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Positioning end-of-life care education within the pre-registration therapeutic radiography curriculum: a survey of current practices amongst UK higher education institutions

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Abstract

Aim: It is essential that all health professionals who come into contact with patients with terminal diagnoses are equipped to effectively and competently provide end of life care. This study aims to investigate the manner in which Higher Education Institutions address this requirement with their programmes of pre-registration therapeutic radiography education.

Method: A structured survey was administered electronically to all UK universities with responsibility for therapeutic radiography education. The scope of the survey addressed mode and duration of end of life care education, its location, curricular assessment, identifiable barriers and best practice.

Results: All respondents confirmed the presence of dedicated end of life care education within their curriculum. Variation in the duration and location of this education is reported as are approaches to assessment of associated skills and knowledge. Analysis of respondent commentary has identified three themes- preparedness for the clinical role, dissonance between technology and care, and holistic approaches to course design.

Conclusion: Respondents have highlighted the importance of end of life care instruction with their programmes of study and identified aspects of the mode and duration of its delivery. Inclusion of this aspect of study may be problematic in the face of competing demands arising from the volume and complexity of the curriculum. Practical experience of end of life care predominantly occurs within the radiotherapy department, although there is scope to explore opportunities within the hospice and community care setting.

Keywords

End of life care

Radiotherapy education

Cancer care

Palliative care

- Effective end of life care training within radiotherapy radiography programmes is necessary
- Universities confirm the inclusion of end of life care training in their curriculum
- Variations in contact time and mode of delivery are reported
- The majority of end of life care practice experience is gained within the radiotherapy department
- Wider use of clinical placements within hospice or community settings is suggested

Introduction

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4 Radiotherapy has a definitive role within the management of terminally ill cancer
5 patients. Evidence supports its use for the effective management of a number of
6 cancer symptoms including bone pain, cerebral metastases, bleeding, and in the
7 alleviation of obstructive symptoms involving the airway and gastrointestinal tract.¹
8 Radiotherapy therefore provides an invaluable weapon for the palliation of advanced
9 cancers, and may form the basis of efforts to maintain or increase the overall quality
10 of life in these patients.² Evidence suggests that as many as 50% of patients
11 attending for radiotherapy treatment are being managed with palliative intent.³
12 Therapeutic radiographers therefore have direct responsibility for the provision of
13 effective care to patients who are living with terminal diagnoses, and for whom death
14 may not necessarily be imminent. As such, end of life care (EoLC) may be defined
15 as care provided to any patient for whom cure is not achievable, including those who
16 may survive with progressive disease for many months or even years.
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29 The Leadership Alliance for the Care of Dying People (LACDP) within their 'one
30 chance to get it right' recommendations have provided a clear vision that all staff
31 who have contact with terminally ill people must have the skills to do this effectively
32 and compassionately.⁴ As a corollary of this, professions who's members deal with
33 such patients must have robust educational approaches to the preparation of
34 practitioners for their role. This should ideally include instruction on underlying theory
35 together with practice-based learning opportunities that provide a suitable
36 environment for experiential learning. Responding to these LACDP
37 recommendations, Health Education England (HEE) similarly support the embedding
38 of teaching of EoLC as a core requirement within all health curricula,⁵ not least due
39 to increasing demands for the provision of effective EoLC associated with the aging
40 population profile within the United Kingdom.
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53 Within the UK there are currently no discrete educational outcomes within
54 professional or statutory body requirements that explicitly require extended
55 instruction in EoLC within pre-registration therapeutic radiography programmes,^{6,7}
56 although the need to provide information, care and support is evident in both. This is
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1 a concern as the increasingly technical nature of such programmes may
2 inadvertently overshadow EoLC instruction as a priority within the curriculum, and
3 whilst it is necessary for students to show effective patient care skills as core
4 attributes, this may not feature as discrete elements of study dealing with death,
5 dying and bereavement. Consequently, there is a concern that technological
6 complexity of practice has diminished the incidence and effectiveness of provision of
7 EoLC teaching, as course designers are seeking to meet the competing need to
8 address increasingly complex technological aspects of the curriculum. A similar trend
9 has been reported within graduate nurse education programmes,⁸ with limitations on
10 the scope of teaching of EoLC resulting in professionals being unprepared to provide
11 effective care. It has been argued that as a minimum core requirement, teaching of a
12 basic knowledge of the practice of palliative medicine for all health care
13 professionals is the only way of ensuring staff are properly equipped to deliver it.⁹
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25 **Methodology**

