
Council – 4 December 2012

Results of profession-specific standards of proficiency consultation for radiographers

Executive summary and recommendations

Introduction

We are currently reviewing the profession specific standards of proficiency for the professions we regulate. The review of the profession specific standards follows from the Council's approval of new generic standards of proficiency in March 2011.

To ensure the process is manageable, we are reviewing the profession-specific standards in small groups of professions at a time. At the start of each review, we contact each of the professional bodies for the relevant professions and ask for their suggestions on any changes that they consider necessary. We then use their suggestions to revise the standards for public consultation.

Following the first round of professional body reviews, we consulted between 18 April and 27 July 2012 on the draft standards for the first professions to undergo review—arts therapists, dietitians, occupational therapists, orthoptists, physiotherapists, and radiographers. The revised standards for arts therapists and orthoptists were approved by the Council at its last meeting.

The consultation response analysis and revised draft standards for radiographers are attached for the Council consideration and approval.

A number of concerns were raised about the proposed revisions to the standards of proficiency by the Society and College of Radiographers—those concerns were considered in detail by the Education and Training Committee on 15 November. Following the Committee's consideration, some additional amendments have been made to the revised standards these are as follows:

- We have moved one proposed new standard on the use of radionuclides by diagnostic radiographers from under generic standard 13 to beneath generic standard 14;
- We have returned some text to standard 14.11 about diagnostic radiographers' ability to adapt planned diagnostic imaging examinations;
- We have revised the text in new standard 14.26 to more accurately reflect the way in which diagnostic radiographers calculate dose and exposure;
- We have returned proposed new standards 14.43 and 14.44 to the standards, but have amended them to appropriately reflect threshold level requirements for therapeutic radiographers.

Decision

The Council is invited to discuss and approve the attached consultation response analysis and draft standards of proficiency for radiographers, subject to any necessary minor editing changes and formal legal scrutiny.

Decisions on the revision of the standards were informed by the radiographer member of the Education and Training Committee. Advice on any minor amendments may be needed after the Council's consideration.

Background information

Papers for Education and Training Committee, 15 November 2012, (enclosure 10 and tabled paper at www.hcpc-uk.org/aboutus/committees/archive/index.asp?id=590)

Paper for Education and Training Committee, 8 March 2012, (enclosure 7 at www.hcpc-uk.org/aboutus/committees/archive/index.asp?id=587)

Paper for Education and Training Committee, 17 November 2011 (enclosure 5 at www.hcpc-uk.org/aboutus/committees/archive/index.asp?id=586)

Paper for Education and Training Committee, 9 June 2011 (enclosure 19 at: www.hcpc-uk.org/aboutus/committees/archive/index.asp?id=588)

Paper agreed by Council on 31 March 2011 (enclosure 6 at: www.hcpc-uk.org/aboutus/committees/archive/index.asp?id=533)

Resource implications

The resource implications of this round of consultation are accounted for in the Policy and Standards Department planning for 2011/12. The resource implications of the ongoing process of review and eventual publication of the revised standards of proficiency have been taken into account in the Policy and Standards workplan for 2012/13, and will continue to be taken into account in future years.

Financial implications

The financial implications include the costs associated with a series of public consultations on new draft standards and publication of new standards for 15 professions. These costs are accounted in department planning for 2011/12 and 2012/13.

We anticipate further costs in 2013/14 for further consultations and publication of further revised standards.

Appendices

- Consultation response analysis for the profession-specific standards of proficiency for radiographers.
- Revised standards of proficiency for radiographers.

Date of paper

22 November 2012

Consultation on proposed profession-specific standards of proficiency for radiographers

Analysis of responses to the consultation on proposed profession-specific standards of proficiency for radiographers, and our decisions resulting from responses received

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1. Introduction

About the consultation

- 1.1 We consulted between 18 April and 27 July 2012 on proposed changes to the professions-specific standards of proficiency for radiographers.
- 1.2 The standards of proficiency set out what we expect professionals on our Register—known as ‘registrants’—to know, understand, and be able to do when they apply to join our Register. We consulted on proposed changes to the standards as part of our regular periodic review of the standards.
- 1.3 We sent the consultation documents to a range of stakeholders including professional bodies, employers, and education and training providers, advertised the consultation on our website, and issued a press release.
- 1.4 We would like to thank all those who took the time to respond to the consultation document. You can download the consultation document and a copy of this responses document from our website: www.hcpc-uk.org/aboutus/consultations/closed.

About us

- 1.5 We are the Health and Care Professions Council (HCPC). We are a regulator and our job is to protect the health and wellbeing of people who use the services of the professionals registered with us. We regulate the members of 16 different health, social work, and psychological professions.
- 1.6 To protect the public, we set standards that professionals must meet. Our standards cover the professionals’ education and training, behaviour, professional skills, and their health. We publish a Register of professionals who meet our standards. Professionals on our Register are called ‘registrants’. If registrants do not meet our standards, we can take action against them which may include removing them from the Register so that they can no longer practise.

About the standards of proficiency

- 1.7 The standards of proficiency are the standards that we consider necessary for the safe and effective practice of each of the professions we regulate. They describe what professionals must know, understand, and be able to do in order to apply to join our Register. The standards play an important role in public protection. When a professional applies for or renews their registration, or if concerns are raised about their competence while they are registered with us, we use the standards of proficiency in checking whether they have the necessary knowledge and skills to be able to practise their profession safely and effectively.
- 1.8 There are separate standards of proficiency for each of the professions we regulate. The standards of proficiency complement our other standards as well as policies developed by employers and guidance produced by professional bodies.

- 1.9 The standards of proficiency are divided into generic standards (which apply to all the professions) and standards specific to each of the professions regulated. The purpose of the generic standards is to recognise commonality across all the professions that we regulate. The purpose of the profession-specific standards is to set out additional standards for each profession related to the generic standard.
- 1.10 We consulted on changes to the generic standards of proficiency between July and October 2010.¹ The new generic standards have now been agreed by our Council and were not the subject of this consultation. Under the new structure, most of the standards of proficiency will be profession-specific, listed under the 15 new generic standards.

Reviewing the profession-specific standards of proficiency

- 1.11 The review of the profession-specific standards is an opportunity to make sure the standards of proficiency are relevant to each profession. We regularly review the standards of proficiency to:
- reflect current practice or changes in the scope of practice of each profession;
 - update the language where needed to ensure it is relevant to the practice of each profession and to reflects current terminology;
 - reflect the standard content of pre-registration education programmes;
 - clarify the intention of existing standards; and
 - correct omissions or avoid duplication.
- 1.12 In our work to revise the standards prior to consultation, we invited the professional body for radiographers—the Society and College of Radiographers—to review the standards of proficiency for their profession and tell us whether they considered any changes were necessary. We carefully considered their comments and other feedback we have received on the standards and produced a proposed set of draft standards for the profession to take to public consultation.
- 1.13 In consulting on proposed changes to the standards, we asked our stakeholders to consider whether the changes we have suggested to the profession-specific standards of proficiency for each profession are appropriate, and whether other changes are necessary. We have used the responses we receive to help us decide if any further amendments are needed.
- 1.14 Once the final sets of standards are approved, they will be published. We will work with education providers to gradually phase-in the new standards after they are published.

¹ You can find more information about the consultation on our website here: www.hcpc-uk.org/aboutus/consultations/closed/index.asp?id=110

About this document

- 1.15 This document summarises the responses we received to the consultation. The results of this consultation will be used to revise the proposed standards of proficiency for radiographers.
- 1.16 The document starts by explaining how we handled and analysed the responses we received, providing some overall statistics from the responses. Section 3 provides a summary of the general comments we received, while Section 4 is structured around the responses we received to specific questions. Our responses and decisions as a result of the comments we received are set out in section 5.
- 1.17 In this document, 'you' or 'your' is a reference to respondents to the consultation, 'we', 'us' and 'our' are references to the HCPC.

2. Analysing your responses

- 2.1 Now that the consultation has ended, we have analysed all the responses we received.

Method of recording and analysis

- 2.2 We used the following process in recording and analysing your comments.
- We recorded each response to the consultation, noting the date each response was received and whether it was submitted on behalf of an organisation or by an individual;
 - We also recorded whether the person or organisation agreed or disagreed with the proposal (please see the section on quantitative analysis below);
 - We read each response and noted the comments received against the proposal, and recorded any general comments;
 - Finally, we analysed all the responses.
- 2.3 When deciding what information to include in this document, we assessed the frequency of the comments made and identified themes. This document summarises the common themes across all responses, and indicates the frequency of arguments and comments made by respondents.

Quantitative analysis

- 2.4 We received 33 responses to the consultation document. Eleven responses (33%) were made by individuals and 22 (66%) were made on behalf of organisations. The table below provides some indicative statistics for the answers to the consultation questions. Responses to question 5 which asked for any other comments on the standards are summarised in section 3 of this paper.

Quantitative results

Questions	Yes	No	Partly	Unsure/no response
1. Do you think the standards are at a threshold level necessary for safe and effective practice?	19 (58%)	0 (0%)	11 (33%)	3 (9%)
2. Do you think any additional standards are necessary?	10 (30%)	19 (58%)	0 (0%)	4 (12%)
3. Do you think there are any standards which should be reworded or removed?	21 (64%)	9 (27%)	0 (0%)	3 (9%)
4. Do you have any comments about the language used in the standards?	17 (52%)	12 (36%)	N/A	4 (12%)

3. General comments

- 3.1 We consulted on the standards for arts therapists, dietitians, occupational therapists, orthoptists, physiotherapists, and radiographers at the same time. Respondents to each of those consultations raised similar issues.
- 3.2 The following is a high-level summary of the comments of a more general nature we received in response to all the consultation documents. This includes responses to question five. Where we received general comments which were specific to the radiographers consultation, these have also been included here. The general comments are grouped under specific headings.

