start of the questionnaire.

2.7. Data analysis

Data were analysed using a statistical software analysis package (SPSS 27) and included descriptive and inferential statistics.

3. Results

There were 196 questionnaires returned, of which three were invalid and discarded because they were completed by nurses outside the RoI who had not experienced internship in Ireland. One hundred and twelve questionnaires were fully completed while 81 were partially completed. Data from all 193 respondents were included in the analysis. Missing data were dealt with in SPSS by assigning a specific missing data value code 999, missing values are excluded from the statistical calculations. Most respondents (68.9 %, $n = 133$) were aged between 20 and 25 years, with a mean age of 26.43 (Standard Deviation (SD) = 7.23). [Table 1](#) shows an overview of the age category of the respondents.

The majority of participants completed the degree in 2018 and 2019 with a smaller number participating in 2020. Data collection started on the November 2, 2018 and closed on the Dec 1, 2020. Even though 10 participants had completed their degree outside of the inclusion criteria, this data was included in the analysis as they were still considered newly qualified nurses and had completed their nurse education and internship in the RoI. [Table 2](#) shows the response rate per year.

3.1. Internship experience: pre-internship preparation

This section of the questionnaire explored strategies used to prepare students for transition from supernumerary student to intern working at independent level. Most respondents (58 %, $n = 102/176$) received information as part of their 4th year induction, while some (9.1 %, $n = 16$) reported that they received no preparation. Nonetheless, 77.9 %, ($n = 137/176$) felt that they had a clear understanding of what was expected from them during the internship period. But 22.2 % ($n = 39$) reported a lack of understanding of expectation from them during this time. Consistent with this, some interns (71.6 %, $n = 126/176$) strongly agreed and agreed that they had access to clear guidelines for their learning, but over a quarter (28.4 %, $n = 50$) disagreed or strongly disagreed with this. Even though there was no national standardised method for preparing interns for internship, just over half of them (54 %, $n = 95$) felt prepared for internship with the remainder (46 %, $n = 81$) reporting that they felt unprepared. Furthermore, 29.5 % ($n = 52$) of participants reported that internship failed to meet their expectations. These results are shown in [Table 3](#).

Table 1
Age category of participants.

Age Category	n	%
20–25	133	68.9
26–30	22	11.4
31–35	14	7.3
36–40	10	5.2
41->50	14	7.2
Total	193	100.0

Table 2
Response rate per year.

Year Completed Degree	Year	n	%
	2016–17	10	5.2
	2018	84	43.5
	2019	78	40.4
	2020	21	10.9

Table 3
Prepared for internship (N = 176).

Preparation for Internship	Strongly Agree n (%)	Agree n (%)	Disagree n (%)	Strongly Disagree n (%)
Clear understanding of what was expected from interns during internship.	39 (22.2)	98 (55.7)	33 (18.8)	6 (3.4)
Clear guidelines for learning during internship	31 (17.6)	95 (54)	45 (25.6)	5 (2.8)
Felt prepared for internship	13 (7.4)	82 (46.6)	62 (35.2)	19 (10.8)

3.2. Experiences during internship

The second part of the questionnaire examined experiences during internship. Specifically, the experiences of consolidating learning and advancing knowledge and skills during internship were examined. With a small exception (7.2 %, n = 10/138), almost all participants concurred with the statement that internship “consolidated their learning and helped them to link theory to practice more than any of their supernumerary placements”. Prominent levels of satisfaction with opportunities to advance knowledge and skills during internship were reported by more than two thirds (68.8 %, n = 95/138) of respondents while the remainder (31.2 %, n = 43) were dissatisfied with the opportunities. When asked if there was a greater emphasis on setting and achieving goals during internship than supernumerary placements, 71 %, (n = 98/138) agreed or strongly agreed that this was the case.

Using Likert scales, participants were provided with an opportunity to rate their level of satisfaction with acquiring clinical skills that are fundamental to the registered nurse’s role. These include shift handover, participation in medication rounds (under direct supervision), participation in doctors’ ward rounds, and recognition and management of the acutely ill patient. Table 4 outlines the participants’ responses to acquisition of clinical skills throughout internship.

