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## Title

What is important for student nurses to know about cancer treatment and care: a qualitative study of student nurses' and stakeholder perspectives.

## Concise title

Student nurses and cancer care

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## Funding

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## Conflict of interest

Jane Hopkinson is a member of the Scientific Board, Cachexia Hub, Helsinn Healthcare and the UK Cancer Anorexia-Cachexia Syndrome Steering Committee, Chugai Pharma, UK.

What does this paper contribute to the wider global clinical community?

For the majority of people now diagnosed with cancer, it is a long-term condition. People affected by cancer need to be able to manage the consequences of the disease and treatment often alongside comorbidities. All nurses need knowledge, skills, confidence and competence to support people living with cancer.

Undergraduate education has an important part to play in preparing nurses to support cancer patients. This research reveals the potential importance of the co-production of nurse education by educators and people affected by cancer, if nursing practice is to improve the lives of everyone living with cancer.

## ABSTRACT

### Aims and Objectives:

To explore the views of student nurses and stakeholders of what is important for student nurses to know about cancer treatment and care.

### Background

Worldwide, the number of people living with cancer is increasing because the population is aging and effective cancer treatments are prolonging survival. All nurses need knowledge, skills, confidence and competence to support people living with cancer. Education is an important tool in preparing a nursing workforce that can support people affected by cancer.

### Design

A descriptive, explorative qualitative design.

### Methods

Semi-structured interviews with 12 student nurses and 7 stakeholders were conducted in 2014 (a sub-group of participants in a mixed-methods study investigating an innovation in undergraduate cancer education and reported elsewhere.) The interviews were audiotaped, transcribed and analysed using content analysis.

### Results

Two key findings emerged: the benefits of learning from people affected by cancer and knowledge deficits.

Students valued the opportunity to meet people affected by cancer away from a clinical environment. It gave them the opportunity to gain skills and confidence, in providing information and psycho-educational support, in a safe and facilitated context.

Students and stakeholders reported blended learning (lectures and engaging with both cancer clinicians and people affected by cancer) important for developing confidence and competence in cancer care. However, at the end of their education students identified knowledge deficits in relation to; cancer screening, common cancers, treatment side effects and supporting people who have been given 'bad news'.

## Conclusions

Collaborative working with people affected by cancer and educationalists has allowed the patient and carer experience to be placed at the centre of the undergraduate cancer education.

## Relevance to clinical practice

This research reveals the potential importance of the co-production of undergraduate nurse cancer education, if nurses are to understand and improve the experience of people living with cancer and beyond.

## Keywords

Nursing Students, Cancer, Attitudes

## SUMMARY BOX

What does this paper contribute to the wider global clinical community?

- ¿ For the majority of people now diagnosed with cancer, it is a long-term condition. People affected by cancer need to be able to manage the consequences of the disease and treatment often alongside comorbidities. All nurses need knowledge, skills, confidence and competence to support people living with cancer.
- ¿ Undergraduate education has an important part to play in preparing nurses to support cancer patients. This research reveals the potential importance of the co-production of nurse education by educators and people affected by cancer, if nursing practice is to improve the lives of everyone living with cancer.

## INTRODUCTION

Worldwide, the number of people living with cancer is increasing (IARC 2013). Effective cancer treatments are prolonging survival and the population is aging (most people with cancer are over 65 years of age). For example, in the UK, 50% of the two million people with cancer are now expected to live 10 years or more (Cancer Research UK 2015) and it is estimated that the number of people living with cancer will be more than 4 million by 2040

(Maddams 2011). Services are being developed across Europe and the US to enable people managing life alongside a cancer diagnosis to live well with cancer (Department of Health 2013, McCabe et al. 2013).

Education is an important tool in the development of a competent, trained and qualified workforce that can support people affected by cancer at any stage of their cancer journey (Dowglass 2011). Contemporary competency frameworks for cancer nurses (European Oncology Nursing Society 2013, Macmillan Cancer Support 2014a) encourage the management of cancer as a chronic long-term condition. Comorbidities in people are common (Corner & Wagland 2013, Sogaard 2013), thus all nurses need a level of competency in cancer care (European Oncology Nursing Society 2013, Gill 2010, Wood & Wood 2000). It is important that undergraduate preparation for practice, produces nurses who are sufficiently competent to care and support people affected by cancer and are also able to recognise their limitations.