'Generic' profession-specific standards

- 3.3 Many respondents to the consultation were concerned about new profession-specific standards that were originally detailed generic standards of proficiency in the current standards.
- 3.4 Because these now profession-specific standards were originally generic, a number of them have been transferred into the profession-specific standards for each of the professions we were consulting on concurrently—arts therapists, dietitians, occupational therapists, orthoptists, physiotherapists, and radiographers. Because many of these professions have similar principles reflected in their standards, it appeared to many respondents that some of these principles were actually still generic, and a number of respondents queried why those standards should be considered profession-specific.

English language competency

- 3.5 A number of respondents were concerned about the English language competency requirements in the standards. Some respondents felt that the requirements should apply equally to all applicants – including those from the European Economic Area (EEA).

'Be able to'/'understand'

- 3.6 Some respondents felt the phrases 'be able to', 'be aware of' and 'understand the importance of' made the standards more accessible and usable, a number of other respondents were concerned about this choice of construction as they felt it lacks legal strength. Some respondents felt the use of these phrases weakened the standards because they could be interpreted to mean that registrants must only take a passive approach to using the standards, without necessarily being required to be competent in practice, or to put those requirements into action.
- 3.7 Most of the comments on this choice of wording reflected on the difference between requiring a registrant 'must' do something, as opposed to 'must be able to do'. Some respondents felt the use of 'you must' is more appropriate than 'be able to'.

Relationship between standards of proficiency and conduct standards

- 3.8 A number of respondents commented that there was a general lack of conduct or ethics-related standards within the proposed profession-specific standards of proficiency. Some respondents felt that it is important that the standards of conduct, performance and ethics, and standards of proficiency are more closely aligned, with a few respondents suggesting that the standards should be combined.

How the standards of proficiency are used

- 3.9 Some respondents were concerned by some of the new proposed standards, and queried whether radiographers who had been in practice for a long period of time would be able to meet all the new standards. Some respondents asked for clarification about how current registrants would be tested against the new standards once they come into effect.

Leadership

- 3.10 A number of respondents suggested that principles encompassing the concept of leadership should be added to the standards of proficiency for radiographers. This suggestion comes from recent work carried out by the NHS Institute and the NHS Leadership Academy on the Clinical Leadership Competency Framework (CLCF), which aims to build leadership capability and capacity across the healthcare system by embedding leadership competencies in relevant systems including the standards set by professional regulators.²
- 3.11 Some respondents commented that it is important that all regulated professionals understand the principles of shared leadership, and are able to recognise that they are able to contribute to the leadership process within individual organisations. Respondents felt that by adding leadership requirements to the HCPC standards of proficiency, this would drive necessary changes in education and training for the professions we regulate, which would eventually lead to an increase in leadership capability within the national health system.
- 3.12 More detailed suggestions for how these principles could be reflected in the standards are set out in appendices two and three.

² http://www.leadershipacademy.nhs.uk/component/docman/doc_download/8-leadership-framework?Itemid=251

4. Comments in response to specific questions

This section contains comments made in response to specific questions within the consultation document.

Question 1. Do you think the standards are at a threshold level necessary for safe and effective practice?

Most respondents agreed that the standards were at the threshold level for safe and effective practice. Respondents commented that the standards reflected existing training provision and the general range of practice of radiographers.

A few respondents to the consultation felt that some of the standards were not set at a threshold level. They gave the following reasons:

- Some further additions are needed to ensure that all aspects of safe and effective practice for the profession are reflected in the standards.
- The standards do not include a specific standard around the values of leadership – for a more detailed summary of the comments we received around this issue generally, please refer to section 3.
- Some standards are set above threshold level – comments on specific standards are set out in appendix three.
- Some requirements are unrealistic for newly qualified professionals.

Question 2. Do you think any additional standards are necessary?

Many respondents commented that additional standards were not necessary as the range of competencies and required knowledge for radiographers was adequately set out in the proposed standards.

However, other respondents felt that more standards are necessary because there are aspects of professional practice that are not reflected adequately within the standards.

All of the additional standards suggested by respondents are set out in appendix two. There were a number of areas that were suggested by several respondents. These were:

- Leadership;
- Mentoring, training, and supervising others;
- Building effective relationships or partnerships with different types of service users;
- Practising in a non-discriminatory manner;
- Use of radiopharmaceuticals; and
- Supporting service users who refuse consent for procedures.

Question 3. Do you think there are any standards which should be reworded or removed?

Some respondents felt that the standards are sufficiently clear that they did not require rewording.

However, most respondents commented that there were some standards that did require rewording. Some suggestions were based on concerns raised about the language used in the standards (for example, the use of 'be able to'). Concerns about this form of wording are set out in the summary about the language used in the standards under question three. We have listed all the proposed amendments to the standards in appendix three.

Respondents suggested changes to the wording of the standards for the following reasons:

- To clarify the ways in which radiographers should work with others;
- Sharing information to safeguard others;
- Leadership principles;
- Clarifying the types of CT scans newly-qualified radiographers should be able to carry out; and
- Clarifying what other types of techniques and skills newly-qualified radiographers should have.

Question 4. Do you have any comments about the language used in the standards?

Most respondents felt that the language used in the standards is appropriate, clear, and generally easy to understand.

However, other respondents commented that the language was not as clear as it could be. Many of those respondents commented on the use of 'be able to' or other starting phrases as set out in paragraphs 3.6-3.7 above. Many of these respondents felt that standards that are worded in this way are passive and do not place a strong enough requirement on registrants to commit to good practice standards. Other comments we received about the use of specific phrases or words have been listed in appendix three.

Other general comments respondents made about language included:

- Ambiguity of some words or phrases, and how they are meant to be interpreted in practice; and
- Repetition of words and phrases.

5. Our comments and decisions

- 5.1 The following section sets out our response to the range of comments we have received to the consultation. We have not responded to every individual suggestion, but grouped those suggestions thematically and outlined the principles of our response. This section starts with our responses to the general comments we received, before responding to comments about the standards specifically. Our decisions in response to the comments received are set out at the end of this section.
- 5.2 We received a range of similar comments in response to the consultations we ran concurrently on the standards for arts therapists, dietitians, occupational therapists, orthoptists, physiotherapists, and radiographers. We have responded to those comments in the following section on general comments.

Responses to general comments

This section outlines our response to the general comments outlined in section three.

Leadership

- 5.3 We are supportive of the Clinical Leadership Competency Framework (CLCF) which emphasises shared responsibility and accountability of all registered professionals at all levels in contributing towards good quality services and improved outcomes for service users. We consider that the majority of the elements and descriptors included in the CLCF are generic and are clearly applicable across all the different professions we regulate. However, we also note that some of the content of CLCF is more specific to clinicians who work within the National Health Service or within managed environments.
- 5.4 We have considered whether we should change the standards so that 'leadership' as a term is more explicitly used within them. However, we have concluded that it would be more meaningful at this stage (whilst understanding of the CLCF and its definition of leadership develops) to instead ensure good coverage within our standards, where appropriate, of the specific underpinning knowledge, skills, attitudes and behaviours identified in the CLCF. Where we have received comments for amendments to standards or new standards with the aim of embedding the CLCF within the standards, we have considered these carefully to ensure that they are at a threshold level and are not substantially duplicated elsewhere in the standards. We have found that in most cases these competencies are already embedded throughout the standards of proficiency and well reflected in the standards of conduct, performance and ethics. We will publish on our website a position statement setting out our views on the CLCF. As the review of the standards of proficiency progresses, we will publish alongside this example documents showing how the CLCF descriptors map across to our standards.

Generic and profession-specific standards

- 5.5 The majority of the content of the standards was formerly generic. However, some professions expressed concern that these standards were expressed in ways which were not applicable to their practice. As a result, we agreed 15 high level generic statements which will apply to all the professions we regulate. In redrafting the standards of proficiency, we mapped all the current standards which did not become the new generic standards as profession-specific standards. All the principles contained in the current standards of proficiency—where appropriate—remained in place under the new structure.
- 5.6 In the standards of proficiency we consulted on in this round of review—arts therapists, dietitians, occupational therapists, orthoptists, physiotherapists, and radiographers—there were a number of formerly detailed generic standards that have been mapped as profession-specific in each of these profession’s standards. Some respondents felt that because these principles appear to be shared between a number of the professions we regulate, that they should remain as generic standards.
- 5.7 The six professions that were part of this round of review do have a number of shared profession-specific standards. However, it would not be appropriate to reinstate these standards as generic standards, as the standards in question are not generic across all the professions we regulate. There are some professions on our Register which do not share many of the standards that respondents were concerned about. However, we have tried to retain as much consistency between different professions’ standards wherever possible and appropriate.

‘Be able to’

- 5.8 As we stated in the consultation document, we intentionally use phrases such as ‘understand’, ‘know’, and ‘be able to’ rather than ‘must’. This is so the standards remain applicable to current registrants in maintaining their fitness to practise, as well as prospective registrants who have not yet started practising and are applying to be registered for the first time. The standards are also written in a similar way to the learning outcomes set for pre-registration education programmes.
- 5.9 It is important to note the current standards of proficiency use verbs and starting phrases in the same way as the proposed new profession-specific standards of proficiency. We have not experienced any difficulty in applying the current wording of the standards of proficiency in the way some of our respondents anticipated.

The standards and scope of practice

- 5.10 The standards set out the proficiencies required of applicants when they apply to join the Register. Once on the Register, every time registrants renew their registration, they are asked to confirm that they continue to meet the standards of proficiency that apply to their own

scope of practice—the area of their profession in which they have the knowledge, skills and experience to practise safely and effectively. We recognise that a registrant’s scope of practice will change over time and that the practice of experienced registrants often becomes more focused and specialised than that of newly registered colleagues. That may mean that some registrants may not be able to continue to meet all the standards of proficiency required at entry to their profession. However, as long as those registrants continue to practise safely and effectively within their own scope of practice, and do not practise in the areas in which they are not proficient to do so, this is not a problem.