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29 An online survey was sent to all UK Higher Education Institutions (HEIs) that deliver
30 validated pre-registration therapeutic radiography programmes. The location of these
31 programmes was determined from online records of programme approvals from the
32 Health and Care Professions Council (HCPC) and College of Radiographers (CoR).
33 For institutions which provide pre-registration programmes at both undergraduate
34 and postgraduate level respondents were invited to provide survey returns for each
35 programme. This was undertaken as an aim of the study was to capture the full
36 range of approaches to EoLC teaching amongst the varying programme designs
37 within the UK.
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47 Ethical approval for the project was received from the Birmingham City University
48 Faculty Academic Ethics Committee. Permission to participate was sought from the
49 relevant Heads of School or Professional Leads at each of the HEIs that were
50 eligible for inclusion. The survey was designed and distributed via the use of the
51 Bristol Online Survey Tool (© University of Bristol), and participants' data was
52 gathered via a coded confidential file return. At the point of investigation 19
53 programmes of study were providing pre-registration therapeutic radiography
54 education (undergraduate n= 14, postgraduate n= 5). Email reminders were sent 6
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1 weeks into the project to facilitate a suitable number of responses. A response was
2 sought from the author's own institution from a member of staff unconnected to the
3 research project.
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5 The survey itself required participants to provide information regarding the specific
6 content of the EoLC component of their course(s) and the mode of its delivery (e.g.
7 face to face contact). Participants also indicated the total time their students spent
8 undertaking studies in EoLC and provided information relating to the nature of
9 placement-situated learning and whether clinical competencies include aspects of
10 EoLC theory. Information relating to whether HEIs routinely discharged formal
11 assessment of students' knowledge of EoLC within both the clinical and academic
12 settings was also sought. Free text responses were invited to gain information
13 pertaining to the perceived importance of EoLC teaching and learning, and to scope
14 for an assessment of any reports of apparent difficulty in its delivery. Analysis of
15 textual responses was undertaken using Dahlgren and Fahlsberg's seven-step
16 model of thematic analysis.¹⁰ Commentary from respondents was analysed
17 according to frequency and patterns of occurrence so that emergent descriptive
18 categories were drawn from the textual returns. Finally, the survey sought summary
19 evidence of any identifiable barriers, and conversely any perceived good practice
20 with respect to EoLC teaching.
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36 Findings

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39 The survey yielded an 84.2% response rate (n = 16/19). All responses were
40 complete with representative statistical and qualitative information provided from
41 each participating university.
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47 *Quantitative analysis*

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50 All participating HEIs reported that their programmes of study contain elements of
51 EoLC teaching and learning. Amongst the programmes surveyed students received
52 a mean of 13.1 hours of EoLC instruction within their education excepting clinical
53 practice learning (range 2 - 30 hours). These taught components sit across a range
54 of modules within programmes in over half (56.3%) of the courses surveyed, with the
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1 remainder of programmes locating their EoLC instruction within a single module of
2 study.
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5 Within their programmes of study the majority (93.8%) of HEIs include EoLC
6 teaching via face to face contact teaching hours that incorporate a focus on the topic
7 of supportive care and palliative medicine, whilst only 50% of respondents reported
8 that they also included delivery of the theory of the biological basis of death and
9 dying (figure 1). Other curriculum content reported by respondents included
10 bereavement, pain management and ethics.
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18 HEIs widely report the use of a variety of teaching and learning strategies in addition
19 to face to face contact with their students. This includes use of bespoke in-house
20 eLearning packages and dedicated workbooks to support independent learning by
21 their students. Such strategies are employed most frequently with respect to the
22 delivery of aspects of the role of hospices within care pathways, and respondents
23 reported the articulation of such strategies with provision of hospice-based
24 placement experiences for their students.
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32 Respondents were asked to identify all locations of EoLC instruction including that
33 outside of their usual (or recurrent) training sites. 43.8% of respondents reported that
34 their students EoLC learning experiences were confined to their recurrent
35 placements site and that learning only takes places within this radiotherapy or
36 oncology unit setting, with students being placed on hospital wards and information
37 support services by 43.8% and 75% of programmes respectively. No university
38 programme respondents reported that they currently utilise placement opportunities
39 within the primary care sector such as with community-based palliative care or EoLC
40 support services (figure 2).
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51 Only one programme of study reported that elements of EoLC formed a discreet item
52 of assessment for their students within their defined clinical learning outcomes or
53 ascribed clinical competencies. The majority (68.8%) of respondents report that
54 EoLC is not a separately defined element of practice contained within clinical
55 assessment schemes. Despite this, responses indicated that clinical assessments
56 more generally feature inclusion of clinical practice skills associated with EoLC as
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1 students are necessarily interacting with palliative patients particularly across
2 extended periods of practice. This however is reported as being unpredictable given
3 the varying case-mix of patients within a typical placement area. With respect to
4 assessment of students' theoretical knowledge of aspects of EoLC, 62.5% of
5 respondents reported that this is formally assessed in a summative manner- i.e. in a
6 way which may contribute to a student's formal transcript of study, whilst 3
7 respondents (18.8%) stated that their students complete their education without
8 being summatively assessed on the theory of EoLC within the academic setting.
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10 11 12 13 14 15 16 *Qualitative Analysis*