## BACKGROUND

A number of qualitative studies have been conducted into the experiences of student nurses when caring for people affected by cancer during their training (Coyne & Needham 2012, Cunningham et al. 2006, Kav et al. 2013, King Okoye et al. 2014, Yildiz & Akansel 2011, Sanford et al 2010). These six previous studies have been conducted across a range of countries and are summarised below.

Two studies were conducted within the UK (Cunningham et al. 2016, King-Okoye and Arber 2014). For the study by King-Okoye and Arber (2014), four key themes were identified from three focus groups with twenty student nurses. These were communication with patients, impact on self, lack of support and end of life care. Students reported that they felt generally unprepared and found it difficult to handle their own emotions and the emotions of patients. They also felt specifically unprepared in how to be empathetic and when supporting breaking 'bad news' to patients. They also commented on the nursing programme content and felt that they would have liked more knowledge of cancer, and manifestations of the common types of cancer. The data from across nine interviews with student nurses in the study by Cunningham et al. (2016) established that the students identified that they felt 'being out of depth' and that they lacked the skills necessary to communicate and support cancer patients.

A further two studies were conducted in Turkey (Kav et al. 2013, Yildiz and Akansel 2011). Student nurses' (n=24) perceptions towards cancer and the experiences of caring for cancer patients was explored in a mixed-methods study in Turkey (Kav et al. 2013). Five themes emerged from across interviews with twenty-four student nurses in the study by Kav et al. (2013). These were perceptions about cancer after caring for patients, caring experiences of the student, difficulties encountered in caring for people with cancer, sources of support and facilitation when caring for cancer patients and suggestions for overcoming difficulties when caring for cancer patients. Communicating with cancer patients was one of the most important difficulties they encountered along with emotional difficulties (their own and that of others). The study by Yildiz and Akansel (2011), evaluated the diaries of four student nurses after their first clinical placement and also showed that the students had difficulties communicating with cancer patients.

Of the remaining two studies one was conducted in Australia (Coyne and Needham 2012) and the other in the USA (Sanford et al. 2011). A sub-sample of two student nurses from the Australian study had a 4 week clinical placement in an ambulatory day oncology unit. On evaluating this experience, these student nurses identified that they lacked knowledge and preparation for this specific area (Coyne and Needham 2012). In the study conducted in the USA, four themes emerged from across three focus groups conducted with fifteen nurses in

the study by Sandford et al. (2011). These were: caring for patients and their families, interactions between students and healthcare providers, student experiences with dying patients and students' prior experiences with cancer. Student nurses reported the lack of psychosocial care to patients by the staff nurses due to the limited time they had to spend with the patients. They also stressed the need for further training in order to face their own fears and prejudices and gain the necessary skills to be confident when providing care for cancer patients.

In summary, these studies **about the care of people affected by cancer** showed that student nurses lacked communication skills (Cunningham et al. 2006, Kav et al. 2013, King Okoye et al. 2014, Yildiz & Akansel 2011, Sanford et al. 2010); found it difficult to handle their emotions (Charalambous & Kaite 2013, Kav et al. 2013, King Okoye et al. 2014); found it difficult to handle the emotions of the patients (Kav et al. 2013, King Okoye et al. 2014); felt generally unprepared (Coyne & Needham 2012, Cunningham et al. 2006, King Okoye et al. 2014); felt specifically unprepared in how to be empathetic and when supporting breaking bad news (King Okoye et al. 2014) and were deficient in some areas of knowledge (Coyne & Needham 2012, Cunningham et al. 2006, King Okoye et al. 2014)

Findings from the English National Cancer Patient Experience Surveys established that people living with cancer have a variety of support needs that are not being met, due to failings in the current system particularly at the end of treatment, for example being told about the side effects of treatment that might affect them in the future (Quality Health 2014). As a consequence of these findings Macmillan Cancer Support developed a new strategy that is summed up in nine statements (known as Macmillan's Nine Outcomes) that they would like everyone living with cancer to be able to say by 2030 (Macmillan Cancer Support 2014b). For a description of each of these outcomes see the findings section of this paper.