As shown in Table 4, most respondents (81.9 %, n = 113/138) were satisfied with the opportunities to give shift handover. However, 18.1 %, (n = 25) indicated dissatisfaction. Most of the dissatisfied respondents (12.4 %, n = 24/46) gave shift handover once per week, 6.7 %, (n = 13) gave handover once per shift, and 4.7 % (n = 9) gave shift handover once per day. Even though interns are not permitted to administer medications independently (NMBI, 2020), they can participate in medication rounds under the direct supervision of a RN to gain experience in medication management. Just over half (52.1 %, n = 72/138) of respondents were satisfied with the experience gained in medication management during internship. In general, those that were dissatisfied participated in medication management once per week (64 %, n = 48/75), once per shift (29.3 %, n = 22/75) or carried out all drug rounds under supervision (6.7 %, n = 5/75).

Doctors’ ward rounds enable the development of the patients’ plan of care. Just over half of those who responded (55.8 %, n = 77/138) were satisfied with the experience gained in doctors’ rounds, while 44.2 % (n = 61) were dissatisfied. Eighty-five respondents reported the frequency of attending ward rounds; once per week (22.4 %, n = 19/85), once per month (20 %, n = 17/85), attended ward rounds on all shifts (9.4 %, n = 8/85). While 48.2 % (n = 41) chose the other option where 34.1 % (n = 14/41), identified that they rarely attended ward rounds while 7.3 % (n = 3) reported that they attended ward rounds twice in the entire internship. Some had never done ward rounds (39 %, n = 16) while others reported that the ward manager helped by doing the ward rounds (12.1 %, n = 5).

As interns, 85.5 % (n = 118/138) felt more prepared for the recognising and managing acutely ill patients than they did as supernumerary students, while 14.4 % (n = 20) did not feel prepared. In addition, 94.2 % (n = 130/138) indicated that there were opportunities to advance knowledge and skills in this area during internship.

How well internship prepared NQGNs for communicating with family members generated mixed opinions, as 89.1 % (n = 123/138) responded positively while 10.8 % (n = 15) responded negatively to this question.

The questions relating to gaining competence in non-technical skills included questions of time management, planning and organisation skills, and prioritisation skills. Almost all respondents (93.5 %, n = 129/138) experienced high levels of satisfaction with the opportunities to gain competence in planning and organising patient care, while 6.5 % (n = 9) reported the contrary. Similarly, 92.7 % (n = 128/138) were highly satisfied with the opportunities to gain competence in prioritizing patient care, with 7.2 % (n = 10/138) dissatisfied or very dissatisfied. In relation to time management, 87.7 % of respondents (n = 121/138) were satisfied with the opportunities to gain competence in time management of patient care, while 12.3 % (n = 17/138) were dissatisfied or very dissatisfied.

During internship, intern nursing students are allocated a patient caseload on the wards under the distant supervision of the RN. In this study, interns were allocated between four and seven patients per shift. Most participants (73.2 % n = 101/138) were satisfied with their patient allocation/caseload and felt that it enabled them to advance their knowledge and skills in preparation for working as a RN. However, 26.8 % (n = 37) were not satisfied with their caseload.

As interns, 97.1 % (n = 134/138) were satisfied with the opportunities given to advance their skills in admitting and discharging (89.8 %, n = 124/138) patients, while the remaining respondents (2.9 %, n = 4/138 and 10.1 %, n = 14/138) were dissatisfied or very

Table 4

Satisfaction with experiences during internship (N = 138).