Relationship between standards of proficiency and conduct standards

- 5.11 The standards of proficiency and standards of conduct, performance and ethics play complementary but distinct roles in how we set requirements for our registrants. While the knowledge, skills, and experience of a professional play a part in their ability to behave and practise ethically, we consider that it is important that our conduct standards remain separate from those which are purely about a professional’s proficiency to practise.
- 5.12 We received some comments about the generic standards of proficiency and the standards of conduct, performance and ethics. These standards were not the subject of this consultation and so we have not reflected them in appendix two or three. However, we will consider these comments when we review each set of standards. We have started our review of the standards of conduct, performance and ethics, and expect to consult on changes to those standards in 2013/14.

English language competency

- 5.13 Some respondents were concerned that the English language requirements do not apply equally to all applicants to the Register. European Union law limits the ability of regulators such as the HCPC to systematically test the language competency of EEA applicants to our Register, so it would not be possible to amend this requirement.

Responses to detailed comments about the standards

- 5.14 In this section, we have set out our responses to suggestions for additional standards or changes to the existing standards. All the proposed additional standards and suggested changes to specific standards are set out in appendix two and three of this document.
- 5.15 We have not responded to every suggestion individually here, but we have explained the general principles we applied when considering suggested amendments. Where respondents were particularly concerned about certain issues, we have addressed those below under the heading of the relevant standard.

- 5.16 When we receive suggestions for changes to the standards (including revisions to existing standards or proposed additional standards), we consider the following in deciding whether we should make the change:
- Is the standard necessary for safe and effective practice?
 - Is the standard set at the threshold level for entry to the Register?
 - Does the standard reflect existing requirements for radiographers on entry into the profession?
 - Does the standard reflect existing training provision?
 - Is the standard written in a broad and flexible way so that it can apply to different environments in which radiographers might practice or different groups that radiographers might work with?
- 5.17 We write the standards of proficiency in a broad, flexible way and at a higher level of generality so that registrants working in different settings and in different ways can still meet the standards. For this reason, we use words that are able to be understood in their widest sense. When making decisions about whether to make changes to the standards, we must also consider whether the changes would make the standards too specific or would limit the scope of the standards.
- 5.18 The standards set out the abilities necessary to practise in a profession. However, the standards are not a curriculum document nor are they intended to be a list of activities which registrants must undertake in any situation. For example, a registrant needs to 'be able to maintain confidentiality' on entry to the Register. However, this is an ability and does not mean that there will not be situations where information might need to be shared with, or disclosed to others in the interests of service users or the public.
- 5.19 Part of our focus for the review of the standards is to ensure that the standards are relevant to the range of practice of each profession. We also aim to avoid duplication in the standards, to ensure they are clearly worded, and to maintain consistency between different professions' standards wherever possible and appropriate.

Our decisions

5.20 We have made a number of changes to the standards based on the comments we have received in the consultation. We have set out the draft revised standards following consultation in appendix one.

Additional standards

5.21 We have added standards on the following areas:

Standard 7

- Recognising and responding appropriately to situations where it is necessary to share information to safeguard others. This is in response to the range of comments that suggested that the confidentiality standards could be clearer about when registrants should disclose confidential information for the safety of others.

Standard 14

- A new standard for diagnostic radiographers, about assisting with imaging procedures involving the use of radionuclides, which is a threshold requirement for diagnostic radiographers.
- Two new separate standards for diagnostic and therapeutic radiographers, clarifying their different approaches to calculating radiation doses and exposures.

Changes to specific standards

5.22 We have made the following changes to some standards:

Standard 3

- We have made a minor amendment to clarify our requirements around professional conduct.

Standard 10

- We have made some minor amendments to clarify the requirements of our record-keeping requirements, and to remove one standard which duplicated requirements set out in other standards.

Standard 12

- We have removed one standard as it was clear from the consultation that this standard is not relevant to radiography practice.

Standard 13

- We have moved a new standard that was originally placed under generic standard 13, and placed it more appropriately under generic standard 14 (see references to new standards above).
- We have made some minor amendments to a few standards to clarify meaning or our requirements.

Standard 14

- We have removed a standard on calculating radiation dose, and replaced it with separate standards on this issue for diagnostic and therapeutic radiographers (see references to new standards above).
- We have removed a standard on understanding problems at the interface of service users and radiation technology, as these principles are covered adequately elsewhere in the standards.
- We have amended two standards for diagnostic radiographers to clarify the imaging techniques they use.
- We have returned two standards for diagnostic radiographers on computed tomographic examinations and distinguishing disease process to their current form, as it was clear from comments received to the consultation that the amended standards proposed in the consultation were beyond threshold level.
- We have made minor amendments to two proposed new standards for therapeutic radiographers on assisting in planning computed tomographic examinations and constructing immobilisation devices to ensure that these standards are set at threshold level.
- We have amended a standard on managing complex situations to clarify our requirements.
- We have made a minor amendment to a standard to clarify our expectations for radiographers' use of information technology.

Suggested changes we have not included

5.23 Some of the changes suggested by respondents were not included in the standards because we felt they would duplicate content already contained within the standards we set, or they would not make our requirements clearer. This section does not address every suggested change to the standards, but focusses on responding to overarching themes or areas of concern.

Radionuclides in therapeutic radiography practice

- We received a suggestion for inclusion of a new standard for therapeutic radiographers on understanding of radionuclides in their practice. We consider that this is not a threshold-level requirement.

Leadership

- For our response to the suggestions for standards related to the issue of leadership, please see paragraphs 5.3-5.4.

Training and mentoring others

- We received a range of suggestions for standards about the requirement for radiographers to train and mentor others. We considered that these requirements were aimed at a more advanced level of practice than would be relevant for newly-qualified radiographers. We believe that standard 4.6 is set at an appropriate level for radiographers who have just started practising.

Professional behaviour

- A few respondents made suggestions for additional standards or amendments on the issue of professional conduct. We consider that the draft standards address these proficiencies in adequate detail.

Working with others

- Some respondents felt additional requirements should be added on the importance of effective working with others. In this area we consider that the draft standards are appropriate for the practice of radiographers and additional requirements are not necessary.

6. List of respondents

Below is a list of all the organisations that responded to the consultation.

Betsi Cadwaladr University Health Board

Birmingham City University; Faculty of Health; Department of Radiography

Cambridgeshire Community Services NHS Trust

Diagnostic Radiography Staff, University of Salford

Division of Radiography, School of Health and Emergency Professions, University of Hertfordshire

Gloucestershire Hospitals NHS Trust

James Paget University Hospitals NHS Foundation Trust

NHS Education for Scotland

NHS Leadership Academy

NHS Midlands and East

Norfolk and Suffolk Team

Northern Health and Social Care Trust

Poole Hospital NHS Foundation Trust

Powys Teaching Health Board

Public Health Agency, Northern Ireland

Radiography, University Campus Suffolk

RJAH Orthopaedic Hospital Oswestry

Society and College of Radiographers

The Royal College of Radiologists

University Hospital of South Manchester NHS Foundation Trust

University of the West of England Bristol

West Hertfordshire NHS Hospitals Trust

Appendix 1: Draft standards of proficiency for radiographers

New standards and added words or phrases are shown in **bold and underlined**. Deletions are shown in ~~strikethrough~~. The standards in this section are subject to legal scrutiny and may be subject to minor editing amendments prior to publication.

No.	Standard
1.	be able to practise safely and effectively within their scope of practice
1.1	know the limits of their practice and when to seek advice or refer to another professional
1.2	be able to manage their own workload and resources effectively and be able to practise accordingly
2.	be able to practise within the legal and ethical boundaries of their profession
2.1	understand the need to act in the best interests of service users at all times
2.2	understand what is required of them by the Health and Care Professions Council
2.3	understand the need to respect and uphold the rights, dignity, values, and autonomy of service users including their role in the diagnostic and therapeutic process and in maintaining health and wellbeing
2.4	recognise that relationships with service users should be based on mutual respect and trust, and be able to maintain high standards of care even in situations of personal incompatibility
2.5	know about current legislation applicable to the work of their profession
2.6	be able to practise in accordance with current legislation governing the use of ionising and non-ionising radiation for medical and other purposes
2.7	understand the importance of and be able to obtain informed consent
2.8	be able to exercise a professional duty of care

No.	Standard
2.9	understand the legislative, policy, ethical and research frameworks that underpin, inform and influence the practice of radiography
3.	be able to maintain fitness to practise
3.1	understand the need to maintain high standards of personal and professional conduct
3.2	understand the importance of maintaining their own health
3.3	understand both the need to keep skills and knowledge up to date and the importance of life-long learning
4.	be able to practise as an autonomous professional, exercising their own professional judgement
4.1	be able to assess a professional situation, determine the nature and severity of the problem and call upon the required knowledge and experience to deal with the problem
4.2	be able to make reasoned decisions to initiate, continue, modify or cease radiotherapy treatment or diagnostic imaging examinations and record the decisions and reasoning appropriately
4.3	be able to initiate resolution of problems and be able to exercise personal initiative
4.4	recognise that they are personally responsible for and must be able to justify their decisions
4.5	be able to make and receive appropriate referrals
4.6	understand the importance of participation in training, supervision, and mentoring
5.	be aware of the impact of culture, equality, and diversity on practice
5.1	understand the requirement to adapt practice to meet the needs of different groups and individuals
5.2	understand the emotions, behaviours and psychosocial needs of people undergoing radiotherapy or diagnostic imaging, as well as that of their families and carers

No.	Standard
5.3	be able to provide appropriate information and support for service users throughout their radiotherapy treatment and care or diagnostic imaging examinations
6.	be able to practise in a non-discriminatory manner
7.	understand the importance of and be able to maintain confidentiality
7.1	be aware of the limits of the concept of confidentiality
7.2	understand the principles of information governance and be aware of the safe and effective use of health and social care information
7.3	<u>be able to recognise and respond appropriately to situations where it is necessary to share information to safeguard service users or the wider public</u>
8.	be able to communicate effectively
8.1	be able to demonstrate effective and appropriate verbal and non-verbal skills in communicating information, advice, instruction and professional opinion to service users, colleagues, and others
8.2	be able to communicate in English to the standard equivalent to level 7 of the International English Language Testing System, with no element below 6.5 ³
8.3	understand how communication skills affect assessment and engagement of service users and how the means of communication should be modified to address and take account of factors such as age, physical ability, capacity, and learning ability
8.4	be aware of the characteristics and consequences of verbal and non-verbal communication and how this can be affected by factors such as culture, age, ethnicity, gender, religious beliefs and socio-economic status

³ The International English Language Testing System (IELTS) tests competence in ~~spoken and written~~ **the English language**. Applicants who have qualified outside of the UK, whose first language is not English and who are not nationals of a country within the European Economic Area (EEA) or Switzerland, **must** ~~have to~~ provide evidence that they have reached the necessary standard. ~~We also accept the TOEFL test as an equivalent.~~ Please visit our website for more information.

