

**Why you should read this article:**

- To understand nursing students' awareness and perceptions of the role of cancer research nurses
- To recognise how misconceptions regarding the role of cancer research nurses could adversely affect future recruitment to this area of nursing
- To learn about the benefits of an intervention in which educational sessions were delivered to nursing students with the aim of improving their understanding of the role of research nurses

# Enhancing nursing students' awareness of the role of cancer research nurses to improve future recruitment

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**Abstract**

Concerns about oncology nurse recruitment – particularly in research nursing – were raised by the Experimental Cancer Medicine Centres national nurses steering group in 2017, and this led to the development of a national pilot educational engagement project. The project involved delivering educational sessions to nursing students to improve their understanding of the role of cancer research nurses and clinical research in cancer settings. These sessions were delivered onsite to second-year and third-year adult nursing students at two universities in north east England and one in Edinburgh, Scotland, and online to students at Canterbury Christ Church University, England. This article discusses the results of pre-intervention and post-intervention questionnaires that aimed to determine whether the educational sessions improved students' understanding of the research nurse role and whether they would consider it as a career on graduating.

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**Keywords**

cancer, cancer research, career pathways, professional, recruitment and retention, research, students, workforce, workforce planning

**Background**

Early phase oncology trials are primarily delivered by a national network of Experimental Cancer Medicine Centres, which are fundamental to taking the first step in developing new treatments for patients with cancer. In 2017, concerns about nursing recruitment and the factors affecting enrolment to research nurse posts were discussed at an Experimental Cancer Medicine Centres national nursing steering group meeting, which was attended by members from across the UK. The steering group felt there were misconceptions about the research nurse role

and that many research nurses 'fell into' their posts rather than choosing this area as a career. These discussions instigated the development of a national pilot educational engagement project initiated by one of the members, and first author, (BH).

The project involved co-designing educational sessions with nursing students on placement at Newcastle Experimental Cancer Medicine Centre. These sessions covered what clinical research is, what patients' journeys from standard care to clinical trials entail, where clinical research occurs in the NHS and the vital role of cancer research nurses. They

were designed as one-off, half-day sessions to be delivered to large groups of second-year and third-year adult nursing students. The main objective was to explain that research nurses working in clinical trials use a range of transferable skills and knowledge gained from their nurse education and training. An additional objective was to explain how these posts differ from other areas of nursing care and include extended roles such as delivering experimental treatments and managing previously unknown drug reactions (Tinkler et al 2018).

Such educational sessions have been delivered to undergraduate nursing students at universities in north east England since 2018, and in 2019 they were delivered at Napier University in Edinburgh, Scotland. In 2021, in response to the coronavirus disease 2019 (COVID-19) pandemic restrictions, an opportunity was provided for nursing students at Canterbury Christ Church University, England, to access the sessions through online video links. This article discusses the results of pre-intervention and post-intervention questionnaires that were administered to students who attended the educational sessions. The questionnaires aimed to determine if the sessions improved students' understanding of the research nurse role and whether they would consider it as a career on graduating.

### Clinical research

Clinical research is crucial in enhancing patient care and developing new treatments in all healthcare settings (Santos-Lozano et al 2015). In healthcare it is generally considered to be the sole evidence-based means of testing and determining whether a new approach to treatment or care is better than current practice, and is crucial for identifying, treating, inhibiting and curing diseases (Sacristán et al 2016). The COVID-19 pandemic has demonstrated the importance of clinical research in terms of discovering new treatments as a way of overcoming an international healthcare crisis (Luo and Qin 2020). In cancer care, clinical research is central to improving methods of early diagnosis and developing anticancer treatments, which have increased patient survival rates and quality of life (Vickers 2018).