Experiences during Internship	Very Satisfied n (%)	Satisfied n (%)	Dissatisfied n (%)	Very Dissatisfied n (%)
The internship period consolidated my learning and helped me to link theory to practice more than any of my supernumerary placements	61 (44.2)	67 (48.6)	10 (7.2)	0 (0)
During internship, there was greater emphasis on setting and achieving goals during clinical placement than when supernumerary.	34 (24.6)	64 (46.4)	33 (23.9)	7 (5.1)
During internship, I was satisfied with the opportunities to give shift handover to the nursing team.	49 (35.5)	64 (46.4)	23 (16.7)	2 (1.4)
During internship, I was satisfied with the opportunities to participate in medication management under supervision.	18 (13)	54 (39.1)	51 (37)	15 (10.9)
During internship, I was satisfied with the opportunities to participate in the doctors' ward rounds/multidisciplinary team.	13 (9.4)	64 (46.4)	47 (34.1)	14 (10.1)
During internship, I felt prepared for the recognition and management of the acutely ill patient more than when I was a supernumerary student.	34 (24.6)	84 (60.9)	14 (10.1)	6 (4.3)
During internship, I advanced my knowledge and skills in the recognition and management of the acutely ill patient.	52 (37.7)	78 (56.5)	6 (4.3)	2 (1.4)
Internship prepared me to communicate with family members as a registered nurse.	38 (27.5)	85 (61.6)	13 (9.4)	2 (1.4)
During internship, I was satisfied with the opportunities to advance my skills in admitting patients.	58 (42.0)	76 (55.1)	3 (2.2)	1 (0.7)
During internship, I was satisfied with the opportunities to advance my skills in discharging patients, within my caseload.	49 (35.5)	75 (54.3)	13 (9.4)	1 (0.7)
During internship, I was satisfied with the opportunities to complete community referral documentation (e.g., PHN, Day Hospital).	35 (25.4)	73 (52.9)	27 (19.6)	3 (2.2)
During internship, within my caseload I was satisfied with the opportunities to gain competence in planning and organising patient care.	28 (20.3)	101(73.2)	8 (5.8)	1 (0.7)
During internship, within my caseload I was satisfied with the opportunities to gain competence in prioritizing patient care.	45 (32.6)	83 (60.1)	9 (6.5)	1 (0.7)
During internship, within my caseload, I was satisfied with the opportunities to gain competence in time management of patient care.	37 (26.8)	84 (60.9)	15 (10.9)	2 (1.4)

dissatisfied with these opportunities. Similarly, most respondents (78.3 % n = 108/138) were satisfied with the opportunities to complete community referral documentation such as public health nurse referrals, although over one in five were dissatisfied with this (21.8 %, n = 30). These results are displayed in [Table 4](#).

3.3. Value of internship placements in preparing interns for transition to the role of registered nurse

The last section of the questionnaire examined the value of internship placements in preparing interns for the role of RN. Many respondents (98.3 %, n = 110/112) reported that internship was valuable in nurse education and training. Most respondents (95.6 %, n = 107/112) felt internship was extremely valuable in preparing them for working as a newly qualified nurse. Respondents were given the opportunity to identify ways that internship was a valuable experience for them and could respond multiple times to the suggested responses. The valuable clinical experience at independent level with the support of the preceptor was rated highest (50 %, n = 96). Most respondents (96.4 %, n = 108/112) reported that internship helped more than supernumerary placements to prepare for the role of RN.

Areas that were most beneficial for preparing interns to transition to the role of RN included responsibility for caseload and delivering patient care independently with support (50.4 %, n = 56/111), experience managing patient care and caseload (19.8 %, n = 22), medication management experience (12.6 %, n = 14), experience managing time and prioritisation of care (7.2 %, n = 8), and experience of handing over (7.2 %, n = 8).

4. Discussion

The aim of this study was to examine Newly Qualified General Nurses (NQGNs)'s experiences of internship and its value to their transition to the role of RN. Some important results were found in this original study.

