Background
UK policies and strategies on cancer care have identified the education of cancer healthcare professionals as a priority to ensure that there is a resilient, skilled and competent workforce able to meet the needs of patients and families (Department of Health 2011, Health Education England (HEE) 2017, 2023). Cancer care is becoming increasingly complex involving, for example, the management of treatment side effects and the education of patients and carers in response to the development of new treatments such as targeted immunotherapies (Edwards et al 2017, Kapucu and Bulut 2018, Kerr et al 2022). The education of cancer healthcare professionals is therefore specialised and involves gaining knowledge of complex clinical procedures and treatments as well

Abstract
Background Specialist cancer practice placements can provide preregistration students in healthcare disciplines with opportunities to gain unique expertise. Positive experiences in such placement settings can prompt students to pursue a career in cancer care.

Aim To identify the views, needs and expectations of preregistration students on what makes a positive learning environment in a specialist cancer setting.

Method A qualitative design was used. Data were collected through three focus groups with 11 preregistration students from nursing (n=5), allied health professions (n=4) and medical (n=2) undergraduate courses.

Findings Three themes emerged inductively from the thematic analysis of data: integration within the team; achieving competencies; and managing expectations. Positive learning experiences for preregistration students on placement in specialist cancer settings are underpinned by various factors including effective communication with staff, integration within the clinical team, positive role models, positive relationships with patients and families and resources to assist students to monitor their learning objectives.

Conclusion To enhance students’ placement experiences they need positive learning environments in which they are supported to feel part of the team and to achieve their required competencies.

Keywords
cancer, education, nursing students, practice learning, practice placements, pre-registration education, professional, recruitment and retention, students, workforce, workforce planning, training
as an understanding of cancer, in terms of prevention, detection, symptom management, communication, psychosocial support, death and dying and the organisation of patient care (Edwards et al 2017, Kapucu and Bulut 2018, Kerr et al 2022, HEE 2023).

There are significant staff shortages in the cancer workforce and more staff are needed in all cancer specialties (NHS 2019, NHS England 2021, Hood et al 2021, HEE 2022, 2023, House of Commons Health and Social Care Committee 2022). The UK charity Macmillan Cancer Support has estimated that 4,000 more cancer nurses will be needed by 2030 to meet the needs of people affected by cancer (Woodford 2021). Preregistration students are an important resource for expanding the workforce and initiatives are being set up to attract students from healthcare disciplines to a career in cancer care (Efendi et al 2022, Baines 2023, HEE 2023).

In the UK, preregistration students training to become nurses, doctors or allied health professionals gain practical experience in clinical environments as part of their courses. Practice placements in specialist cancer settings can provide students with opportunities to gain unique expertise and introduce them to specialist and advanced roles in cancer care (Boyd-Turner et al 2016). Furthermore, experiencing specialist cancer settings as effective and supportive learning environments may prompt students to pursue a career in cancer care. Evidence has suggested that students are more likely to apply for a role in the organisation where they completed their training if they have had a positive practice placement experience (Lewis et al 2019, Buchan et al 2020).

The culture of the clinical environment and the attitudes of staff have a significant effect on students’ experiences during practice placements. Nurturing effective communication between students, patients and staff has been found to support the development of relationships between the three groups, thus increasing students’ satisfaction with their placement experience (King-Okoye and Arber 2014, Patel et al 2019, Powell et al 2019, Cant et al 2021). Other important factors for positive learning environments include the responsiveness of staff to students’ needs and support to help students attain their required competencies (Nyoni et al 2021).

**Aim**
To identify the views, needs and expectations of preregistration students on what makes a positive learning environment in a specialist cancer setting.

**Methods**

**Design**
A qualitative methodology involving three focus groups was used. Focus groups allow the views, experiences and expectations of participants to be explored. They provide an interactive approach to data collection, giving participants an opportunity to express various views while enabling the facilitator to adapt their questions as new ideas emerge (Nel et al 2015).

**Setting**
The study was undertaken in 2022 at Clatterbridge Cancer Centre NHS Foundation Trust, a regional cancer centre in northwest England, by a project team comprising the three authors of this article. Students undertaking practice placements at the trust are allocated to a ward, department or specialist clinical team to gain experience and fulfil their learning objectives through observation and/or participation. Students are supported by university and trust staff including personal academic tutors, placement managers, practice education facilitators and practice supervisors and practice assessors. The practice education facilitators are responsible for the quality of the learning environment.

**Participants**
A purposive sampling technique was used to recruit participants based on the inclusion and exclusion criteria shown in Box 1.

Recruitment was managed by the practice education facilitators. Information about the study, including contact details for the first author (LA), was distributed to all eligible students who had been identified by the practice education facilitators. Students who were interested in taking part were then formally invited to participate.