No.	Standard
8.5	understand the need to provide service users or people acting on their behalf with the information necessary to enable them to make informed decisions
8.6	understand the need to assist the communication needs of service users such as through the use of an appropriate interpreter, wherever possible
8.7	recognise the need to use interpersonal skills to encourage the active participation of service users
8.8	be able to advise other healthcare professionals about the relevance and application of radiotherapy or imaging modalities to the service user's needs
8.9	be able to formulate and provide information to service users about the treatment or imaging process and procedures, with regular reappraisal of their information needs, as appropriate
9.	be able to work appropriately with others
9.1	be able to work, where appropriate, in partnership with service users, other professionals, support staff, and others
9.2	understand the need to build and sustain professional relationships as both an independent professional and collaboratively as a member of a team
9.3	understand the need to engage service users and carers in planning and evaluating their diagnostic imaging and interventional procedures or their radiotherapy pre-treatment planning, treatment, and follow-up
9.4	be aware of the need to empower service users to participate in the decision-making processes related to their radiotherapy or diagnostic imaging examination
9.5	be able to contribute effectively to work undertaken as part of a multi-disciplinary team
9.6	be able to understand, interpret and act upon information from other healthcare professionals, in order to maximise health gain whilst minimising radiation dose to the service user
10.	be able to maintain records appropriately

No.	Standard
10.1	be able to keep accurate, legible <u>comprehensive and comprehensible</u> records <u>in accordance with applicable legislation, protocols and guidelines</u>
10.2	recognise the need to manage records and all other information in accordance with applicable legislation, protocols and guidelines
10.3	understand the need to use only accepted terminology in making records
11.	be able to reflect on and review practice
11.1	understand the value of reflection on practice and the need to record the outcome of such reflection
11.2	recognise the value of multidisciplinary team reviews and other methods of review
12.	be able to assure the quality of their practice
12.1	be able to engage in evidence-based practice, evaluate practice systematically, and participate in clinical and other audit procedures
12.2	be able to gather feedback and information that helps to evaluate the response of service users to their care
12.3	understand the principles of quality control and quality assurance as they apply to the practice of diagnostic or therapeutic radiography
12.4	be aware of the role of audit and review in quality management, including quality control, quality assurance, and the use of appropriate outcome measures
12.5	be able to maintain an effective audit trail and work towards continual improvement
12.6	be aware of, and able to participate in quality assurance programmes, where appropriate
12.7	be able to evaluate intervention plans using recognised outcome measures and revise the plans as necessary in conjunction with the service user
12.8	recognise the need to monitor and evaluate the quality of practice and the value of contributing to the generation of data for quality assurance and improvement programmes

No.	Standard
13.	understand the key concepts of the knowledge base relevant to their profession
13.1	understand the philosophy underpinning the development of the profession of radiography
13.2	understand the role of the radiographer in the promotion of health and health education in relation to healthy living and health screening for disease detection
13.3	recognise the role of other professions and services in health and social care
13.4	understand the structure and function of the human body, together with knowledge of health, disease, disorder and dysfunction relevant to their profession
13.5	understand the radiobiological principles on which the practice of radiography is based
13.6	understand the risk-benefit philosophy and principles involved in the practice of diagnostic or therapeutic radiography
13.7	be aware of the principles and applications of scientific enquiry, including the evaluation of treatment efficacy and the research process
13.8	understand and be able to apply the physical principles of ionising radiation production, interaction with matter, beam modification and radiation protection for diagnostic imaging or radiotherapy treatment
13.9	know the physical and scientific principles on which image formation using ionising and non-ionising radiation is based
13.10	understand radiation dosimetry and the principles of dose calculation
13.11	understand the theoretical basis underpinning patient assessment prior to and during radiotherapy or diagnostic imaging examinations.
13.12	understand the capability, applications and range of technological equipment used in diagnostic imaging or radiotherapy
13.13	<u>be able to</u> distinguish between normal and abnormal appearances evident on images
13.14	know the concepts and principles involved in the practice of diagnostic imaging or radiotherapy and how these inform and direct clinical judgement and decision making

No.	Standard
13.15	know the pharmacology of drugs used in diagnostic imaging or during radiotherapy treatments
13.16	understand the methods of administration of drugs
13.17	be able to remove and re-apply dressings and supports appropriately and in a safe, effective and considerate manner
13.18	understand the quality assurance processes in place within diagnostic imaging or radiotherapy
13.19	be aware of the current developments and trends in the science and practice of radiography
13.20	<p>Therapeutic radiographers only</p> <p>understand the structure and function of the human body in health and disease, including</p> <ul style="list-style-type: none"> - regional and cross-sectional anatomy of the head, neck, thorax, <u>pelvis</u>, and abdomen; and - common pathologies and mechanisms of disease with a concentration on cancer, histology, haematology, and the lymphatic and immune systems
13.21	<p>understand:</p> <ul style="list-style-type: none"> - oncology, the pathophysiology of solid and systemic malignancies; - epidemiology; - aetiology; and - the management and effect of cancer
13.22	know the physiological signs and symptoms, clinical investigations and diagnostic procedures that result in referral for radiotherapy
13.23	know the biochemical science of radiation pathophysiology
13.24	understand the influence of adjuvant treatment including surgery and chemotherapy on radiotherapy dose prescription, timing of radiotherapy and post radiotherapy complications

No.	Standard
13.25	<p>Diagnostic radiographers only</p> <p>understand the structure and function of the human body in health, disease and trauma, as well as common pathologies and mechanisms of disease and trauma, including the</p> <ul style="list-style-type: none"> - musculoskeletal system; - soft tissue organs; - regional and cross-sectional anatomy of the head, neck, thorax, <u>pelvis</u>, and abdomen; and - the cardiovascular, respiratory, genito-urinary, gastro-intestinal and neuro-endocrine systems
13.26	understand the signs and symptoms of disease and trauma that result in referral for diagnostic imaging procedures
13.27	be able to assist with imaging procedures involving the use of radionuclides
14.	be able to draw on appropriate knowledge and skills to inform practice
14.1	be able to conduct appropriate diagnostic or monitoring procedures, treatment, therapy, or other actions safely and accurately
14.2	be able to formulate specific and appropriate management plans including the setting of timescales
14.3	be able to assess, monitor and care for the service user before, during and after diagnostic imaging procedures or radiotherapy treatments
14.4	be able to use independent methods to establish and confirm service user identity prior to undertaking diagnostic imaging procedures or delivering radiotherapy treatments
14.5	be able to undertake or arrange investigations as appropriate
14.6	be able to undertake and record a thorough, sensitive and detailed clinical assessment, selecting and using appropriate techniques and equipment
14.7	be able to gather appropriate information

No.	Standard
14.8	be able use physical, graphical, verbal and electronic methods to collect and analyse information from a range of sources including service user's clinical history, diagnostic images and reports, pathological tests and results, dose recording and treatment verification systems
14.9	be able to interrogate and process data and information gathered accurately in order to conduct the imaging procedure or radiotherapy most appropriate to the service user's needs
14.10	be able to appraise image information for clinical manifestations and technical accuracy, and take further action as required
14.11	be able to manage complex and unpredictable situations including the ability to adapt planned diagnostic imaging examinations, interventions or treatments and to manage adverse and critical care incidents, to prioritise workload and use of resources
14.12	be able to demonstrate a logical and systematic approach to problem solving
14.13	be able to change their practice as needed to take account of new developments, technologies and changing contexts
14.14	be able to use research, reasoning and problem solving skills to determine appropriate actions
14.15	be aware of a range of research methodologies
14.16	recognise the value of research to the critical evaluation of practice
14.17	be able to evaluate research and other evidence to inform their own practice
14.18	be able to operate radiotherapy or diagnostic imaging equipment safely and accurately
14.19	be able to demonstrate spatial awareness, visual precision and manual dexterity in the precise and safe manipulation of treatment units or imaging equipment and related accessory equipment
14.20	be able to check that equipment is functioning accurately and within the specifications, and to take appropriate action in the case of faulty functioning and operation
14.21	be able to demonstrate a level of skill in the use of information and communication technologies appropriate to their practice
14.22	be able to apply the risk-benefit philosophy to radiation exposure to protect both individual service users and the population gene pool

No.	Standard
14.23	be able to calculate radiation doses and exposures
14.23	be able to select and explain the rationale for examination and treatment techniques and immobilisation procedures appropriate to the service user's physical and disease management requirements
14.24	be able to position and immobilise service users correctly for safe and accurate diagnostic imaging examinations or radiotherapy treatments
14.26	understand the problems encountered at the interface of the service user and radiation / technology and be able to find appropriate solutions to such problems
14.25	Diagnostic radiographers only be able to plan appropriate diagnostic imaging examinations
14.26	<u>be able to calculate radiation doses and exposures and record and understand the significance of radiation dose</u>
14.27	be able to perform the full range of plain film and standard imaging techniques and contrast agent examinations, including those undertaken on service users suffering from acute trauma, and where the service user's medical, physical or mental health needs require examinations to be carried out in non-standard imaging environments
14.28	be able to manipulate exposure and image recording parameters to optimal effect
14.29	be able to use to best effect the processing and related technology supporting film-based and computer-based imaging systems
14.30	be able to manage and assist with fluoroscopic diagnostic and interventional procedures, including those that are complex and involve the use of contrast agents
14.31	be able to perform a standard head computed tomographic (CT) examinations, assist with CT examinations of the standard spine, chest and abdomen CT examinations for in acute trauma, and to contribute effectively to more complex other CT studies examinations
14.32	be able to assist with standard magnetic resonance imaging procedures
14.33	be able to assist with ultrasound imaging procedures