To help achieve this, the delivery of cancer education within an undergraduate nurse programme that focused on cancer as a life changing long-term condition was developed and underpinned by eight of the nine Macmillan outcomes (MOs). The outcome 'I want to die well' was covered in separate palliative care sessions later in the undergraduate programme. The majority of previous studies, cited above, investigated how nursing students felt during or after their clinical placements, whereas our study investigated student nurses at the end of their 3 years training. There is also a gap in the literature that would help us understand what is important for student nurses to know cancer treatment and care. This current study is the first to explore this question. The majority of existing studies in this area were conducted



before cancer was framed as a chronic long-term condition rather than a life threatening illness and before emphasis was placed on survivorship (Department of Health 2012). This study is therefore the first that has been conducted where the undergraduate nurse programme focused on cancer as a life changing c long-term condition.

## THE STUDY

### Aim/s

The study aimed to explore the views of student nurses and stakeholders of what is important for student nurses to know about cancer treatment and care.

### Design

The study was a descriptive, explorative qualitative design using individual semi-structured interviews. The qualitative approach was used to explore the views of student nurses and stakeholders of what is important for student nurses to know about cancer treatment and care.

### Sample/Participants

The study took place in one university in the UK. The study participants were undergraduate nursing students and stakeholders. The undergraduate nursing students were undertaking a three year degree course. Students in group 1 had been exposed to an existing programme of cancer education over 2 days focussing on the impact of cancer on people's lives. The students in group 2 were exposed to a new model for the delivery of undergraduate nurse cancer education, which was delivered over 3 days and had involvement from a new practitioner-lecturer and focused on cancer as a life changing chronic long-term condition. A particular innovation involved people affected by cancer (cancer patient day) and health care professionals with both groups sharing their experiences and addressing student's questions.

A purpose designed questionnaire was distributed to both groups and findings from this phase have been reported elsewhere (Edwards et al. 2016). The last section of the questionnaire asked the nursing students if they would be happy to be approached at a later date to take part in an interview. All students who had agreed were approached by email (Group 1 N=14, Group 2 N= 21). All who responded were interviewed (Group 1 N=6, Group 2 N=6).

A purposive sample of 7 stakeholders was also selected so that there was representation from nursing educators (university and hospital employed), education programme managers, nurse managers, clinical nurse specialist and carers of patients with cancer.

### Data Collection

Face-to-face interviews which were digitally recorded and transcribed, were conducted from July 2014 to December 2014 by two researchers (DE and JB). The interviews with the students took place at a time and location that was suitable for them and lasted between 12 and 40 minutes (median 23 minutes). The interviews with stakeholders took place in a suitable room within the University and lasted between 10 and 33 minutes (median 16 mins). The nature of the study was explained to the interviewees and then a topic guide was used to address the questions. Some examples of the questions from the topic guide are presented below.

### Stakeholders

1. Tell me how student nurses find out about cancer care?
2. Why do you think it is important for student nurses to learn about cancer?

### Nursing Students

1. What do you think is important for student nurses to know about cancer?
2. What cancer issues would you like to know more about?

### Ethical considerations

The study was approved by the local University Research Ethics Committee. All students who attended their programme of cancer education for both groups were invited to participate. Confidentiality and anonymity was assured and a consent form completed prior to each interview.

### Data analysis

The data generated from the interviews were stored and coded independently by two researchers (DE and JH) using Atlas Ti (Version 5.2). The analysis used an a-priori framework to conduct the content analysis (Dixon-Woods et al. 2005). The a-priori coding framework of interest were eight of the nine MOs with the exception of 'I want to die well'.

## Validity and reliability/rigour

Rigour was upheld using qualitative strategies (Lincoln & Guba 1985). These strategies included pilot testing the interview guide with two nurses and two members of academic staff, who provided feedback. The audio-taping the interviews and transcribing was verbatim. The codes and themes were cross-checked between two researchers (DE and JH). Once coded the transcripts were checked to make sure that all important comments had been captured, no additional comments were incorporated at the end of this process. An audit trail of the process was maintained.

## FINDINGS

The nursing students were aged between 21 to 30 years and were all female (see table 1). The mean age of the nursing students in group 1 were 24.2 years and in group 2 they were 25.8 years. The majority of stakeholders worked across both clinical and academic fields in the field of cancer for over 10 years (see table 2).

Insert table 1 here

Insert table 2 here

Findings within each MO category are described below. The included definitions of the MOs are edited versions published by Macmillan Cancer Support (2014b).

MO1. I was diagnosed early: cancer is diagnosed early and that the diagnosis is communicated to people with cancer early in the disease pathway, clearly and sensitivity.