4.1. Pre-internship preparation

Preparation contributes to successful placements [27]. This study identified that there were no specific national guidelines for pre-internship preparation, however, the NMBI [7] provide clear guidance in the requirements and standards for the undergraduate nursing programme in relation to undergraduate nurse education and placements. There is no specific information on how to prepare supernumerary students for transition to the role of intern nursing student. The aim of internship is to provide interns with opportunities to link theory to practice and care for patients independently under the distant supervision of a RN [28]. While most of the respondents received internship information as part of the induction to the fourth year of the programme, a small percentage (9.1 %) reported that they received no preparation for the role. Undergraduate nursing students complete supernumerary placements in years one to three, this experiential learning contributes to preparing them for the final internship period. However, students on supernumerary placements do not always realise the importance of their performance [29]. The allocation of responsibility and ownership for decisions and outcomes is more effective than experience achieved in the supernumerary role [29]. Perhaps this is a contributing factor that some interns felt unprepared for internship. Pre-registration education, with effective practice placements contributes to the development of students that are confident and competent, and ready to integrate into the healthcare system [30]. Orientation programmes enhance the interns' understanding of the professional role [31] and the policies and procedures within the healthcare system [32]. Enrolling interns/students on the health service new employee orientation programme was positively evaluated as it enabled the interns/students to experience orientation in the professional context [33]. These findings concur with the current study, interns who had experienced an induction to the programme rated it positively. This is akin to NQNs who felt unprepared for the RN role as the reality of it was only realised on registration. Like the interns, the NQNs had completed practice placements however, the full extent of the role was not apparent until they became RNs. Seminal research by Kramer in 1974 first identified 'reality shock' as NQNs' reaction to transition where NQNs found themselves as part of the nursing workforce and although they had spent years preparing, they were not prepared [9]. In 1984, Benner established the novice to expert framework in response to the requirement to support NQNs during transition to explain the stages of progression of NQNs [34]. Transition experience in the acute care setting is considered highly dynamic and intense as clinical settings have increasing levels of patient acuity that impacts on the nurses' workload. This study is different in that interns are still completing their degree and realisation of the nurse's role albeit as an intern is comprehended during internship. Nevertheless, preparation is important so that interns and clinical staff's expectations are met.

Caseload management empowered interns to deliver care independently and develop competence with communication skills and recording clinical practice which are essential aspects of the RN role. Internship provided opportunities for acquiring clinical skills essential for the nurse's role. As interns, they were required to manage a caseload independently under the distant supervision of a RN [28]. The caseload involved caring for four to six patients independently to develop competence in care delivery. Most participants (73.2 %) were satisfied with their allocation or caseload and felt that it enabled them to advance their knowledge and skills in preparation for working as a RN. Independent practice made the ex-interns realise the requirement for non-technical skills such as time management and prioritisation to ensure timely delivery of patient care. It was recognised that non-technical skills were developed during the transition phase [16]. Some studies identified that NQNs experienced augmented levels of anxiety when they were allocated acute patients [35]. During internship, high levels of satisfaction were reported with admitting and discharging patients. This is a positive affirmation of internship as interns learn to manage caseloads, develop essential nursing skills to prepare them for transition to the role of RN and remove the feeling of reality shock. In essence, reality for nursing interns is experienced at the start of internship and dissolved by the time they are registered as is evident in the value of nursing internship section.

Shift handover is the transfer of essential information to maintain continuity of patient care between shifts from nurses and other healthcare professionals and is a vital part of the nurse's role [36]. In this study most respondents were satisfied with delivering shift handover. The dissatisfied respondents reported delivering handover mostly once per week (12.4 %). Studies acknowledged that shift handover is a challenge for NQNs [37,38]. This may be attributed to the lack of emphasis on the importance of handover in the nursing programme [39]. Furthermore, under-performance in handover by NQNs may be due to the insufficient attention attributed to this skill in the nursing curriculum and the absence of its importance during clinical placements [40]. The impact of ineffective handover is the exclusion of vital patient information, which may result in treatment delays and impact patient safety [41]. In Ireland, shift handover is part of a national clinical guideline [36] and well-established in the undergraduate nursing curriculum. However, handover should be promoted in the supernumerary years to prepare interns for delivering handover during internship so that it is a skill to be perfected as opposed to learnt.

Doctors' ward rounds were challenging for some interns. Just over half (55.8 %) were satisfied with the opportunities to participate in the doctor's ward rounds. Other researchers correlate these findings, as they highlighted that the students felt inferior and unsupported by doctors and experienced a lack of communication from them [42,43]. Doctor's ward rounds are essential assessment and planning opportunities to collaborate and comprehend the plan to ensure timely implementation and positive patient outcomes. Lack of engagement with doctors' rounds poses a risk to patient safety.