In total, 17 students were formally invited to participate, of whom 11 agreed to take part.

<table>
<thead>
<tr>
<th>Box 1. Inclusion and exclusion criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inclusion criteria</strong></td>
</tr>
<tr>
<td>Preregistration students in nursing, medicine or allied health professions</td>
</tr>
<tr>
<td>Undertaking or having undertaken a practice placement in the study setting</td>
</tr>
<tr>
<td>At any stage of the practice placement or having completed it within one month of the start of the study</td>
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<tr>
<td>Aged ≥18 years</td>
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<tr>
<td>Able to provide verbal consent to take part in the study</td>
</tr>
<tr>
<td><strong>Exclusion criteria</strong></td>
</tr>
<tr>
<td>Postgraduate students</td>
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<tr>
<td>Students on a course other than nursing, medicine or allied health professions</td>
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**Implications for practice**

- Building on the factors that contribute to a positive learning environment can help to enhance preregistration students’ learning experiences
- Listening to and acting on preregistration students’ feedback can support recruitment and retention of staff in cancer services
- Future research should focus on interventions that empower preregistration students to maximise their learning while supporting their well-being
- Further research is needed to address preregistration students’ preconceptions about cancer and working with people with cancer and their families
One participant was a newly registered nurse but had finished her practice placement one month before the start of the study and was therefore eligible to participate. Table 1 shows participant characteristics.

Data collection
Three focus groups were held during April and May 2022. The focus groups, which were conducted via video-conferencing software, were arranged at a time convenient to the students to maximise participation and lasted between 15-45 minutes. Each focus group session was video- and audio-recorded to enable transcribing. Participants took part in the focus groups while they were at work, using a quiet room away from the clinical area.

The first author (LA), who is a research nurse with experience in qualitative data collection, facilitated the focus groups to ensure participants felt able to speak freely. A moderator from the trust’s administration team was also present to ensure all participants had the opportunity to share their experiences, to record the sessions and to keep time.

A semi-structured topic guide, that had been developed by the project team based on the literature on cancer education issues and the insights of professionals working in cancer education and practice, was used during the focus groups (Table 2). The topic guide enabled participants to share their experiences from their own perspectives while providing a framework to guide the discussions (Polit et al 2001). A protocol for managing potential participant distress during the focus groups was available if required.

Data analysis
Data from the focus groups were analysed using Braun and Clarke’s (2014) process of thematic analysis. The transcripts were read and re-read and codes were used to label sections of the data. Codes were modified as the analysis progressed and ideas developed. The process involved a systematic comparison of transcripts and ordering of codes and ideas into categories relevant to the aim of the study. Recurrent or common themes were identified across the data (Silverman 2015, Green and Thorogood 2018).

Data coding, categorising and generation of themes were undertaken by LA and one academic member of staff (the second author HP), ensuring that the process was rigorous and systematic and that the categories were consistent with the data. LA and HP reviewed the transcripts individually and together, discussing and agreeing the coding and interpretation of the data. LA kept a self-reflective diary of her thoughts and observations throughout the data collection and data analysis phases to make her thinking and decisions explicit and transparent.

Table 1. Participant characteristics

<table>
<thead>
<tr>
<th>Code</th>
<th>Role</th>
<th>Study year</th>
<th>Focus group</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>Dietitian</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>D2</td>
<td>Dietitian</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>R3</td>
<td>Radiographer</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>R4</td>
<td>Radiographer</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>M5</td>
<td>Medical</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>M6</td>
<td>Medical</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>N7</td>
<td>Nurse</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>N8</td>
<td>Nurse</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>N9</td>
<td>Nurse</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>N10</td>
<td>Nurse</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>N11</td>
<td>Nurse</td>
<td>Course completed (practice placement finished one month before the start of the study)</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 2. Semi-structured topic guide

<table>
<thead>
<tr>
<th>Main questions</th>
<th>Prompt questions</th>
</tr>
</thead>
</table>
| 1. As you look back, what were the best aspects of your learning experience? | » What aspects of your placement aided your learning most and why?  
» How were your learning needs met during your placement?  
» How were your expectations about your placement affected by your experiences? |
| 2. Were there any aspects of your learning experience that you feel could have been better? | » What were the issues?  
» How could these have been addressed differently? |
| 3. Is there anything else you would like to mention that we have not talked about? | » |
**Ethical approval**

Ethical approval was obtained from the trust. Potential participants were informed of the purpose of the study and the topics that would be discussed to enable them to make an informed decision about whether to take part. They were also informed that the focus group would be video- and audio-recorded and assured that the recordings would be stored securely on a password-protected hard drive and deleted after having been transcribed. Verbal consent was obtained from participants regarding the recording of the focus groups and the anonymisation of the data for the purposes of analysis and reports, including publication. Participants were asked not to share the content of the focus groups to protect confidentiality.