When students were asked what was important they said knowledge of the risk factors for cancer

‘I think sort of ũ like how it starts and ũ .maybe some of the risk factors as well\_ . (S2\_G2)

Some felt that ,that screening for specific cancers was not adequately addressed during their undergraduate education

‘I’d like to more maybe more ũ more about the cancers that nurses do a lot of screening for in-particular\_ . (S4\_G2)

Not many students had the opportunity to be with patients at the point of diagnosis and in some instances contact with students was kept deliberately to a minimum:

`I kind of got the feeling it wasn't really for students because obviously all the consultations, a lot of them were they were given the diagnosis that they have breast cancer, so understandably, for privacy and respect, they kept student contact to a minimum\_ . (S3\_G2)

Those students who were able to be with a patient at the point of diagnosis were concerned about being prepared for this role:

`Yes, but I think it's the you know the ũ communicating at the beginning because ũ and I suppose it's like, with the communication of any bad news, it's ũ you're going to be the one saying it, or answering questions about it, and going to be quite uncomfortable when you're not prepared, but then can you ever be prepared\_ . (S1\_G1)

For this MO to be achieved then it is important that more information is provided for the specific cancers that nurses commonly screen for. Additionally, these data suggest that there is a lack of preparation when it comes to having the confidence to support the delivery of `bad news\_ cancer diagnosis.

MO 2. I understand so I make good decisions: people with cancer are given treatment options and information, then supported in making decisions about their treatment and care.

By the end of their training students felt that they had deficits in their knowledge:

`Some more knowledge into treatments like chemotherapy and radiotherapy and the side effects and what to expect, although we did have ũ we did have a small amount on that. I think more in-depth knowledge would be helpful\_ . (S5\_G1)

`But to actually be taught the different sorts of cancer ũ , but to have like a lecture, just on breast cancer, or prostate, lung, the big ones I guess\_ . (S3\_G2)

In order for this MO to be achieved, it is important that students are provided with the basic information on the cancers that they commonly encounter and their treatment.

MO3. I get the treatment and care which are best for my cancer and my life: best possible treatment and care should be available to address medical needs during treatment and survivorship.

Students and stakeholders felt that it was important to be able to know about the side effects of any treatments so that they knew what to do to help care for patients:

`So how to look after themselves for various things. If someone's had chemotherapy and they've ended up with mucositis ũ if they've got radiation burn, what to do\_ . (S1\_G2)

Students who were able to have their practice learning environments (PLEs) either at a regional cancer centre (RCC) or at specialist clinics with clinical nurse specialists reported a wide range of experiences, including seeing patients undergo treatments, following patients out in out-patients clinics and seeing first-hand the side effects of treatment which helped

them to better understand. Students who had not had these opportunities felt it would be beneficial for everyone to be offered such placements:

‘I think only a few people have had a chance to go to the RCC for placement and so I think maybe if like more placements were offered in those type of places, I think it would be really beneficial\_ . (S2\_G2)

The stakeholders who were responsible for providing PLEs opportunities recognised that this would be a good idea but that it’s not possible because they do not have the facilities to accommodate large numbers of students. However, they were willing to ‘bend over backwards\_ (SH5) to help them gain experience.

It is important that students are taught and understand the potential side effects of treatment so that the best possible care can be given in order for this MO to be achieved. Ideally all students should gain experience in a RCC but it is recognised that this is not always going to be possible due to the limited numbers of placements available. Subsequently short :spoke~ placements of between a day and a week have been negotiated and are offered at the RCC to enable more students to have access to the experience

MO4. Those around me are well supported: people who care for those with cancer have an important role and should receive the support they need to help them.

Stakeholders felt that it was important that the students understand the impact that cancer has on family members:

‘it doesn’t just affect the people that’s got the disease, it certainly affects the lovedũ .. And I think people have got to realise, the nurses realise, that the family are very important\_ . (SH7)

As part of the cancer patient day, a number of people coping with cancer shared their experiences with the students. Students learnt first hand about the impact cancer had on their lives:

‘ũ I sort of found more upsetting was like the relatives coming in, who talked about ũ .the husband whose wife had died, a couple of years before.... he was saying about how he’d been really lonely and he didn’t know what to do to begin withũ \_ . (S6\_G2)