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20 Analysis of free text responses formed the basis of identification of three definable
21 themes relating to the perceived importance of EoLC instruction.
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24 25 *Theme A- Preparedness for role*

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29 Respondents indicated the importance of teaching of EoLC due to the pivotal role
30 that therapeutic radiographers play within the wider context of provision of effective
31 palliative care. Several respondents described that students should be aware of the
32 context of their developing professional role and responsibilities. More generally
33 respondents acknowledge that education in end of life care is a fundamental aspect
34 of training of the therapeutic radiographer-
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42 *"[It is] fundamental within our profession....end of life care issues are often*
43 *discussed with patients"*
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49 Comments also reveal that sufficient education in the sphere of EoLC is required in
50 order to prepare students for their own emotional response to dealing with terminally
51 ill patients. Data indicates that some HEIs are mindful of the need to provide
52 instruction and clinical experience that is robust enough to prepare students for the
53 emotional challenges associated with working with such patients-
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58 *"students can become emotional and may need time to talk"*
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“students enjoy the (hospice) placement experience although they find it emotionally challenging”

Respondents described that EoLC instruction necessarily confronts students with a need to address difficult clinical situations during which they must discharge effective support and advice. Several HEIs are using these learning opportunities to embed practical experiential learning that imbues development of emotional resilience and coping strategies when faced with the terminally ill patient. In tandem with this, many educators are emphasising that EoLC is a practical responsibility expected of their students within the context of their core duties, so that it is foregrounded as a key aspect of the curriculum.

Theme B- Dissonance between technology and care

A starting point from this research was a concern that there is an increasingly technical complexity of radiotherapy delivery that might potentially prejudice the manner in which students adopt and discharge effective patient care. Respondents reported their concerns that there is a risk that curriculum content dealing with EoLC is vulnerable in the face of competing demands for delivery of an increasingly complex curriculum arising from developments within radiotherapy practice. Collated commentaries suggested that EoLC might lose out to the evolving radiotherapy education curriculum and that there are

“other key areas that need to be addressed to ensure students are fit for purpose”

Respondents also report that they are time-constrained within their programmes so they are required to ration contact time with their students in order to adequately address all aspects of their curriculum. One respondent describes the difficulty of accommodating provision of palliative care education and that securing its place within

“an overloaded curriculum is difficult to achieve”

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2 One of the apparent tensions reported from respondents' comments is that whilst
3 therapeutic radiographers are responsible for supporting the terminally ill patient,
4 they are not always specifically focussed on this aspect of their role during day to
5 day clinical practices, and that they rarely work within a dedicated palliative care
6 team. It was also reported that the variety of patient case-mix can result in sporadic
7 episodes of interaction with patients receiving palliative radiotherapy. In this sense
8 students in training may not necessarily be immersed into routine provision of EoLC
9 and that specific administration of effective EoLC at times appear to be less of a
10 priority than other more tangible technical aspects of clinical education.
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20 *Theme C- Holistic approaches to practice and course design*