### Research nurse roles

Research nurse roles vary depending on the type and phase of research, as well as the research setting, which can range from

purpose-built clinical research facilities to standard outpatient departments (Faulkner-Gurstein et al 2019). The area or disease under investigation also influences the role of research nurses (Faulkner-Gurstein et al 2019), for example in cancer research it is essentially clinical. Furthermore, nurses working in cancer research often require competence in chemotherapy and systemic anticancer therapies as well as knowledge of their effects on patients' physical and emotional well-being (Ness 2020), while respiratory research nurses are likely to be skilled in areas such as spirometry (Huband et al 2018).

In cancer clinical research, nurses have a crucial role in delivering experimental treatment, care management and patient advocacy during clinical trial care pathways that are often complex and emotionally challenging for patients (McCabe et al 2019). Cancer is a unique area of clinical research in that it does not involve 'healthy' volunteers (Vickers 2018). Therefore, in this specialty, it is fundamental for research nurses to have high levels of competency in terms of their clinical skills, cancer nursing care and communication skills, to ensure optimal patient care (Ness 2020).

The wide range of research nurse roles means that nurses can be involved in various tasks, such as: preparing clinical trial documentation; submitting study proposals for regulatory approval; coordinating clinical trials; taking and processing samples, for example blood spinning; and following procedures for international transport of research samples. However, the core principles of the role are to act as patients' advocates, monitor their health, record vital signs, administer treatments, and provide education, advice and holistic support to patients and their families – essentially using the same skills as in any area of nursing practice (McCabe et al 2019).

### Misconceptions about research nursing

While nurses have always been involved in clinical research, research nursing was only established as a standalone specialism in 2006, at around the same time as the formation of the National Institute for Health Research (Jones 2015). There are variations in research nurses' working arrangements, line management and career pathway compared with more established nursing specialties such as ward-based staff nurses or cancer nurse specialists, and further work is required to develop this unique area of nursing (Faulkner-Gurstein et al 2019).

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## Key points

- Some nursing students may have misconceptions about research nursing, possibly due to their limited access to relevant practice placements and a lack of education about these roles
- A lack of understanding of the research nurse role may adversely affect students' perceptions of it as a career choice
- Educational sessions can enhance students' understanding of research nursing and may make them more likely to consider this area of practice as a career on graduating
- Given their benefits, such educational sessions could be useful in supporting future recruitment strategies

As a relatively new specialty, it is perhaps unsurprising that the role of research nurses is often not fully understood by other nurses and nursing students, and this lack of understanding across the profession compounds the challenges associated with recruiting to these essential posts (Kunhunny and Salmon 2017). This is supported by Boulton and Beer's (2018) research, which suggested that misconceptions and a lack of clarity about what the research nurse role entails are among the leading factors that contribute towards recruitment and retention issues. Other authors support this claim, suggesting that research nurses 'fell into' their career and had minimal awareness of what the role was before their employment, and that the lack of a defined career framework was a major concern (Jones 2015, Cleary et al 2016, Abou Hashish 2017).

A recurring theme in the literature is the confusion between the roles of research nurse and nurse researcher. Although these roles are different – research nurse is a clinical role while nurse researcher is an academic role – they are frequently confused (Jones 2015, Faulkner-Gurstein et al 2019). Further work is necessary to ensure that the research nurse role is covered in undergraduate nurse education programmes and to introduce additional practice placements in clinical research settings to enhance understanding of this area of practice (Hill 2018).

### Clinical research in undergraduate nurse education

The Code: Professional Standards of Practice and Behaviour for Nurses, Midwives and Nursing Associates (Nursing and Midwifery Council 2018) states that nurses must 'always practise in line with the best available evidence'. Although clinical research is crucial to generating this evidence and research nurses are central to the delivery of such research, there is little in the literature to suggest that this topic is routinely included in undergraduate nurse education curricula (Whitehouse 2017).