Early on in their PLEs students felt that they needed more information on where to signpost family members. However, by the end of their training, those students who had experienced the cancer patient and health professional days felt equipped to offer more information:

‘That was really interesting ũ ..getting to know the different roles and what they do is important obviously for going in to it ũ .you’ve got to be able to know where to signpost people for extra help ũ .but obviously it (health professional day) was really useful in terms of knowing what they doũ so I definitely feel more equipped with like knowledge and understanding and knowing\_ . (S4\_G2)

It is important that the students understand the effect that cancer has on family members and carers. Giving the students the opportunity to meet a variety of health professionals enabled them to feel equipped to support people affected by cancer once qualified. Spending time talking to people managing life alongside a cancer diagnosis outside of the hospital setting and listening to their stories are ways that nurses can be prepared for practice so that this MO can be achieved.

MO5. I am treated with dignity and respect: professionals should communicate in a clear and sensitive way, treating the person with cancer as an individual not a set of symptoms.

The majority of students felt it was important that they know how to approach and talk to cancer patients but also recognised that communication is not necessarily a skill that can be taught but it is something that comes with experience:

‘I don’t really think you can teach how to talk to cancer patients. I guess become more comfortable with talking to cancer patients, like we did with the patients who came in (on the cancer patient day), that was good experience\_. (G2\_S3)

Students who had not had the experience of the cancer patient day felt that they lacked confidence in communicating with people affected by cancer:

‘We only had a couple of days and even now it's like somebody asks me oh, what's cancer, I'm like ũ I'll have to Google it. It's awful as that sounds, I think know sort of like the basics, but not enough to answer my patients’ questions. I would have to refer them on to somebody more specialist\_. (S4\_G1)

Students need to feel confident to approach and talk to people living with cancer and it is recognised that this is not necessarily a skill that can be taught, but that it comes from having increasing exposure to people facing cancer. affected by cancer. Having the opportunity to meet people affected by cancer outside of the hospital setting during a cancer patient day gave students this opportunity, which in turn will help them be prepared for practice so that this MO can be achieved.

MO6. I know what I can do to help myself and who else can help me: support is available to help the person with cancer manage their condition when are at home, know who to contact for support post diagnosis and to know what they can do to improve their health and wellbeing.

The students felt it was important that they know how to support the patient after treatment and how to help them to look after themselves:

`I think we need to be taught more about counselling as well...we have some communication workshops. We don't have anything to do with counselling really and about how to talk to someone about their feelings and coping skills\_. (S1\_G2)

Similarly, the stakeholders thought it was important that students got to understand how someone with cancer copes at home:

`Yes, and I suppose you have got to look at the social situation in that haven't you, you know, how they're surviving at home really, because when they're coming in and out of hospital, it's completely different, you never realise what chemotherapy was doing to people until I actually started walking into their home,\_. (SH4)

The stakeholders also recognised the importance of educational methods that impact the student so that they understand the patient journey and are equipped to support cancer patients when qualified. However, they talked about involving people managing life alongside a cancer diagnosis in undergraduate education as part of a blended learning experience:

`I think lectures are important, workshops, patient stories where the patient comes in of where the patient stories which are filmed and then played back to the students. Learning should be blended you can't just use one method. I think bringing in patients and patient stories, carers and carers stories and also having front line staff coming in and talking about their experiences as well\_. (SH1)

For this MO to be achieved it is important that students understand what support to give a patient after treatment and that they are aware of their social situations once they return home from hospital. Stakeholders were aware that blended learning is important.

MO7: I can enjoy my life: advice and support is available to help people address physical, emotional, financial and work issues enabling them to enjoy the best possible quality of life.

Students felt that it was important that they knew what it was like to be living with cancer and they gained this experience through the cancer patient day, whereas only some of the students gained such insight from the PLEs. They were able to talk to people living with cancer and saw how positive a lot of them were and they were able to learn the realities of what it was like to live with cancer and how this impacted on their lives:

`But it was nice to see them living and getting on with life, so I saw it in the more positive light, rather than, oh God, think what they've been through\_(S5\_G2)

`There was a woman with breast cancer, she was amazing, and she was just chatting to me about it all, and it was just nice to hear her sort of ũ her thoughts on it. I know that sounds a bit strange but ũ her experience and she did really well\_. (S6\_G1)

All the stakeholders emphasized that cancer is now seen as a chronic long-term condition and they felt that this was important for the students to know:

`I think in terms of now, how it's changing, how it's not, it's not necessarily a terminal illness, how it's a chronic condition, how people will live for many years with the effects of cancer,

and so looking at it in a more chronic condition, a long term condition, rather than something acute that's going to kill them, which is often a misconception isn't it by the general public.  
(SH3)

It is important that students are taught that cancer is a chronic long-term condition and that they learn first-hand what it was like to be living with cancer in order for this MO to be achieved. This experience can be gained through meeting people living with cancer as part of a cancer patient day, as not all students gained such insight from the PLEs.