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23 Respondents stated that they felt their curriculum adequately reflects the established
24 role of the therapeutic radiographer within the multidisciplinary cancer care team and
25 that they have a clear vision of the importance of EoLC teaching provision within the
26 study trajectory of students. Data also indicates that EoLC teaching enables the
27 student to identify their role within the context of the patient journey, and holistic
28 perspectives are sought regarding the student's developing role in the provision of
29 care whilst remaining sensitive to the needs of the patients, their relatives and fellow
30 care providers. Respondents described patient-centred course design and how they
31 have positioned their curriculum in order to foster a wider appreciation of where
32 EoLC is located within the multi-agency management of the palliative cancer patient.
33 One respondent described the pressing need for this aspect and that
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45 *"it is vital that students understand the place of radiotherapy amongst a wide*
46 *number of therapies"*
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50 *Reported Barriers and Good Practice*

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54 Respondents were invited to provide commentary on any potential barriers to
55 effective teaching and delivery of EoLC and to indicate areas of good practice. 4
56 (25%) respondents indicated that they have struggled to secure useful placement
57 opportunities for all students in the field of palliative care (such as in the hospice
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1 setting) and one respondent attributed this to financial constraints associated with
2 the cost of travel to specialist placements sites. Five respondents (31.3%) describe
3 difficulties with respect to availability of expertise within their respective university
4 teaching teams, and that responsibility for delivery of this area of the curriculum falls
5 to a small group of individual staff with a professional interest and/or expertise in the
6 field. To offset this constraint several respondents highlight that such expertise is
7 most usefully garnered via the use of guest lecturers and experts in the field of
8 palliative care, including involvement of consultant radiographers and specialist
9 nurse practitioners.
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18 Respondents reported a variety of innovative and developing practices in the mode
19 of delivery EoLC within the curricula surveyed. A common theme amongst the data
20 was the manner in which HEIs deploy applied experiential learning practices to
21 illuminate their teaching, with evidence for the use of case studies, clinical scenarios,
22 vignettes and students' reflections on their practice all reported. Many HEIs consider
23 this area of the curriculum to be a useful and effective location for involvement of
24 service users and service providers in order to contextualise the various needs of
25 care receivers and care providers within a palliative care setting.
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36 **Discussion**

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40 NHS England's commitment to the provision of effective end of life care is framed by
41 a collective responsibility for the provision of this care by all whom who come into
42 contact with those with life limiting illnesses.¹¹ As such, those charged with the
43 responsibility of training tomorrow's therapeutic radiographers have a responsibility
44 to prioritise this aspect of their curriculum. Within this survey all the respondents who
45 participated were able to identify where provision of EoLC education lies with their
46 programme and how this forms a wider core philosophy of learning other than a
47 curricular 'add-on'. Evidence from the education of other health professionals (such
48 as from within nursing education) suggests that identification of EoLC as a discrete
49 focus of study within wider programmes of cancer care education results in positive
50 attitudes to palliative care, with attendant benefits to the provision of effective skills,
51 professional behaviours and improved patient outcomes.¹²
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Whilst this research did not investigate the efficacy of differing pedagogical approaches, there is potential for further work that might explore the varying methods in which EoLC education may be truly integrated, including an analysis of the most suitable learning environment within which this may take place. Data gathered here suggests a variety of educational approaches are being employed, and there is widely reported use of the involvement of service users and carers within course delivery. This approach is clearly aligned to wider statutory and professional body influences, and service user involvement is reported as being particularly effective in exploring the theoretical basis of palliative medicine. There is some evidence from this study that EoLC is being addressed via deployment of enhanced learning technologies including use of bespoke e-Learning, although there was no evidence for how programmes of study directly articulate with wider EoLC education strategies such as HEE's e-Learning for healthcare resources.¹³

Perhaps surprisingly was the finding that a relatively high proportion of respondents (7/16) report that their students undertake EoLC clinical learning exclusively within the radiotherapy department. Only a small number of respondents (5/16) routinely place their students within the hospice setting, and amongst these there are reports of logistical difficulties in securing or scheduling these placements. Steven and co-workers¹⁴ have described that the use of educational opportunities within hospice-based specialist palliative care teams prove to be powerful experiences with respect to development of communication skills and improved practice confidence, and it could be argued that there is further scope to exploit these benefits with respect to therapeutic radiography students. Such placements may also provide students with practical experience of provision of care to those patients whom they may not often deal with within the radiotherapy clinic, such as those who may be very close to death.