No.	Standard
14.34	<u>be able to assist with imaging procedures involving the use of radionuclides</u>
14.35	be able to distinguish disease and trauma processes as they manifest on diagnostic images and form a preliminary view on the imaging appearances
14.36	Therapeutic radiographers only be able to plan appropriate radiotherapy procedures
14.37	be able to generate a treatment plan and verify treatment parameters ensuring optimal radiotherapy prescription delivery
14.38	be able to use to best effect the image processing and related technology, including computer-based imaging systems for radiotherapy purposes
14.39	be able to perform the full range of radiotherapy processes and techniques accurately and safely
14.40	<u>be able to calculate radiation doses and exposures</u>
14.41	be able to scrutinise and interpret the radiation prescription in such a way that radiotherapy is delivered accurately and reproducibly
14.42	be able to manage and assist with fluoroscopic procedures, including those requiring the use of contrast agents
14.43	be able to <u>assist in performing</u> perform standard CT planning procedures
14.44	be able to <u>assist in the</u> construction of appropriate immobilisation devices, individualised to the specific needs of each patient and the treatment regime prescribed
14.45	be able to undertake complex radiation dose delivery calculations involving a range of radiation types and energies
14.46	be able to localise the target volume precisely in relation to external surface and anatomical reference markings using a range of techniques including computed tomography and magnetic resonance imaging
14.47	be able to manipulate exposure and image recording parameters to optimal effect and interpret and evaluate images obtained during radiotherapy planning and treatment

No.	Standard
14.48	be able to interpret and evaluate images obtained during radiotherapy planning and treatment
14.49	be able to identify organs at risk on images to provide information for radiotherapy treatment planning
14.50	be able to recognise changing signs, symptoms and progression of disease, and make appropriate decisions not to treat or to review further before proceeding with treatment
14.51	<p>All radiographers – supplementary prescribers only</p> <p>know and be able to apply the key concepts which are relevant to safe and effective practice as a supplementary prescriber (this standard applies only to registrants who are eligible to have their name annotated on the Register)⁴</p>
15.	understand the need to establish and maintain a safe practice environment
15.1	understand the need to maintain the safety of both service users and those involved in their care
15.2	be aware of applicable health and safety legislation, and any relevant safety policies and procedures in force at the workplace, such as incident reporting, and be able to act in accordance with these
15.3	understand the need to ensure the physical and radiation safety of all individuals in the immediate work environment at all times
15.4	be able to establish safe environments for practice, which minimise risks to service users, those treating them, and others, including the use of hazard control and particularly infection control
15.5	be able to work safely, including being able to select appropriate hazard control and risk management, reduction or elimination techniques in a safe manner and in accordance with health and safety legislation
15.6	be able to select appropriate personal protective equipment and use it correctly
15.7	be able to use basic life support techniques and be able to deal safely with clinical emergencies

⁴ We are currently consulting on new prescribing standards for radiographers. Once the new prescribing standards are approved and published, this standard will be removed.

No.	Standard
15.8	know and be able to apply appropriate moving and handling techniques
15.9	know the correct principles and applications of disinfectants, methods for sterilisation and decontamination, and for dealing with waste and spillages correctly
15.10	be aware of immunisation requirements and the role of occupational health

Appendix 2: Suggested additional standards

No.	Standard	
1.	be able to practise safely and effectively within their scope of practice	<p>Respondents suggested a number of different standards covering the following areas:</p> <ul style="list-style-type: none"> • knowing when and from whom to seek help; • knowing when to use skills available to them and when not to;
2.	be able to practise within the legal and ethical boundaries of their profession	<p>Respondents suggested a number of different standards covering the following areas:</p> <ul style="list-style-type: none"> • person/patient-centred care; • respecting the dignity of service users; • more explicit reference to professionalism and conduct; • requirement to contribute to the development of the profession (through research, role-modelling, mentorship, challenging poor/practice/unprofessional behaviour in others) • reference to specific legislation when dealing with children and vulnerable people/adults, specific standards around consent and capacity in relation to this issue, and a requirement to update knowledge in this area; • knowing when disclosure of information is permitted under the law – being aware or when a duty to disclose overrides duty to maintain confidentiality; • understanding of the structure and function of health, education and social care services in the UK and current developments
3.	be able to maintain fitness to practise	<p>Respondents suggested a number of different standards covering the following areas:</p> <p>being able to demonstrate an acceptable and reasonable standard of care;</p>
4.	be able to practise as an autonomous professional, exercising their own professional judgement	<p>Respondents suggested a number of different standards covering the following areas:</p> <ul style="list-style-type: none"> • requirement to actively promote autonomy by encouraging people who use their

		<p>service to be active participants in their own care;</p> <ul style="list-style-type: none"> • Adding the qualifier 'autonomous professional' in all standards where professional is mentioned • understanding of their role as a leader and be able to exercise appropriate leadership skills; (also see comments under generic standards 4, 9, 11, 12, 13); <p>Suggested new standards to underpin the Clinical Leadership Competency Framework elements:</p> <ul style="list-style-type: none"> • understand the need to be aware of their own values, principles and assumptions and the impact of their behaviour on others; • be able to act in a manner consistent with the values and priorities of their organisation and profession; • be able to contribute their unique perspective to team, department, system and organisational decisions, as appropriate;
5.	be aware of the impact of culture, equality, and diversity on practice	<p>Respondents suggested a number of different standards covering the following areas:</p> <ul style="list-style-type: none"> • the ability to demonstrate empathy; • the need to be aware of their own feelings/beliefs/prejudices and the need to put these to one side in providing care; • requirement to take account of sensory/deficits/impairments and modify approach accordingly (could also sit under standard 8);
6.	be able to practise in a non-discriminatory manner	<p>A number of respondents felt that additional standards should be listed beneath generic standard 6. Suggestions included:</p> <ul style="list-style-type: none"> • being able to promote equality and diversity within their practice; • understanding the need to promote equality and culturally sensitive services
7.	be able to maintain confidentiality	<p>Respondents suggested a number of different standards covering the following areas:</p> <ul style="list-style-type: none"> • addition of standards around the responsible use of social media and communicating online with others;

		<ul style="list-style-type: none"> • Being able to recognise and respond appropriately to situations where it is necessary to share information to safeguard service users or the wider public.
8.	be able to communicate effectively	<p>Respondents suggested a number of different standards covering the following areas:</p> <ul style="list-style-type: none"> • understanding of the concepts of motivational interviewing
9.	be able to work appropriately with others	<p>Respondents suggested a number of different standards covering the following areas:</p> <ul style="list-style-type: none"> • additional requirements around collaborative working; • recognise and understand the roles, responsibilities, and value base of other professionals within the multi-disciplinary team • standards around understanding the importance of teaching and training others (also see comments under standard 14) including: <ul style="list-style-type: none"> – understanding the principles of teaching and learning for undergraduate and postgraduate students; – recognising the importance of the radiographer’s role in teaching and training students and practitioners from all health and social care professions as appropriate; – Supporting students to identify the roles, responsibilities and values of their profession and how radiographers interact with others in the multidisciplinary team; • more emphasis on health and social care integration; • understanding the need to maintain professional behaviours and to display these at all times when interacting with users of the service, colleagues and team members; • ability to develop effective/therapeutic relationships with members of the healthcare team; • emphasise importance of rehabilitation and re-enablement; • emphasise the need/importance of involving patients/service users in all decisions, and ensuring that all decisions are person-centred;

		<ul style="list-style-type: none"> ensuring that decisions taken are in the best interests of patients/service users and do not reflect only the values of healthcare providers; motivating service users to adapt/change behaviour Adding the qualifier 'autonomous professional' in all standards where professional is mentioned <p>Suggested new standards to underpin the Clinical Leadership Competency Framework elements:</p> <ul style="list-style-type: none"> understand the need to work with those who provide services in and across different sectors; recognise the need to participate effectively in the planning, implementation and evaluation of multi-professional approaches to healthcare delivery by liaising with other healthcare professionals; be able to contribute effectively to work undertaken as part of a multi-disciplinary team; understand the value of enabling and empowering service users with the aim of enhancing their access to all services and opportunities which are available to them, as appropriate; understand group dynamics and roles, and be able to facilitate group work, in order to maximise support, learning and change within groups and communities; understand the value of encouraging dialogue and debate with a wide range of people including service users, other professionals, support staff and others and recognising different perspectives.
10.	be able to maintain records appropriately	
11.	be able to reflect on and review practice	<p>Respondents suggested a number of different standards covering the following areas:</p> <ul style="list-style-type: none"> importance of having insight and being self aware, and modifying behaviour where necessary – linked to reflective and conscientious practice; seeking and responding to feedback, and being seen to demonstrate the same <p>Suggested new standards to underpin the Clinical Leadership Competency Framework</p>

		<p>elements:</p> <ul style="list-style-type: none"> • recognise the value of multi-disciplinary team review and other methods of review; • be able to change behaviour in light of feedback and reflection, as appropriate; • be able to acknowledge mistakes and treat them as learning opportunities; • understand the need for change and questioning the status quo, as appropriate, and its impact on people and services.
12.	be able to assure the quality of their practice	<p>Respondents suggested a number of different standards covering the following areas:</p> <ul style="list-style-type: none"> • the need to be able to demonstrate accountability for practice as well as being responsible for it; • being able to provide rationale for all decisions take and demonstrate consideration of alternative courses of action; <p>Suggested new standards to underpin the Clinical Leadership Competency Framework elements:</p> <ul style="list-style-type: none"> • understand the need to actively contribute to plans to achieve service goals; • understand the value of supporting plans for services that are part of the strategy for the wider healthcare system, as appropriate; • understanding what resources are available, and understanding the need for using resources effectively, safely, and reflecting the diversity of needs; • be able to hold themselves and others accountable for service outcomes, as appropriate; • be able to use evidence, both positive and negative, to identify options; • be able to use systemic ways of assessing and minimising risk; • be able to monitor the effects and outcomes of change; • understand the value in measuring and evaluating outcomes, taking corrective actions where necessary, as appropriate.
13.	understand the key concepts of the knowledge base relevant to their profession	<p>Respondents suggested a number of different standards covering the following areas:</p>