MO8. I feel part of a community and I'm inspired to give something back: knowing there are other people affected by cancer and that there are opportunities to get involved and make a valuable contribution to their support.

Students wanted to be informed about the different support networks that were available so that they could pass this information onto the patients.

I think it would be lot better if we were sort of told about all these different support networks (G2\_S3)

The stakeholder, who had been a carer, stressed the importance of support groups to the students at the cancer patient day:

She used to go because we got involved with xx, that was a cancer self help group, xx, she'd say, well look, I've had cancer, oh, well if you can do it, I can do it, and it would give them that boost you know. (SH7)

The students who had the opportunity to listen to the people affected by cancer sharing their stories, felt that this method of learning was really informative and beneficial:

I thought it was like impact learning wasn't it. I think that if you're going to learn, hearing it from the patients themselves and who were really confident in speaking, because they were, they didn't hold anything back everybody there was just on the edge of their seats, like really listening. (S4\_G2)

For this MO to be achieved it is important that students are informed about the different social networks that are available for people coping with cancer. Having people affected by cancer contribute to the education of students is informative and is recognised by students to be of benefit. It is also a way that the people affected by cancer themselves feel they can make a contribution.

## DISCUSSION

This study sought to explore the views of student nurses and stakeholders of what is important for student nurses to know about cancer treatment and care. Two issues emerged across the data: the benefits of learning from people affected by cancer and knowledge deficits.



## Benefits of learning from people affected by cancer

It is important that students are taught that cancer is a survivable, long-term condition, as previous studies have demonstrated that students have pessimistic attitudes towards cancer and associate cancer with suffering and death (Cunningham et al. 2006, Kav et al. 2013, King-Okoye & Arber 2014, Sanford et al. 2011). Students also need to learn first-hand about the psychological impact of cancer as previous work has shown that patients had negative experiences of care in this area (Corner et al. 2013). This experience can be gained through having increased exposure with people affected by cancer. In this study students felt that their knowledge around the psychosocial aspects of caring for people living with cancer, was partly met through lectures as well as engaging with people affected by cancer and stakeholders also felt that blended learning was the best approach to undergraduate education.

The role of the nurses in working with people coping with cancer along their cancer trajectory is to 'be present' to be able to give information, explain, answer questions and too simply listen (Dunniece & Eamonn 2000). A round 20% of people with cancer who ask hospital doctors or ward nurses important questions cannot understand the answers they are given (Corner et al. 2013). Students need to feel confident to approach and talk to people managing life alongside a cancer diagnosis and students in the current study recognised that this is not necessarily a skill that can just be taught, but that it comes from having increasing exposure to people living with cancer. Sanford et al. (2011) recommended that preparing students to be comfortable with people affected by cancer will provide them with the necessary skills to gain confidence in their cancer patient care. In the current study having the opportunity to meet people affected by cancer outside of the hospital setting during a cancer patient day gave students this opportunity. Working collaboratively with people affected by cancer has allowed the patient and carer experience to be placed at the centre of the undergraduate curriculum. Patient and carers are continuing to work collaboratively in the co-production of education and its evaluation (Job et al. 2016) but further work is needed in order to continue to co-produce undergraduate education in cancer to prepare practitioners of the future.

In summary, the impact of this approach to undergraduate nurse education places the patient voice at the heart of their learning, supporting the partnership approach to care and enabling students' development of communication and empathetic care skills thus enhancing organisational requirements for compassionate care. It also supports the strategic agendas of co-production of services and education evidenced by the Department of Health which seeks

to establish :patient experience as being on a par with clinical effectiveness and safety~.(Independant Cancer Taskforce 2015, pg 5)

### Knowledge deficits

Findings from nursing students in the current study concurs with the work of King Okoye et al. (2014) with students from both studies acknowledging that they had been given the basic information on certain cancers and treatments. Stakeholders and students in the current study also reported having a fundamental knowledge of cancer and treatments before going on PLEs as important. Areas where students felt that would have liked more knowledge by the end of their training included screening, more detailed information on the common cancers, and side effects of treatment. This is in keeping with what we have learned from patients in previous surveys, in that student nurses report a lack of preparation regarding treatment (Corner et al. 2013).