No universities who participated in this survey reported the use of EoLC opportunities within the community setting. There is some discord between this finding and the wider professional body aspiration to better position the therapeutic radiographer within the wider cancer care multidisciplinary team, and in particular with the potential to establish the role of the Community Liaison Expert (CLE)

1 Radiographer Practitioner who necessarily employs 'end-of-life skills'.¹⁵ Results
2 suggest that there remains potential for wider use of meaningful access to both the
3 hospice setting and the community. Such opportunities would seem attractive
4 particularly where HEIs face pressure for clinical placements opportunities arising
5 from the recent changes affecting funding arrangements for training places,¹⁶
6 however it would remain incumbent on HEIs to quality assure such opportunities and
7 structure placements so that they are meaningful learning experiences.
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14 The reported total contact time for teaching of end of EoLC varies considerably
15 between the universities surveyed. This contact time appears to be surprisingly
16 limited (range 2 - 30 hours per programme), however arguably the notion of 'face to
17 face contact time' is a very limited metric of the efficacy of approaches to teaching
18 and learning. Survey returns identified robust ways in which the theoretical and
19 conceptual aspects of EoLC teaching are applied as real-world experiences through
20 articulation with clinical practice. However, of note is that only one institution reported
21 the use of a bespoke EoLC clinical learning outcome within their summative practice
22 assessment scheme.
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33 A small number of HEIs do not evidence their students' underpinning knowledge of
34 EoLC via academic assessments. In these programmes of study there is therefore
35 some scope to develop assessment approaches which may better align their
36 assessment schemes to external policy drivers dealing with EoLC. It has been
37 argued that theoretical aspects of educational approaches addressing caring for
38 terminally ill patients can never be isolated from clinical experiences, and the only
39 legitimate manner of inculcating effective learning is via reflection on clinical
40 practice.¹⁷ This study has revealed alignment with this philosophy within the
41 surveyed programmes, and educational approaches that are recognisably 'best
42 practice' were reported from respondents, including reflective journaling¹⁸ and
43 promotion of patient-centeredness via the use of case studies and patient
44 perspectives integrated into teaching activities.¹⁹
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56 An important aspect of EoLC education is also specific inclusion of 'death education'
57 that extends to equip the student with an appreciation of the physiological effects of
58 advanced cancer and the process of dying itself. Of note is that only 50% of the
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HEIs surveyed report inclusion of the scientific and medical basis of cancer death within their curriculum. Data indicates that curriculum content within the majority of the programmes delivered is broadly aligned to understanding of supportive care pathways and palliation (including the role of the hospice).

Although the number of programmes of study providing pre-registration therapeutic radiography education in the UK remains small, there are a range of differing approaches to programme design and delivery, albeit within the constraints of expected standards of education and training.^{6,7} With respect to positioning of EoLC, these findings agree with the situation seen in pre-registration nursing curricula, where EoLC and palliative medicine are variously delivered as bespoke modules of study or as an integrated theme across modules. The relative merits of these differing approaches within health programme curricula have been discussed elsewhere,²⁰ although it is interesting to note that in this survey respondents report concerns that teaching of EoLC runs the risk of being squeezed out of the programme delivery due to other equally important curricular content. Such concerns are by no means a new phenomenon, and earlier work reflecting evidence from four separate health professional groups, (including therapeutic radiography), suggests that without bespoke modules of study in cancer care there is a risk of this aspect of a professional's education inadvertently being hidden amongst other competing priorities.²⁰ Respondents in this study identified EoLC within clinical placement situated learning, albeit few have identified use of discrete assessed learning outcomes within their schemes therein. Arguably where EoLC is purposefully embedded within a curriculum the presence of such explicit (rather than implicit) learning outcomes serves to emphasise its importance to the student. Unfortunately our survey suggests that EoLC outcomes are often dealt with tacitly during placement learning, and EoLC content may inadvertently lack the distinctiveness it requires as suggested by others.²¹

A theme emergent from qualitative returns is the notion that pre-registration curricula are aimed at making students '*practice ready*' as well as '*practice competent*' with respect to caring for patients with advanced cancer. Respondents suggest that their curriculum supports the development of these skills within the context of building