		<ul style="list-style-type: none"> • reference to brachytherapy • understand and use the principles of shared leadership; - or alternatively the range of standards suggested under generic standards 4, 9, 11, 12, 13, 14); <p>Suggested standards to reference the use of radiopharmaceuticals:</p> <p>For diagnostic radiographers:</p> <ul style="list-style-type: none"> • be able to assist with imaging procedures involving the use of radionuclides <p>For therapeutic radiographers:</p> <ul style="list-style-type: none"> • understand the physical and pharmacological principles of radionuclides underpinning therapeutic applications <p>Suggested new standards to underpin the Clinical Leadership Competency Framework elements:</p> <ul style="list-style-type: none"> • understand the value of actively contributing to change processes that lead to improving healthcare, as appropriate;
14.	be able to draw on appropriate knowledge and skills to inform practice	<p>Respondents suggested a number of different standards covering the following areas:</p> <ul style="list-style-type: none"> • responsibility to promote health and healthy lifestyles– identifying when there are problems with a service user’s health generally and knowing when to suggest they should seek support; • being able to recognise risks and side-effects associated with various radiography interventions, knowing how to assess and manage these; • recognising the need to arrange appropriate follow-up and providing relevant guidance about the risk and side-effects associated with radiography interventions • understanding of their role as an educator and be able to draw on principles and techniques that facilitate learning in others • understanding of their role as a leader and be able to draw on principles and techniques to underpin their leadership approach; (also see comments under generic standards 4, 9, 11, 12, 13); • being able to obtain a clinical history and undertake clinical examination where appropriate

		<ul style="list-style-type: none"> recognising the importance of actively engaging in research to further body of knowledge related to the profession <p>Suggested new standards to underpin the Clinical Leadership Competency Framework elements:</p> <ul style="list-style-type: none"> understand the structure and function of health, education and social care services in the UK and current developments
15.	understand the need to establish and maintain a safe practice environment	

Appendix 3: Detailed comments on the draft standards

Respondents' proposed deletions are indicated in the text by ~~strikethrough~~ whilst additions are shown in **bold**.

This section does not include comments received about the generic standards, as they were not within the scope of the consultation.

No.	Standard	
1.	be able to practise safely and effectively within their scope of practice	
1.1	know the limits of their practice and when to seek advice or refer to another professional	Suggested amendment: <ul style="list-style-type: none"> • know the safe limits of their practice and when to seek advice or refer to another professional to ensure safe practice is delivered
1.2	be able to manage their own workload and resources effectively and be able to practise accordingly	One respondent suggested the following amendment: <ul style="list-style-type: none"> • recognise the need to manage their own workload and resources effectively to support service needs and be able to practise accordingly
2.	be able to practise within the legal and ethical boundaries of their profession	
2.1	understand the need to act in the best interests of service users at all times	
2.2	understand what is required of them by the Health and Care Professions Council	

No.	Standard	
2.3	understand the need to respect and uphold the rights, dignity, values, and autonomy of service users including their role in the diagnostic and therapeutic process and in maintaining health and wellbeing	
2.4	recognise that relationships with service users should be based on mutual respect and trust, and be able to maintain high standards of care even in situations of personal incompatibility	Respondents felt this standard could be clearer, and that it was potentially unnecessary as these principles are part of patient-centred care.
2.5	know about current legislation applicable to the work of their profession	Suggested amendment: <ul style="list-style-type: none"> • know about understand and be able to apply current legislation applicable to the work of their profession
2.6	be able to practise in accordance with current legislation governing the use of ionising and non-ionising radiation for medical and other purposes	
2.7	understand the importance of and be able to obtain informed consent	Some respondents felt that this standard should also encompass the ability to support service users who decline to give consent: <ul style="list-style-type: none"> • understand the importance of and be able to obtain informed consent and support service users who decline to give consent
2.8	be able to exercise a professional duty of care	
2.9	understand the legislative, policy, ethical and research frameworks that underpin, inform and influence the practice of radiography	Suggested amendment: <ul style="list-style-type: none"> • understand and be able to apply the legislative, policy, ethical and research frameworks that underpin, inform and influence the practice of radiography
3.	be able to maintain fitness to practise	

No.	Standard	
3.1	understand the need to maintain high standards of personal conduct	Suggested amendment: <ul style="list-style-type: none"> understand the need to maintain high standards of personal and professional conduct
3.2	understand the importance of maintaining their own health	Suggested amendment: <ul style="list-style-type: none"> understand the importance of maintaining their own health, and well-being
3.3	understand both the need to keep skills and knowledge up to date and the importance of life-long learning	Suggested amendment: <ul style="list-style-type: none"> understand and demonstrate over time both the need to keep skills and knowledge up to date and the importance of life-long learning
4.	be able to practise as an autonomous professional, exercising their own professional judgement	
4.1	be able to assess a professional situation, determine the nature and severity of the problem and call upon the required knowledge and experience to deal with the problem	Respondents felt that standards 4.1 and 4.2 are very similar and should be combined.
4.2	be able to make reasoned decisions to initiate, continue, modify or cease radiotherapy treatment or diagnostic imaging examinations and record the decisions and reasoning appropriately	
4.3	be able to initiate resolution of problems and be able to exercise personal initiative	
4.4	recognise that they are personally responsible for and must be able to justify their decisions	

No.	Standard	
4.5	be able to make and receive appropriate referrals	<p>Some respondents felt that amendments were required to the wording of this for the standard to be more appropriate and applicable to newly-qualified radiographers:</p> <ul style="list-style-type: none"> • be able to make and receive accept appropriate referrals
4.6	understand the importance of participation in training, supervision, and mentoring	<p>Suggested amendments:</p> <ul style="list-style-type: none"> • understand the importance of participation in training, supervision, and mentoring and be able to demonstrate over time • understand the importance of and participate participation in training, supervision, and mentoring
5.	be aware of the impact of culture, equality, and diversity on practice	
5.1	understand the requirement to adapt practice to meet the needs of different groups and individuals	
5.2	understand the emotions, behaviours and psychosocial needs of people undergoing radiotherapy or diagnostic imaging, as well as that of their families and carers	
5.3	be able to provide appropriate information and support for service users throughout their radiotherapy treatment and care or diagnostic imaging examinations	
6.	be able to practise in a non-discriminatory manner	
7.	understand the importance of and be able to maintain confidentiality	

No.	Standard	
7.1	be aware of the limits of the concept of confidentiality	Some respondents felt that this standard required additional clarification
7.2	understand the principles of information governance and be aware of the safe and effective use of health and social care information	One respondent felt that radiographers need to know how the principles of information governance relate their practice, rather than just know the principles.
8.	be able to communicate effectively	
8.1	be able to demonstrate effective and appropriate verbal and non-verbal skills in communicating information, advice, instruction and professional opinion to service users, colleagues, and others	
8.2	be able to communicate in English to the standard equivalent to level 7 of the International English Language Testing System, with no element below 6.5 ⁵	

⁵ The International English Language Testing System (IELTS) tests competence in spoken and written English. Applicants who have qualified outside of the UK, whose first language is not English and who are not nationals of a country within the European Economic Area (EEA) or Switzerland, have to provide evidence that they have reached the necessary standard. We also accept the TOEFL test as an equivalent. Please visit our website for more information.

No.	Standard	
8.3	understand how communication skills affect assessment and engagement of service users and how the means of communication should be modified to address and take account of factors such as age, physical ability, capacity, and learning ability	<p>Some respondents felt that it was not appropriate to attempt to provide a list of all possible groups, and that more general requirements would be more appropriate. Others felt that additional aspects should be included.</p> <p>Suggested amendments:</p> <ul style="list-style-type: none"> • understand how communication skills affect assessment and engagement of service users and how the means of communication should be modified to address and take account of factors such as age, physical ability, capacity, emotional state, and learning ability • understand how communication skills affect assessment and engagement of service users and how the means of communication should be modified to address and take account of the needs of service users factors such as age, physical ability, capacity, and learning ability
8.4	be aware of the characteristics and consequences of verbal and non-verbal communication and how this can be affected by factors such as culture, age, ethnicity, gender, religious beliefs and socio-economic status	<p>Some respondents felt that it was not appropriate to attempt to provide a list of all possible groups, and that more general requirements would be more appropriate. Some respondents felt that it was not realistic to expect radiographers to be aware of these characteristics.</p>
8.5	understand the need to provide service users or people acting on their behalf with the information necessary to enable them to make informed decisions	
8.6	understand the need to assist the communication needs of service users such as through the use of an appropriate interpreter, wherever possible	<p>Suggested amendment:</p> <ul style="list-style-type: none"> • understand the need to assist the communication needs of service users such as through the use of an appropriate interpreter, wherever possible or additional time to enable the service user to speak or use communication aids

No.	Standard	
8.7	recognise the need to use interpersonal skills to encourage the active participation of service users	
8.8	be able to advise other healthcare professionals about the relevance and application of radiotherapy or imaging modalities to the service user's needs	<p>Suggested amendment:</p> <ul style="list-style-type: none"> • be able to work with and communicate with advise other healthcare professionals about the relevance and application of radiotherapy or imaging modalities to the service user's needs • be able to advise other healthcare professionals about the relevance and application of radiotherapy or diagnostic imaging modalities to the service user's needs
8.9	be able to formulate and provide information to service users about the treatment or imaging process and procedures, with regular reappraisal of their information needs, as appropriate	
9.	be able to work appropriately with others	
9.1	be able to work, where appropriate, in partnership with service users, other professionals, support staff, and others	<p>One respondent felt that the terms 'partnership' and 'collaboration' should be used together in this standard as they felt the term 'collaboration' is more general and could apply to sharing of information, referrals, or more sustained teamwork, rather than partnership which implies shared decision-making and an equal status.</p> <p>One respondent suggested the following amendment:</p> <ul style="list-style-type: none"> • be able to work, where appropriate, in partnership with service users, other professionals, support staff, communities, and others and encourage their contribution • be able to work, where appropriate, in partnership and collaboration with service users, other professionals, support staff, and others • be able to work, where appropriate, in partnership with service users, carers other professionals, support staff, and others