**Findings**

Three core themes emerged from analysis of the data: integration within the team; achieving competencies; and managing expectations. The core themes comprised subthemes that reflected a range of positive experiences and areas for improvement. Each core theme is presented below, illustrated by participant quotes coded as per Table 1.

**Integration within the team**

Positive interactions with staff in the placement areas and feeling part of the team were instrumental in increasing participants’ confidence and their acquisition of knowledge and skills. Staff were valued for their expertise and their friendly and approachable demeanours, which enabled the students to ask questions without feeling judged. Feeling part of the team extended to being issued with a trust badge:

‘You are really a part of the team… they make sure if they’re explaining something that you fully, fully understand it before they move on to the next thing… a question is never too dull… the quality of learning and the quality of teaching that we get here is just exceptional.’ (N9)

‘Another thing I like is that we got our own like badges here. So, we can actually get into places which is good. Like you don’t have to wait for someone to come… you feel like more a part of the team that you can access the doors.’ (N7)

Daily interactions with patients contributed positively to participants’ learning experiences. Participants also described how developing rapport with patients and feeling valued by them boosted their satisfaction with their role and their well-being:

‘I think I’ve had a lot of… contact with the patients, so even just by, like, taking one or two of my own patients and really, like, sort of getting to know them… it’s been nice actually getting to know the patient, like, the whole medical history… helping my understanding then as well, why we’re treating them.’ (N8)

‘It’s been good on the patient side where you interact with them and get to know them and laugh with them, yeah, puts a smile on their face, things like that, which really has been helpful’. (N7)

Staff provided positive role models characterised by passion, patience and a focus on person-centred care:

‘I feel like [the cancer centre staff] focus quite heavily on patient care, like, the communication and the professional relationship between the professionals and the patients, so I think that’s quite unique.’ (M5)

‘All the radiographers are very passionate about their work and passionate about patient care and there’s a lot of patience with the patients, so that’s nice to see as well.’ (R4)

Dependable and continuous support from staff was central to participants’ learning experience and created an environment where participants felt able to share any worries:

‘You never feel like you’re on your own.’ (N9)

‘There’s always somebody there to help you.’ (D1)

Having a single point of contact to discuss issues or concerns eased participants’ worries about bothering staff unnecessarily:

‘We’re thinking maybe showing us who’s our mentor in the team that we’re working with, so, like, if we have got any problems or issues we can just go to be or she directly… instead of talking to different radiographers.’ (R3)

‘The PEF [practice education facilitator], she comes up and, like, checks up on us… it’s been nice to, like, see her face to face.’ (N9)

Easy access to information about the practice placement before it started helped to allay participants’ fear of the unknown:

‘The ward manager emailed me about courses that I’ve done, but she actually called me a week before my placements and said “Hey, I just wanted to pass over the rotas and tell you the times that we do our shifts.” We got full communications.’ (N7)

‘We were contacted a couple of weeks before, I would say, by letter about what time to get here, where we would be met and so on, and it had details of the team… then we had the opportunity to email the team to get to know them or ask any questions. We had a lot of help and support before I even got here.’ (N10)
However, not all participants always felt supported by staff during their practice placement:

‘I have to push and try to get things done… it hasn’t really been an easy one… but yeah, I’m getting there.’ (N8)

‘You have to push yourself to figure out something to do with them.’ (N9)

**Achieving competencies**

Participants experienced role satisfaction as they gained clinical skills and achieved their required competencies. Opportunities to shadow and observe staff undertaking procedures assisted participants to consolidate their knowledge:

‘I’ve enjoyed the haematology ward… and all the new drugs… and being able to look at the bloods and be able to tell, like, their differences… and what to look out for when people are becoming ill.’ (N8)

‘I saw three different patients and I didn’t have a lot of contact with them, I was more just shadowing the dietitian, but it was taken on board how she dealt with this situation and how I would apply it myself when I would be in that situation as well.’ (D2)

Timetables and sign-off sheets enabled participants to monitor their progress:

‘With the timetable we know which competency we’re going to be able to meet, and the workbook that the team have given us really, really helps with that as well, so I think we’re all set really, aren’t we? So, as long as we complete that work well, we’ll definitely meet the competencies that we need to get.’ (N10)

**Managing expectations**

Participants described how their expectations of the placement were exceeded. Some believed the practice placement would be observational and less ‘hands on’ than it was or that they would be expected to ‘get on with it’ alone. In reality the participants felt well-supported and were impressed by the organisational skills of staff:

‘I think I’d probably say it’s exceeded my expectations so far. I was expecting to come in and it be observational like we’re doing but have a lot less support and just expected to be getting on with it on our own, but we’ve had so much support. It has just exceeded what I was expecting.’ (R3)

‘…. the tour that we had yesterday sort of rooted in everything we’ve got to see, like, all the different levels of the hospital, we got to meet different parts of the healthcare team. It was just really well organised and yeah, exceeded my expectations as well.’ (D2)

Expectations were linked to participants’ perceptions of cancer, for example that it involved death, trauma and emotional distress. However, some participants noted the positive, upbeat nature of the cancer setting and the resilience and stoic nature of patients and staff:

‘It is different from what I thought… as soon as I found out I was going to be in [the cancer centre] I just thought, oh, it’s going to be so sad, like, it’s going to be really emotional. But then it’s not as sad as I thought it was going to be. Obviously it’s sad, but you sort of forget, like, you don’t just see these people as… a cancer patient. They’re just your normal patients that you’re looking after. I thought I’d be crying every day, but I haven’t been.’ (N8)

When asked about advice they would give future students, participants stressed the importance of collaborative working, voicing one’s needs and immersing oneself in the theory and practice of cancer:

‘Maybe just, like, read up on a few different, like, types of cancer… get some sort of background knowledge before you come here… just go into it, like, open-minded, just trying… try and learn as much as you can, get involved really.’ (N11)

‘I would just encourage them to know their expectations, what they want to achieve… if you don’t speak out, you won’t get most of the things done.’ (R3)

‘I’d say just ask questions if you don’t know it, just ask. It’s, like, a good way to learn and probably just look over, like, the different type of cancers. Just be positive.’ (N9)

**Discussion**

To enhance students’ placement experiences requires positive learning environments in which they are supported to feel part of the team and to achieve their required competencies. The findings provide insight into the learning experiences of preregistration nursing, medical and allied health professions students that can be useful for education providers, clinical managers and learning and development teams.

The findings suggest there are multiple factors that contribute to a positive learning environment. For example, participants described how they appreciated having time to spend with patients and families and that building rapport with patients was central to their acquisition of skills and competencies. This is supported by the findings of a Finnish study which reported that positive relationships with patients in the learning environment can increase healthcare students’ self-efficacy and competence (Suikkala et al 2021).
Engel et al (2017) and Hood and Copeland (2021) described how learning experiences that foster care and professional empathy can support students to develop their professional identity in the clinical environment. Participants identified effective communication with staff during their placement, and receiving information about their placement before starting, as central to a positive learning experience. This is supported by the findings of a study by Materne et al (2017), who found that leadership that promotes open communication and positive relationships between staff and students can enhance students’ clinical experiences. In contrast, learning environments where students feel underprepared or are not made to feel welcome can adversely affect their psychological well-being and role satisfaction (Smithson et al 2010).

Some participants reported that they had to be assertive to gain a meaningful learning experience and that they found this challenging. Barber et al (2019) reported that ‘unhealthy’ placement environments – that is, placement environments characterised by a lack of trust, respect and support for students – can negatively affect students’ self-esteem and satisfaction with their clinical placement.

Participants described how timetables and sign-off sheets were useful tools for monitoring their achievement of their learning objectives. Such resources can support the organisation of learning and staff-student relationships. Getie et al (2021) reported that students’ motivation to learn can be enhanced by systematic approaches to achieving learning objectives grounded in positive interactions with knowledgeable and committed professionals.

The participants explained that undertaking a placement in a specialist cancer setting was not as emotionally charged as they had anticipated. This contrasts with the findings of a study undertaken in Turkey in which nursing students working with patients with cancer reported feelings of sadness and helplessness as well as stress due to a fear of talking about death and dying (Kapucu and Bulut 2018).

**Limitations**

All participants were female and were recruited from one regional cancer centre in north-west England, which limits the transferability of the findings. The findings were based on a small sample size. However, the study used robust data collection and analysis methods and has provided valuable insights into the learning experiences of preregistration students in a specialist cancer practice setting.

**Conclusion**

There is a need to recruit more staff in all cancer specialties due to significant workforce shortages. Preregistration students are an important resource for expanding the workforce. Practice placements in specialist cancer settings offer students an opportunity to gain unique expertise. Positive learning experiences in such placement settings may encourage students to consider working in cancer care. Factors that contribute to a positive learning environment for preregistration students on placement in specialist cancer settings include effective communication with staff, integration within the clinical team, positive role models, positive relationships with patients and their families and resources to assist with the monitoring of learning objectives. Learning environments may be further enhanced by interventions that address students’ preconceptions about cancer and cancer care, an area that requires further research.

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