1 sufficient emotional resilience and establishing robust coping strategies. As such
2 there is some evidence here that previous warnings regarding a paucity of such
3 features within radiography curricula are now being addressed. This research
4 however did not evidence the use of associated support mechanisms responsible for
5 those who deliver care of the terminally ill patient, such as the use of clinical
6 supervision.
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12 It has been suggested that students fail to grasp the holistic nature of care in the
13 absence of an appreciation of wider patient care pathways.²¹ However respondents
14 in this study have clearly evidenced the alignment of their curriculum to such
15 pathways, with the majority stating that this is a feature of their course design.
16 Respondents describe different teaching and learning strategies that address the
17 concept of pathways of care, including the use of reflective practice by students, and
18 an exploration of the role of the care-giver and care-receiver. Within the context of
19 the latter, participating HEIs widely report the use of service users within programme
20 design, reflecting the work of Hill *et al.*²² who report the advantages of such
21 approaches to better provide differing perspectives of the patient's journey and of
22 those who care for them. In doing so the radiotherapy student may gain a more
23 powerful insight into their place within the wider multidisciplinary cancer care team.
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35 36 **Conclusions** 37 38 39

40 This survey has evidenced the inclusion of end of life care within the therapeutic
41 radiography curriculum. Curricular content is primarily focussed on the holistic
42 management of the patient with respect to provision of care, and there appears to be
43 the potential for provision of additional content that addresses the physiological basis
44 for cancer death and dying. There is only limited use of face to face teaching within
45 the curriculum although HEIs are effectively articulating this with schemes of clinical
46 practice education and supported independent learning. The inclusion of assessment
47 of aspects of EoLC theory and practice or consideration of bespoke modules of
48 study are possible strategies to foreground its importance within the wider
49 curriculum. Earlier suggestions from the Society and College of Radiographers for a
50 specialist role of the therapeutic radiographer within the community palliative care
51 setting are currently not reflected in educational practice, and there is scope to
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1 explore extension to EoLC practice education opportunities within the community
2 and hospice settings.
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7 **Conflicts of interest**
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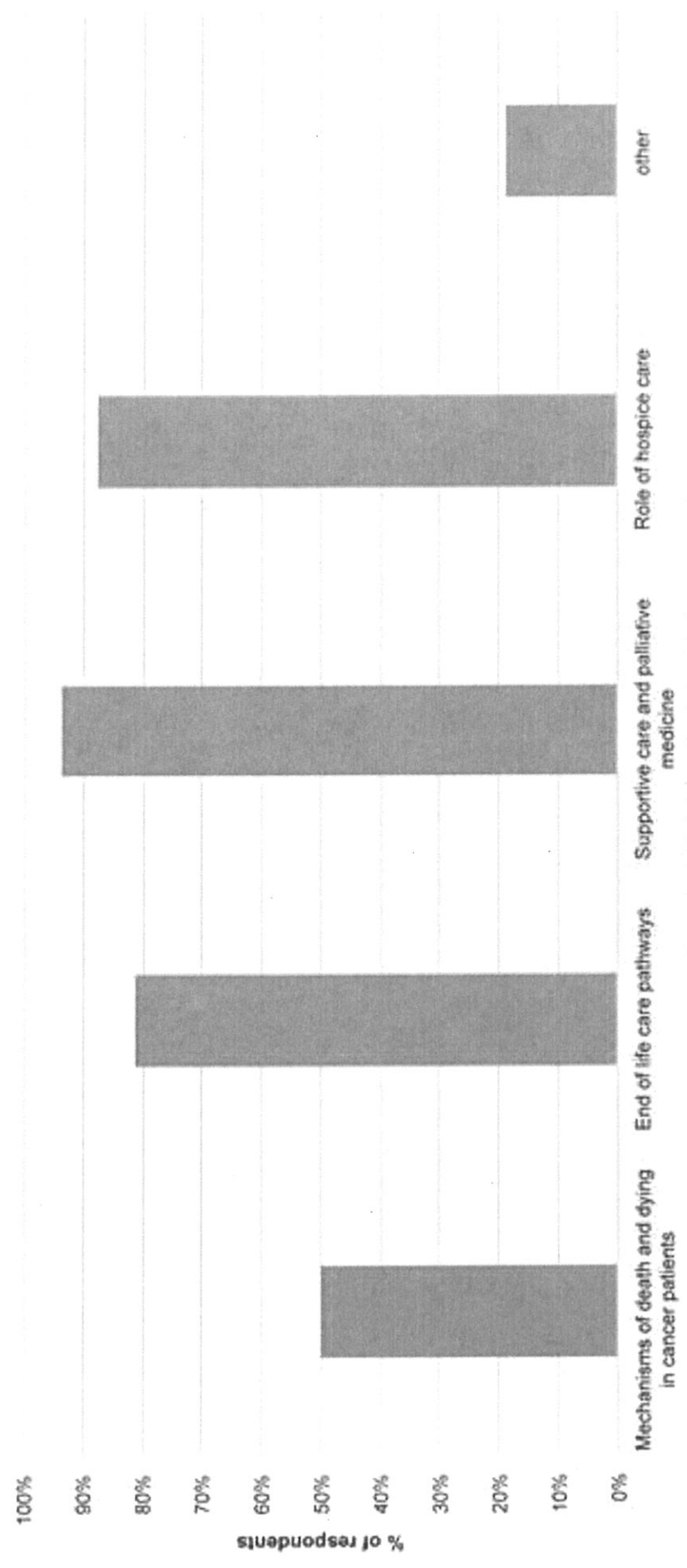
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Aspects of EoLC taught via face to face contact