The Council of Deans of Health (2019) suggested that most, if not all, learning on research in undergraduate nurse education curricula focuses on developing nurse researchers, rather than raising awareness of clinical research nursing. The report also acknowledged the importance of ensuring that nurses and other allied health professionals are research literate when they qualify. In addition, it suggested that evidence-based practice, research methods and dissertation modules should be included in undergraduate nurse

education, but again the focus is on academic research rather than clinical research (Council of Deans of Health 2019).

It appears that most courses and modules in clinical research nurse education are delivered at postgraduate level (Universities and Colleges Admissions Service (UCAS) 2021a), with entry requirements for those applying stating that they must be healthcare professionals working in an area of clinical research or already hold a degree-level qualification (UCAS 2021b).

Naylor et al (2014) suggested that clinical research placements have benefits for both nursing students and research teams, and that they are essential to enhancing students' understanding of the unique experience of patients involved in clinical trials and the role of nurses in this. Similarly, Mason (2018) recognised that pre-registration experiences of clinical research can inspire the research nurses of the future. However, Whitehouse (2017) suggested that nursing students' clinical research placements can vary in quality and that the topic of research nursing should be introduced earlier in undergraduate nurse education programmes to address misconceptions about it.

### Aim

The aim of this pilot educational engagement project was to promote the role of cancer research nurses and clinical research in cancer settings through educational sessions for nursing students. The objectives were:

- » To deliver educational sessions about the role of research nurses and cancer research to nursing students and to raise the profile of this unique area of nursing practice.
- » To gain an understanding of nursing students' perceptions of the research nurse role.
- » To understand whether nursing students would consider a research nurse role on graduating.
- » To understand the effect of the educational sessions on students' awareness of the research nurse role and the likelihood of them applying for these roles on graduating.
- » To provide evidence to support wider roll out of the intervention in UK universities.

### Method

The educational sessions were delivered to around 2,500 students onsite at Edinburgh Napier University, Teesside University and the University of Sunderland and online at Canterbury Christ Church University between January 2018 and January 2021. The first author (BH) delivered most of these sessions,

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with the other authors (VW and AC) supporting the delivery of two sessions. Questionnaires were administered before and after the educational sessions, and these were completed by 733 second-year and third-year adult nursing students who attended the sessions. Box 1 shows the questions from the pre-intervention and post-intervention questionnaires.

Where students elaborated on their responses, their comments were collated. Braun and Clarke's (2008) method of thematic analysis was used to identify, analyse and report patterns or themes within the data.

**Ethical considerations**

Permission to deliver the educational sessions and to ask nursing students to complete the questionnaires was granted by all the universities involved. As this was a service implementation project, ethical approval was not required. No identifiable participant information was used. Questionnaires were given to and collected from students by staff from the organisations involved then passed on to the project team to review and analyse the data.

**Findings**

Tables 1 to 8 illustrate nursing students' responses to the pre-intervention and post-intervention questionnaires. Tables 1 and 2 provide a comparison of students' responses to the 'yes' or 'no' questions before and after the intervention, to evaluate its effects. Tables 3 to 8 include examples of students' perceptions

of the research nurse role and what would most or least attract them to this role when they graduate. These responses were grouped together in themes.

**Discussion**

**Pre-intervention questionnaire data**

Data from the pre-intervention questionnaire show that most of the 733 respondents had minimal understanding of the role of research nurses, with only 19% (*n*=139) responding

**Table 1. Do you know what the role of a research nurse in cancer research is?**

Pre-intervention ( <i>n</i> =733)						Post-intervention ( <i>n</i> =733)					
Yes		No		Undecided		Yes		No		Undecided	
<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
139	19	579	79	15	2	725	99	8	1	0	0

**Table 2. Based on your current understanding of the role, would you consider a research nurse post on graduating?**

Pre-intervention session ( <i>n</i> =733)						Post-intervention session ( <i>n</i> =733)					
Yes		No		Undecided		Yes		No		Undecided	
<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
75	10	616	84	42	6	474	65	203	28	56	8