Students in this current study, did not feel prepared to be present when `bad news\_ was delivered to patients and questioned whether that is something they would ever be prepared for. This is similar to the findings of King Okoye et al. (2014) who identified that nursing students reporting being specifically unprepared in how to be empathetic and in breaking and supporting bad news. Dunning and Eamon (2000) suggest that this is something that comes with experience as nurses reflect and seek to find ways of improving such encounters in the future. Even once qualified this is an area that nurses continue to struggle with (Dunning & Eamon 2000, Copp et al. 2007) with patients reporting a lack of emotional support and advice from hospital staff during diagnosis (Corner et al. 2013). The way that nurses communicate with patients with a diagnosis of cancer and their family members, is important and effective communication acts to minimise some of the stress encountered throughout the cancer journey (Macmillan Cancer Support 2012).

### LIMITATIONS

The study was limited to two cohorts of students within one University in the UK, offering a specific undergraduate curriculum and may not be representative of students studying other programmes within other institutions. However, the views of students and stakeholders were sought, providing a broader insight into this topic. A further limitation of this study was that stakeholders that were interviewed did not include a person with a diagnosis of cancer.

Caution needs to be used when transferring this knowledge to other settings or countries or making wider generalisations.

## CONCLUSIONS

Providing evidence based cancer care education to nursing students and understanding the impact it has on their knowledge, confidence and ultimately clinical practice, supports Macmillan's ambition to reach and improve the lives of everyone living with cancer .

Undergraduate education of health professionals, such as nurses, is one way to prepare them to support cancer patients. This preliminary study indicates there is still much to be done if healthcare professional are going to be able to meet the needs of a growing population of people living with cancer in the future. In particular, the co-production of education by educators and people affected by cancer could play an important part. This proposal now needs to be tested for effect on practice and patient experience.

## RELEVANCE TO CLINICAL PRACTICE

It is important that 'patient centred-care' is at the heart of all undergraduate nurse education and this can be achieved through involving service users and carers in the delivery (Wills Commission 2012).

This research reveals the potential importance of the co-production of undergraduate nurse cancer education, if nurses are to understand and improve the experience of people living with cancer.

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Figure 1: Macmillan Nine Outcomes



Table 1 Demographic information of nursing students (N=12)

Participants	ID	Gender	Age	Experience
Group 1				
Student 1	S1-G1	Female	24	D E
Student 2	S2-G1	Female	24	A C D
Student 3	S3-G1	Female	23	A C D
Student 4	S4-G1	Female	26	C D E
Student 5	S5-G1	Female	23	C D
Student 6	S6-G1	Female	25	C D
Group 2				
Student 1	S1-G2	Female	22	A C E
Student 2	S2-G2	Female	27	C
Student 3	S3-G2	Female	30	C
Student 4	S4-G2	Female	21	C
Student 5	S5-G2	Female	27	C D
Student 6	S6-G2	Female	28	C E

YT ⇌

- A: I have experience of working with cancer patients prior to my nursing degree
- B: I have experience of volunteering with cancer patients prior to starting my nursing degree
- C: I have cared for a patient with cancer in hospital or community whilst on my practice learning environment
- D: I have cared for/supported a family member with cancer
- E: I have cared for/supported a friend with cancer
- F: I have /have had a cancer diagnosis

Table 2 Demographic information of stakeholders (N=6)

Participants	ID	Gender	Age (Years)	Employer	Time as a healthcare professional
Stakeholders					
Nurse Educator	SH1	Female	>50	University	> 10 years
Programme Manager	SH2	Female	40-49	University	>10 years
Clinical Nurse Specialist	SH3	Female	40-49	University	> 10 years
Nurse Manager	SH4	Female	> 50	Hospice	> 10 years
Nurse Education	SH5	Female	40-49	Cancer Centre	> 10 years
Associate Lecturer	SH6	Female	40-49	University	> 10 years
Carer	SH7	Male	> 50	Not applicable	Not applicable