Medication management is another essential aspect of the nurse's role. During internship, interns are not permitted to administer medications independently [26]. They can participate in medication rounds under the direct supervision of a RN to gain experience in medication management. In the current study over half of the respondents (52.1 %) were satisfied with the experience gained in medication management. The majority of dissatisfied respondents participated in medication management once per week (64 %), with a lesser number (29.3 %) participating once per shift, and just 6.7 % carried out all drug rounds under supervision. A study in the China identified that medication management was a source of stress for NQNs [43]. Nurse graduates require ongoing support to apply pharmacological knowledge in practice [44]. Similarly, Irish researchers acknowledged that limited opportunities to practice medication management resulted in interns entering their final internship feeling inadequately prepared for their role in medication management [45,46]. Furthermore, studies from the US maintained that NQNs are not competent in medication management [47,48]. Similar to the current study, this was due to limited opportunities to practice this skill consistently [48]. Missed learning opportunities for this skill may result in lower levels of competence to be able to perform such tasks as a RN. Further supports are required in the transition phase as NQNs develop this skill and ensure timely and safe administration of medication to avoid impacting patient care.

4.2. Value of internship

The value of internship in preparing interns for transition to the role of RN were identified with the majority of respondents (95.6 %) reporting that internship was extremely valuable in preparing them for working as a NQN. Some of the ways that internship was valuable to NQNs was gaining experience at an independent level while having the support of a preceptor. Most respondents felt that internship prepared them more than supernumerary placements. Responsibility for a caseload enabled them to experience managing patient care, learning to use non-technical skills to manage their time effectively and prioritise patient care. Medication management experience and handing over patients at the end of the shift were essential experiences that helped prepare them for transition to the role of RN. In this study, it became clear that taking responsibility and managing caseloads during internship assisted interns to comprehend the role. A previous study revealed that NQNs did not realise the role until they were registered and had commenced employment on the wards [15]. Once NQNs realised the reality of their role they became anxious with the pace, lacked confidence, were unfamiliar with wards, and had insufficient time to deliver care [15]. Exposure to the clinical setting contributes to comprehending the reality of the role [49]. Students must utilise science and theory as they learn to think like a nurse [34]. Augmented experience in the clinical environment enables students to recognise their level of knowledge [50]. Students who comprehend the nurse's role are more decisive as they have developed personal knowing [49]. Knowing why and knowing what are vital for appropriate decision making and implementing plans of care [50]. Therefore, one of the affirmations of the internship period is that it enabled the interns to realise and understand the RN role and the associated level of responsibility and accountability when managing the caseload. In Benner's novice to expert framework, NQNs are considered to be at advanced beginner level. In Ireland, undergraduate nursing interns are required to practice at the competent level of Benner's framework in accordance with the requirements and standards of the nurse regulatory body. Therefore, a unique outcome of internship is that Irish NQNs are at competent level and able to manage patient care independently.

5. Limitations

There are a number of limitations that must be acknowledged. One limitation of this study was the number of incomplete questionnaires. Only 58 % (112/193) of the questionnaires were fully completed. Furthermore, some of the participants (n = 21) completed internship during the COVID pandemic, which may have resulted in an altered experience of internship. The questionnaire was lengthy and took up to 30 min to complete.

6. Conclusion

The aim of this study was to examine NQNs' experiences of internship and its value in preparing them for practice as a RN. The level of preparation for internship varied, with some reporting a satisfactory level of preparation and others receiving none. Based on

the results of this study, a national standardised structured approach to preparing supernumerary students for transition to internship should be developed and implemented to maximise student experiences and learning. Internship provides valuable opportunities to link theory to practice and gain essential skills for working as a RN. In contrast to previous literature, the reality of the nurse's role was recognised once they transitioned from supernumerary nursing student to intern at the start of internship. Thus, avoiding the reality shock at registration as was reported by NQNs in other studies. Some would have preferred greater experience with medication management, doctors ward rounds and giving shift handover during internship. The findings from this study demonstrate the advantages of a pre-registration internship period in preparing intern nursing students for transition to the role of registered nurse.

CRedit authorship contribution statement

Christina Lydon: Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Frances O. Brien:** Writing – review & editing, Supervision, Conceptualization. **Mary Mooney:** Writing – review & editing, Supervision, Conceptualization.

Data Availability statement

All data are available from the corresponding author on reasonable request.

Ethics statement

This study was reviewed and approved by Trinity College Dublin School of Nursing & Midwifery Research Ethics Committee [COM_01–18.19], November 1, 2018.

All participants were informed that consent to participate in the study and publish their data would be assumed on completion and submission of the study questionnaire.

Completion and submission of the electronic questionnaire was taken as consent to participate in the study.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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