**Table 3. Students' pre-intervention descriptions of the role of a research nurse in cancer research**

Examples of nursing students' responses	Themes
<ul style="list-style-type: none"> <li>» 'Write peer reviewed articles'</li> <li>» 'Developed a dissertation project in the NHS'</li> <li>» 'Write reports on audits'</li> <li>» 'Lead on nursing research'</li> </ul>	Academic research
<ul style="list-style-type: none"> <li>» 'Develop nursing practice in areas of care'</li> <li>» 'Carry out your own research around patient care and develop practice'</li> <li>» 'Looking into project to support patient safety'</li> <li>» 'Develop education interventions for patients'</li> </ul>	Service improvement
<ul style="list-style-type: none"> <li>» 'Find the cure for a disease'</li> <li>» 'Epidemiology'</li> <li>» 'Research medications'</li> <li>» 'Genealogy'</li> <li>» 'Research findings from patient treatments'</li> <li>» 'Look into cures for disease'</li> </ul>	General research
<ul style="list-style-type: none"> <li>» 'Do clinical trials'</li> <li>» 'Deliver new treatments by looking into new trials and studies'</li> <li>» 'Assist with clinical trials'</li> <li>» 'Work in drug trials'</li> <li>» 'Look at cells and biological patterns in cells'</li> </ul>	Clinical research

**Box 1. Questions from the pre-intervention and post-intervention questionnaires**

**Pre-intervention questionnaire:**

- » Do you know what the role of a research nurse in cancer research is? If yes, briefly describe what you think research nurses do
- » Based on your current understanding of the role, would you consider a research nurse post on graduating? If yes, what most attracts you to this role?
- » Based on your current understanding of the role, would you consider a research nurse post on graduating? If no, what least attracts you to this role?

**Post-intervention questionnaire:**

- » Do you know what the role of a research nurse in cancer research is? If yes, briefly describe what you think research nurses do
- » Based on your current understanding of the role, would you consider a research nurse post on graduating? If yes, what most attracts you to this role?
- » Based on your current understanding of the role, would you consider a research nurse post on graduating? If no, what least attracts you to this role?

**Table 4. Students' pre-intervention comments on what most attracts them to the role of research nurse**

Examples of nursing students' responses	Themes
<ul style="list-style-type: none"> <li>» 'I enjoy doing research at university'</li> <li>» 'It would be great to design a nursing research project in the NHS'</li> <li>» 'Doing research for a job would be great'</li> <li>» 'I enjoyed doing research for my project at university and doing it for a job would be great'</li> <li>» 'Doing audit research with my nursing practice would be great'</li> </ul>	Enjoying academic research
<ul style="list-style-type: none"> <li>» 'I do not think there are night shifts in this area of care'</li> <li>» 'This area of work has not got weekend work'</li> <li>» 'You get to go on investigator meetings abroad'</li> </ul>	Working arrangements
<ul style="list-style-type: none"> <li>» 'Great to be involved in evidence-based practice research projects'</li> <li>» 'Developing nursing practice through reviewing of practices'</li> <li>» 'Great observing practice then changing it through review of NICE [National Institute for Health and Care Excellence] guidelines'</li> </ul>	Service improvement

**Table 5. Students' pre-intervention comments on what least attracts them to the role of research nurse**

Examples of nursing students' responses	Themes
<ul style="list-style-type: none"> <li>» 'No patient contact'</li> <li>» 'Less patient contact'</li> <li>» 'I want to work with patients not do research'</li> </ul>	Lack of patient contact
<ul style="list-style-type: none"> <li>» 'I want a clinical job'</li> <li>» 'I want more experience in clinical skills'</li> <li>» 'It is not a practical role'</li> </ul>	Not clinical
<ul style="list-style-type: none"> <li>» '[It's] research based, like my research module at university'</li> <li>» 'Not interested in research methods'</li> </ul>	Dislike research
<ul style="list-style-type: none"> <li>» 'Unsure of what the job entails'</li> <li>» 'Do not find research interesting'</li> <li>» 'Would not know what I was applying for'</li> </ul>	No awareness of role