No.	Standard	
9.2	understand the need to build and sustain professional relationships as both an independent professional and collaboratively as a member of a team	
9.3	understand the need to engage service users and carers in planning and evaluating their diagnostic imaging and interventional procedures or their radiotherapy pre-treatment planning, treatment, and follow-up	
9.4	be aware of the need to empower service users to participate in the decision-making processes related to their radiotherapy or diagnostic imaging examination	
9.5	be able to contribute effectively to work undertaken as part of a multi-disciplinary team	
9.6	be able to understand, interpret and act upon information from other healthcare professionals, in order to maximise health gain whilst minimising radiation dose to the service user	<p>Suggested amendment:</p> <ul style="list-style-type: none"> • be able to understand, interpret and act upon information from other health and social care professionals, in order to maximise health gain whilst minimising radiation dose to the service user • be able to understand, interpret and act upon information from other healthcare professionals, in order to maximise health gain whilst minimising radiation dose to the service user
10.	be able to maintain records appropriately	

No.	Standard	
10.1	be able to keep accurate, legible records	Suggested amendments: <ul style="list-style-type: none"> • be able to keep accurate, timely legible records • be able to keep accurate, legible records and electronic records
10.2	recognise the need to manage records and all other information in accordance with applicable legislation, protocols and guidelines	
10.3	understand the need to use only accepted terminology in making records	One respondent felt that there was a need to clarify what is meant by 'accepted terminology' in records.
11.	be able to reflect on and review practice	
11.1	understand the value of reflection on practice and the need to record the outcome of such reflection	Respondents suggested the following changes: <ul style="list-style-type: none"> • understand the value of reflection on practice and the need to record and critically evaluate the outcome of such reflection;
11.2	recognise the value of multidisciplinary team reviews and other methods of review	
12.	be able to assure the quality of their practice	
12.1	be able to engage in evidence-based practice, evaluate practice systematically, and participate in clinical and other audit procedures	Suggested amendment: <ul style="list-style-type: none"> • be able to engage in evidence-informed based practice, evaluate practice systematically, and participate in clinical and other audit procedures
12.2	be able to gather feedback and information that helps to evaluate the response of service users to their care	

No.	Standard	
12.3	understand the principles of quality control and quality assurance as they apply to the practice of diagnostic or therapeutic radiography	
12.4	be aware of the role of audit and review in quality management, including quality control, quality assurance, and the use of appropriate outcome measures	
12.5	be able to maintain an effective audit trail and work towards continual improvement	
12.6	be aware of, and able to participate in quality assurance programmes, where appropriate	
12.7	be able to evaluate intervention plans using recognised outcome measures and revise the plans as necessary in conjunction with the service user	Some respondents felt that this requirement is beyond threshold level for newly qualified radiographers. Respondents suggested that this would only be applicable to the practice of experienced therapeutic radiographers.
12.8	recognise the need to monitor and evaluate the quality of practice and the value of contributing to the generation of data for quality assurance and improvement programmes	
13.	understand the key concepts of the knowledge base relevant to their profession	
13.1	understand the philosophy underpinning the development of the profession of radiography	Some respondents felt that this requirement is too broad and that it needed further clarification.

No.	Standard	
13.2	understand the role of the radiographer in the promotion of health and health education in relation to healthy living and health screening for disease detection	
13.3	recognise the role of other professions and services in health and social care	
13.4	understand the structure and function of the human body, together with knowledge of health, disease, disorder and dysfunction relevant to their profession	<p>Suggested amendments:</p> <ul style="list-style-type: none"> • have a general understanding of the structure and function of the human body, together with knowledge of health, disease, disorder and dysfunction relevant to their profession
13.5	understand the radiobiological principles on which the practice of radiography is based	
13.6	understand the risk-benefit philosophy and principles involved in the practice of diagnostic or therapeutic radiography	
13.7	be aware of the principles and applications of scientific enquiry, including the evaluation of treatment efficacy and the research process	
13.8	understand and be able to apply the physical principles of ionising radiation production, interaction with matter, beam modification and radiation protection for diagnostic imaging or radiotherapy treatment	

No.	Standard	
13.9	know the physical and scientific principles on which image formation using ionising and non-ionising radiation is based	Respondents felt that the level of knowledge required by this standard should be quantified.
13.10	understand radiation dosimetry and the principles of dose calculation	Some respondents felt that this requirement is beyond threshold level for newly qualified radiographers. Some respondents also felt that the standard is only relevant to radiotherapy, not diagnostic radiography.
13.11	understand the theoretical basis underpinning patient assessment prior to and during radiotherapy or diagnostic imaging examinations.	
13.12	understand the capability, applications and range of technological equipment used in diagnostic imaging or radiotherapy	
13.13	distinguish between normal and abnormal appearances evident on images	Some respondents felt that this requirement is beyond threshold level for newly qualified radiographers, and that further qualification is required. Some respondents felt that this standard is only relevant to diagnostic radiography.
13.14	know the concepts and principles involved in the practice of diagnostic imaging or radiotherapy and how these inform and direct clinical judgement and decision making	Respondents felt that the level of knowledge required by this standard should be quantified.
13.15	know the pharmacology of drugs used in diagnostic imaging or during radiotherapy treatments	Some respondents felt that this requirement is beyond threshold level for newly qualified radiographers. Respondents felt that the level of knowledge required by this standard should be quantified.
13.16	understand the methods of administration of drugs	

No.	Standard	
13.17	be able to remove and re-apply dressings and supports appropriately and in a safe, effective and considerate manner	One respondent felt that this requirement is too wide, and that it would be unreasonable to expect radiographers to know how to apply dressings across a very wide range.
13.18	understand the quality assurance processes in place within diagnostic imaging or radiotherapy	Some respondents were concerned that this standard confused the competency requirements between diagnostic and therapeutic radiographers.
13.19	be aware of the current developments and trends in the science and practice of radiography	
13.20	<p>Therapeutic radiographers only</p> <p>understand the structure and function of the human body in health and disease, including</p> <ul style="list-style-type: none"> - regional and cross-sectional anatomy of the head, neck, thorax and abdomen; and - common pathologies and mechanisms of disease with a concentration on cancer, histology, haematology, and the lymphatic and immune systems 	<p>Suggested amendment:</p> <ul style="list-style-type: none"> • understand the structure and function of the human body in health and disease, including <ul style="list-style-type: none"> - regional and cross-sectional anatomy of the head, neck, thorax, pelvis and abdomen; and - common pathologies and mechanisms of disease with a concentration on cancer and modes of spread, histology, haematology, and the lymphatic and immune systems
13.21	<p>understand:</p> <ul style="list-style-type: none"> - oncology, the pathophysiology of solid and systemic malignancies; - epidemiology; - aetiology; and - the management and effect of cancer 	<p>Suggested amendment:</p> <ul style="list-style-type: none"> • understand: <ul style="list-style-type: none"> - oncology, and the management of cancer the pathophysiology of solid and systemic malignancies; epidemiology; aetiology; and - the management and effect of cancer

No.	Standard	
13.22	know the physiological signs and symptoms, clinical investigations and diagnostic procedures that result in referral for radiotherapy	Respondents felt that the level of knowledge required by this standard should be quantified.
13.23	know the biochemical science of radiation pathophysiology	Respondents felt that the level of knowledge required by this standard should be quantified. Suggested amendment: <ul style="list-style-type: none"> • know the biochemical science of radiobiology and effects of radiation on the body radiation pathophysiology
13.24	understand the influence of adjuvant treatment including surgery and chemotherapy on radiotherapy dose prescription, timing of radiotherapy and post radiotherapy complications	
13.25	<p>Diagnostic radiographers only</p> <p>understand the structure and function of the human body in health, disease and trauma, as well as common pathologies and mechanisms of disease and trauma, including the</p> <ul style="list-style-type: none"> - musculoskeletal system; - soft tissue organs; - regional and cross-sectional anatomy of the head, neck, thorax, and abdomen; and - the cardiovascular, respiratory, genito-urinary, gastro-intestinal and neuro-endocrine systems 	<p>Some respondents felt that this requirement is beyond threshold level for newly qualified radiographers.</p> <p>Suggested amendment:</p> <ul style="list-style-type: none"> • understand the structure and function of the human body in health, disease and trauma, as well as common pathologies and mechanisms of disease and trauma, including the <ul style="list-style-type: none"> - musculoskeletal system; - soft tissue organs; - regional and cross-sectional anatomy of the head, neck, thorax, pelvis and abdomen; and - the cardiovascular, respiratory, genito-urinary renal, gastro-intestinal and neuro-endocrine systems

No.	Standard	
13.26	understand the signs and symptoms of disease and trauma that result in referral for diagnostic imaging procedures	Some respondents felt that this requirement is beyond threshold level for newly qualified radiographers.
14.	be able to draw on appropriate knowledge and skills to inform practice	
14.1	be able to conduct appropriate diagnostic or monitoring procedures, treatment, therapy, or other actions safely and accurately	Some respondents were concerned that this standard confused the competency requirements between diagnostic and therapeutic radiographers.
14.2	be able to formulate specific and appropriate management plans including the setting of timescales	Some respondents felt that this was not set at a threshold level and that clinical assessments are generally only carried out by specialised or senior staff.
14.3	be able to assess, monitor and care for the service user before, during and after diagnostic imaging procedures or radiotherapy treatments	Some respondents were concerned that this standard confused the competency requirements between diagnostic and therapeutic radiographers.
14.4	be able to use independent methods to establish and confirm service user identity prior to undertaking diagnostic imaging procedures or delivering radiotherapy treatments	Some respondents were concerned that this standard confused the competency requirements between diagnostic and therapeutic radiographers.
14.5	be able to undertake or arrange investigations as appropriate	
14.6	be able to undertake and record a thorough, sensitive and detailed clinical assessment, selecting and using appropriate techniques and equipment	Some respondents felt that this was not set at a threshold level and that clinical assessments are generally only carried out by specialised or more senior staff.