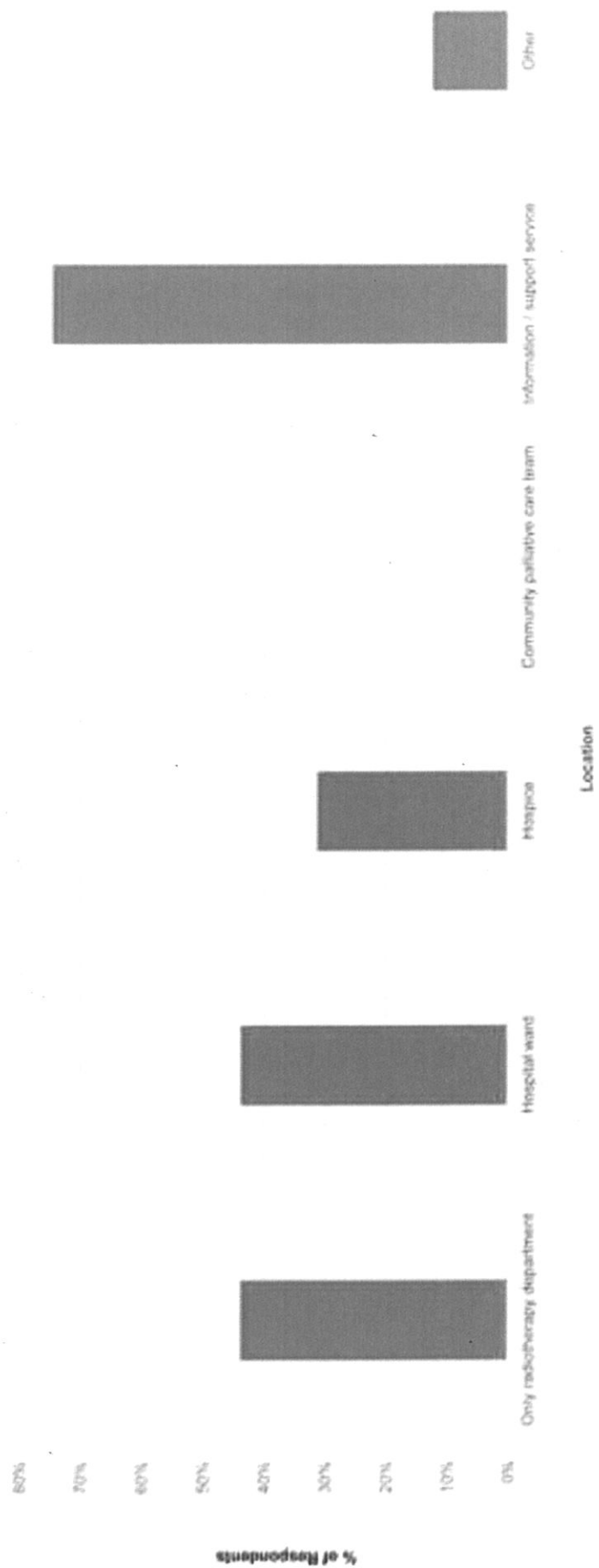


Figure captions

Figure 1- Specific curriculum content included by respondents during face to face contact with students

Figure 2- Location(s) of practical experiences of end of life care education accessed by respondents