**Table 6. Students' post-intervention descriptions of the role of a research nurse in cancer research**

Examples of nursing students' responses	Themes
<ul style="list-style-type: none"> <li>» 'Patient point of contact when they are in a clinical trial'</li> <li>» 'Manage patient care'</li> <li>» 'Clinical role'</li> <li>» 'Support patients and family members when they decide to take part in a clinical trial'</li> <li>» 'Patient advocate'</li> <li>» 'Deliver new treatments to patients'</li> <li>» 'Educate, care, treat and support patients and their families in drug trials'</li> </ul>	Clinical nursing role with patient contact
<ul style="list-style-type: none"> <li>» 'A role like most areas of nursing but with specialist skills'</li> <li>» 'Delivering experimental treatments'</li> <li>» 'Specialist role; like most specialist roles in nursing they have an extended role which links into patient care in a clinical research area'</li> </ul>	Specialist nursing role

that they knew what the role of a research nurse in cancer research was (Table 1). Further analysis suggests there were also misconceptions about the role (Table 3), for example some respondents believed it is an academic role or that research nurses are involved in service improvement, while others believed it involves genealogy or epidemiology. Clinical research was mentioned, but comments such as 'look at cells and biological patterns in cells' and 'do clinical trials' indicated that respondents did not have an accurate conception of the nurse's role in this area of practice. This suggests that none of the respondents knew what a research nurse's role entails.

The effect of a lack of understanding of the role was evident in the pre-intervention responses to the question 'based on your current understanding of the role, would you consider a research nurse post on graduating?', which indicated that 84% ( $n=616$ ) of the respondents would not and 6% ( $n=42$ ) were undecided (Table 2). Some of the comments in Table 5 provide an insight into why there were so many negative responses to this question, explaining what 'least attracted' respondents to this role. Themes such as 'lack of patient contact', 'not clinical' and 'no awareness of role' indicate misconceptions about the research nurse role and the potential adverse effects of these on recruitment.

Reviewing the data provided by the 10% ( $n=75$ ) of students who indicated that they would consider this post on graduating shows they also had misconceptions about the role (Table 4). Responses to the question on what most attracted students to the post suggest that they believed it was academic, had better working arrangements and in some cases included a service improvement element. This could result in a concerning situation in which nursing students might apply for research nurse posts without an accurate understanding of what they involve, which could subsequently exacerbate retention issues in cancer research nursing.

#### Post-intervention questionnaire data

The post-intervention questionnaire data indicate a positive shift towards understanding the research nurse role. Most respondents (99%,  $n=725$ ) said they understood the role, and this was confirmed by the students' comments (Table 6), which accurately described various practical elements of the role and identified it as a specialist clinical nursing post with patient contact. The effect

of this new and more accurate understanding is seen in Table 2, which reveals an increase of 55 percentage points in students who would consider research nursing as a career. The responses in Table 7 offer some reasons for this and demonstrate that respondents regarded the role as clinical, involving patient contact and the use of a range of fundamental nursing skills.

Table 8 provides an overview of reasons why several of the respondents would not consider a research nurse post, even with an accurate understanding of what it entails. Some respondents wanted to work in a different discipline, while others believed it was a post better suited to more experienced nurses and would consider it in the future.

One significant finding identified from the data was that respondents had experienced a lack of, or indifferent, practice placements in clinical research settings. Respondents suggested there was limited access to placements in clinical research, and the students who had accessed these often described negative experiences (Table 8). Chapman (2017) stated that it is only by understanding practice in relation to theory that nurses' knowledge and skills can remain relevant and up to date. In this context, the data collected before and after the educational sessions suggest that further work is necessary to support this in relation to the research nurse role.