No.	Standard	
14.7	be able to gather appropriate information	<p>Suggested amendments:</p> <ul style="list-style-type: none"> • be able to gather and use appropriate information using appropriate methods • be able to gather and use appropriate information
14.8	be able use physical, graphical, verbal and electronic methods to collect and analyse information from a range of sources including service user's clinical history, diagnostic images and reports, pathological tests and results, dose recording and treatment verification systems	
14.9	be able to interrogate and process data and information gathered accurately in order to conduct the imaging procedure or radiotherapy most appropriate to the service user's needs	
14.10	be able to appraise image information for clinical manifestations and technical accuracy, and take further action as required	Some respondents felt that this requirement is beyond threshold level for newly qualified radiographers.
14.11	be able to manage complex and unpredictable situations including the ability to adapt planned diagnostic imaging examinations, interventions or treatments and to manage adverse and critical care incidents, to prioritise workload and use of resources	<p>One respondent asked for further clarification on the difference between the requirements in this standard and the requirements of 15.7 which is about basic life support skills.</p> <p>Some respondents felt that this requirement is beyond threshold level for newly qualified radiographers.</p>
14.12	be able to demonstrate a logical and systematic approach to problem solving	

No.	Standard	
14.13	be able to change their practice as needed to take account of new developments, technologies and changing contexts	
14.14	be able to use research, reasoning and problem solving skills to determine appropriate actions	
14.15	be aware of a range of research methodologies	
14.16	recognise the value of research to the critical evaluation of practice	
14.17	be able to evaluate research and other evidence to inform their own practice	
14.18	be able to operate radiotherapy or diagnostic imaging equipment safely and accurately	<p>Suggested amendment:</p> <ul style="list-style-type: none"> • be able to operate radiotherapy or and diagnostic imaging equipment safely and accurately
14.19	be able to demonstrate spatial awareness, visual precision and manual dexterity in the precise and safe manipulation of treatment units or imaging equipment and related accessory equipment	<p>Some respondents felt that this requirement is beyond threshold level for newly qualified radiographers. Suggested amendment:</p> <ul style="list-style-type: none"> • be able to demonstrate spatial awareness, visual precision and manual dexterity in the precise and safe manipulation of treatment units or diagnostic imaging equipment and related accessory equipment
14.20	be able to check that equipment is functioning accurately and within the specifications, and to take appropriate action in the case of faulty functioning and operation	

No.	Standard	
14.21	be able to demonstrate a level of skill in the use of information and communication technologies appropriate to their practice	One respondent felt the requirement to 'demonstrate a level of skill' is too vague, and felt this standard should be clarified.
14.22	be able to apply the risk-benefit philosophy to radiation exposure to protect both individual service users and the population gene pool	One respondent felt that 'population gene pool' should be rephrased.
14.23	be able to calculate radiation doses and exposures	<p>Some respondents felt that this requirement is beyond threshold level for newly qualified radiographers. Respondents felt that diagnostic radiographers do not calculate dose and exposure, and that additional clarification is needed for them. Suggested amendment:</p> <ul style="list-style-type: none"> • be able to select exposures and record calculate radiation doses and exposures
14.24	be able to select and explain the rationale for examination and treatment techniques and immobilisation procedures appropriate to the service user's physical and disease management requirements	
14.25	be able to position and immobilise service users correctly for safe and accurate diagnostic imaging examinations or radiotherapy treatments	
14.26	understand the problems encountered at the interface of the service user and radiation / technology and be able to find appropriate solutions to such problems	One respondent felt this standard needs to be clarified

No.	Standard	
14.27	Diagnostic radiographers only be able to plan appropriate diagnostic imaging examinations	
14.28	be able to perform the full range of plain film and standard contrast agent examinations, including those undertaken on service users suffering from acute trauma, and where the service user's medical, physical or mental health needs require examinations to be carried out in non-standard imaging environments	Suggested amendment: <ul style="list-style-type: none"> • be able to perform the full range of plain film radiography and standard contrast agent examinations, including those undertaken on service users suffering from acute trauma, and where the service user's medical, physical or mental health needs require examinations to be carried out in non-standard imaging environments • be able to perform the full range of plain film and imaging techniques and contrast agent examinations, including those undertaken on service users suffering from acute trauma, and where the service user's medical, physical or mental health needs require examinations to be carried out in non-standard imaging environments
14.29	be able to manipulate exposure and image recording parameters to optimal effect	Some respondents felt that this requirement is beyond threshold level for newly qualified radiographers.
14.30	be able to use to best effect the processing and related technology supporting film-based and computer-based imaging systems	Suggested amendment: <ul style="list-style-type: none"> • be able to use to best effect the processing and related technology supporting film-based and computer-based imaging systems
14.31	be able to manage and assist with fluoroscopic diagnostic and interventional procedures, including those that are complex and involve the use of contrast agents	

No.	Standard	
14.32	be able to perform a standard head computed tomographic (CT) examinations, standard spine, chest and abdomen CT examinations for acute trauma, and to contribute effectively to more complex CT examinations	Many respondents felt this standard is not set at a threshold-level requirement, as the opportunities for students to study standard spine, chest, and abdomen CT scans for acute trauma are limited to placements in trauma centres and would not always be part of the training for all students studying radiography. Respondents were concerned that if this was introduced it would mean significant changes to placement requirements and would place a lot of burden on clinical departments to provide this level of training. Currently newly qualified radiographers would not always know how to perform a CT scan, but would be able to assist. Other respondents pointed out that in some areas, students have the option of learning the basis of head CT scanning, but that this is not an obligatory part of their course.
14.33	be able to assist with standard magnetic resonance imaging procedures	Some respondents felt that this standard is set below threshold level, and that newly qualified radiographers should be able to conduct these procedures, rather than just assist.
14.34	be able to assist with ultrasound imaging procedures	Some respondents felt that this standard is set below threshold level, and that newly qualified radiographers should be able to conduct these procedures, rather than just assist.
14.35	be able to distinguish disease and trauma processes as they manifest on diagnostic images and form a preliminary view on the imaging appearances	Some respondents felt that 'preliminary view' is a little vague, and suggested it should be made clearer. Other respondents felt that this requirement was beyond threshold level for newly qualified radiographers.
14.36	Therapeutic radiographers only be able to plan appropriate radiotherapy procedures	
14.37	be able to generate a treatment plan and verify treatment parameters ensuring optimal radiotherapy prescription delivery	

No.	Standard	
14.38	be able to use to best effect the image processing and related technology, including computer-based imaging systems for radiotherapy purposes	
14.39	be able to perform the full range of radiotherapy processes and techniques accurately and safely	
14.40	be able to scrutinise and interpret the radiation prescription in such a way that radiotherapy is delivered accurately and reproducibly	
14.41	be able to manage and assist with fluoroscopic procedures, including those requiring the use of contrast agents	
14.42	be able to perform standard CT planning procedures	Some respondents felt that this requirement is beyond threshold level for newly qualified radiographers.
14.43	be able to construct appropriate immobilisation devices, individualised to the specific needs of each patient and the treatment regime prescribed	Some respondents felt that there may be difficulty in achieving this standard.
14.44	be able to undertake complex radiation dose delivery calculations involving a range of radiation types and energies	
14.45	be able to localise the target volume precisely in relation to external surface and anatomical reference markings using a range of techniques including computed tomography and magnetic resonance imaging	

No.	Standard	
14.46	be able to manipulate exposure and image recording parameters to optimal effect and interpret and evaluate images obtained during radiotherapy planning and treatment	
14.47	be able to interpret and evaluate images obtained during radiotherapy planning and treatment	
14.48	be able to identify organs at risk on images to provide information for radiotherapy treatment planning	
14.49	be able to recognise changing signs, symptoms and progression of disease, and make appropriate decisions not to treat or to review further before proceeding with treatment	
14.50	<p>All radiographers – supplementary prescribers only</p> <p>know and be able to apply the key concepts which are relevant to safe and effective practice as a supplementary prescriber (this standard applies only to registrants who are eligible to have their name annotated on the Register)</p>	
15.	understand the need to establish and maintain a safe practice environment	
15.1	understand the need to maintain the safety of both service users and those involved in their care	

No.	Standard	
15.2	be aware of applicable health and safety legislation, and any relevant safety policies and procedures in force at the workplace, such as incident reporting, and be able to act in accordance with these	
15.3	understand the need to ensure the physical and radiation safety of all individuals in the immediate work environment at all times	
15.4	be able to establish safe environments for practice, which minimise risks to service users, those treating them, and others, including the use of hazard control and particularly infection control	<p>Some respondents felt that this standard did not include diagnostic radiography.</p> <p>Suggested amendment:</p> <ul style="list-style-type: none"> • be able to establish safe environments for practice, which minimise risks to service users, those treating them, and others, including the use of hazard control and particularly infection control prevention
15.5	be able to work safely, including being able to select appropriate hazard control and risk management, reduction or elimination techniques in a safe manner and in accordance with health and safety legislation	
15.6	be able to select appropriate personal protective equipment and use it correctly	
15.7	be able to use basic life support techniques and be able to deal safely with clinical emergencies	
15.8	know and be able to apply appropriate moving and handling techniques	

No.	Standard	
15.9	know the correct principles and applications of disinfectants, methods for sterilisation and decontamination, and for dealing with waste and spillages correctly	
15.10	be aware of immunisation requirements and the role of occupational health	One respondent felt that additional information was required to clarify this standard.