**Limitations**

The findings detailed in this article are based on an analysis of feedback from questionnaires given to students as part of a pilot educational engagement project. This approach to data analysis has limitations in that the information was not collected to address a specific research question and details were not requested about what year individual students were in or their access to clinical research practice placements, which raises issues in relation to testing a hypothesis and research bias (Cole and Trinh 2017). In addition, the geographical area of data collection was limited, so it might not provide a true representation of the entire UK undergraduate education system.

**Future developments**

Findings from the project were presented to the charity Cancer Research UK to inform the development of a national programme to enhance understanding of the role of cancer research nurses. In addition, the learning experiences of the students and facilitators, and the resources developed for the project,

will be used to establish a national programme for undergraduate nurse education. This will initially be driven by Cancer Research UK's senior research nurse network and aims to provide further learning opportunities for nursing students across the UK. Ultimately, the resources will be made more widely available for use by any research programme through the Excellence in Research Programme for Clinical Research Nurses (Cancer Research UK 2021).

Work is under way at Newcastle upon Tyne Hospitals NHS Foundation Trust to adopt the educational sessions to develop sustainable educational opportunities with regards to research nursing for local universities that provide undergraduate nurse education.

**Table 7. Students' post-intervention comments on what most attracts them to the role of research nurse**

Examples of nursing students' responses	Themes
<ul style="list-style-type: none"> <li>» 'Clinical role'</li> <li>» 'Understanding and delivery of experimental treatments – exciting and sounds very rewarding'</li> <li>» 'Cannulate, take blood, process samples and manage unknown side effects, bit like ITU [intensive therapy unit nursing] but different'</li> <li>» 'Get to do everything I learned in my nurse training in an exciting area of care'</li> <li>» 'Look after cancer patients who give up precious time to take part in trials'</li> </ul>	Clinical role
<ul style="list-style-type: none"> <li>» 'Care for patients and their families'</li> <li>» 'Manage patient care when they take part in clinical trials'</li> <li>» 'You get to get more one-on-one patient contact'</li> <li>» 'Make a difference to cancer patients'</li> <li>» '[It's] like most areas of nursing... just has research in the title, but you still look after patients'</li> </ul>	Patient contact

**Table 8. Students' post-intervention comments on what least attracts them to the role of research nurse**

Examples of nursing students' responses	Themes
<ul style="list-style-type: none"> <li>» 'Do not want to work in a cancer area, too upsetting'</li> <li>» 'I want to work in [an] emergency department'</li> <li>» 'Sound scary delivering treatments for the first time in humans'</li> </ul>	Not interested in this type of nursing
<ul style="list-style-type: none"> <li>» 'Not sure this is a role for a newly qualified nurse'</li> <li>» 'Maybe in the future, but not now'</li> <li>» 'Do not feel I would have enough experience, maybe something to consider later in my nursing career'</li> </ul>	Not enough experience
<ul style="list-style-type: none"> <li>» 'I had a placement in a research area and did not get any hands-on experience'</li> <li>» 'Did not enjoy my placement in clinical trials, did not get to do anything'</li> <li>» 'Maybe if I had some practical experience of this role during my training I would be more keen to look at one of these roles in the future'</li> </ul>	Lack of or indifferent practice placement experience

### Conclusion

The findings of this pilot educational engagement project provide an insight into undergraduate nursing students' understanding of the role of research nurses, including their misconceptions about it. They also suggest that students may have limited access to clinical research practice placements and that those who access placements do not always view them as positive or practical learning experiences.

Based on the findings, it is not possible to say whether a lack of education on the topic at university level or minimal access to positive

and effective clinical research placements are contributing factors to nursing students' lack of awareness of the research nurse role. However, it is clear that lack of understanding had a detrimental effect on their perception of research nursing as a career.

This project has provided evidence of the benefits of educational sessions for nursing students on the role of research nurses. The post-intervention data demonstrate the positive effect of these sessions, which suggests this type of intervention could be a useful aid in supporting future recruitment strategies.

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