Consultation on changes to the profession-specific standards of proficiency for clinical scientists

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

1. Introduction

About the consultation

1.1 We consulted between 31 March 2014 and 20 June 2014 on proposed changes to the profession-specific standards of proficiency for clinical scientists.

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 informed a range of stakeholders about the consultation 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 a regulator and were set up to protect the public. To do this, we keep a register of health and care professionals who meet our standards for their professional skills and behaviour. Individuals on our register are called "registrants".

1.6 We currently regulate 16 health and care professions:
- Arts therapists
- Biomedical scientists
- Chiropodists / podiatrists
- Clinical scientists
- Dietitians
- Hearing aid dispensers
- Occupational therapists
- Operating department practitioners
- Orthoptists
- Paramedics
- Physiotherapists
- Practitioner psychologists
- Prosthetists / orthotists
- Radiographers
- Social workers in England
- Speech and language therapists

Reviewing the standards of proficiency

1.7 The standards of proficiency for clinical scientists set standards for the safe and effective practice of the profession. They do so by describing what professionals must know, understand, and be able to do in order to apply to join our Register.

1.8 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.

1.9 The standards are divided into generic standards, which apply to all the professions on our Register, and standards specific to each individual profession. Under the new structure, most of the standards of proficiency will be profession-specific, listed under 15 new generic standards.

1.10 The purpose of the generic standards is to recognise commonality across all the professions that we regulate, while the purpose of the profession-specific standards is to set out additional standards for clinical scientists related to the generic standard.

1.11 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.

1.12 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 reflect current terminology;
- reflect the standard content of pre-registration education programmes;
- clarify the intention of existing standards; and
- correct omissions or avoid duplication.

1.13 Our initial revision of the profession-specific standards was informed by discussions with the professional body for clinical scientists – the Association of Clinical Scientists. We then consulted on these draft revisions.

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

1.14 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 received to help us decide if any further amendments are needed.

1.15 Once the final sets of standards are approved, they will be published and become effective. We will then work with education providers to implement the new standards after they are published.

About this document

1.16 This document summarises the responses we received to the consultation. The results of this consultation have been used to revise the proposed standards of proficiency for clinical scientists.

1.17 The document is divided into the following sections.

- **Section two** explains how we handled and analysed the responses we received, providing some overall statistics from the responses.
- **Section three** summarises the general comments we received in response to the consultation.
- **Section four** outlines the comments we received in relation to specific questions within the consultation.
- **Section five** outlines our responses to the comments we received and the changes we are making as a result.
- **Section six** lists the organisations which responded to the consultation.

1.18 This paper also has three appendices.

- Appendix one lists the standards after consultation (subject to minor editing amendments and legal scrutiny).
- Appendix two lists all the comments we received suggesting additional standards.
- Appendix three lists all the comments we received suggesting amendments to the draft standards.

1.19 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. Whilst we cannot include all of the responses in this document, a summary of responses can be found in sections three and four.

Method of recording and analysis

2.2 The majority of respondents used our online survey tool to respond to the consultation. They self-selected whether their response was an individual or an organisation response, and, where answered, selected their response to each question (eg yes; no; partly; don't know). Where we received responses by email or by letter, we recorded each response in a similar manner.

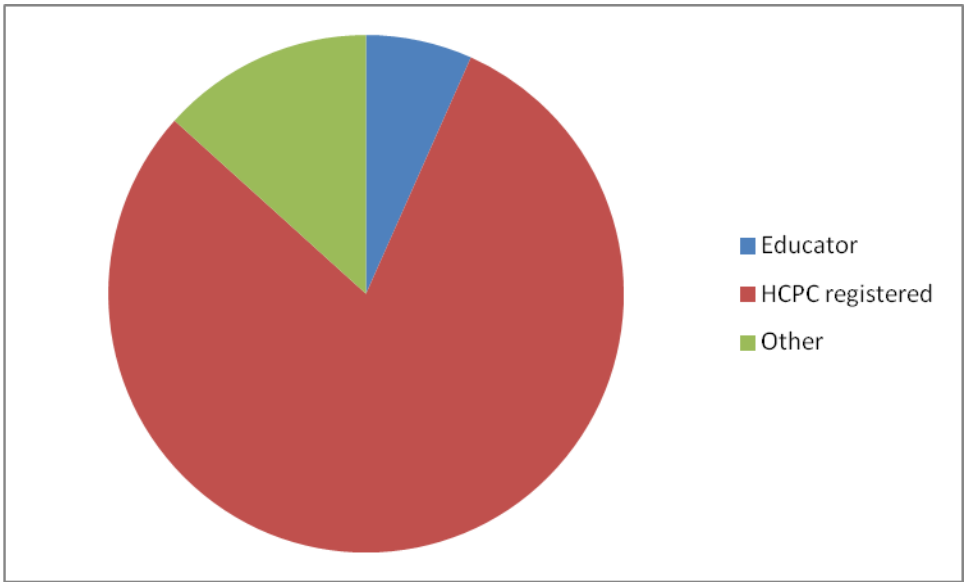
2.3 When deciding what information to include in this document, we assessed the frequency of the comments made and identified themes. This document summarises the common themes across all responses, and indicates the frequency of arguments and comments made by respondents.

Statistics

2.4 We received 46 responses to the consultation. 30 (65 per cent) of responses were received from individuals and 16 (35 per cent) from organisations. Of the 30 individual responses, 24 (80 per cent) were from HCPC registered professionals.

2.5 The breakdown of respondents and of responses to each question is shown in the graphs and tables which follow.

Graph 1 – Breakdown of individual responses



Graph 2 – Breakdown of organisation responses

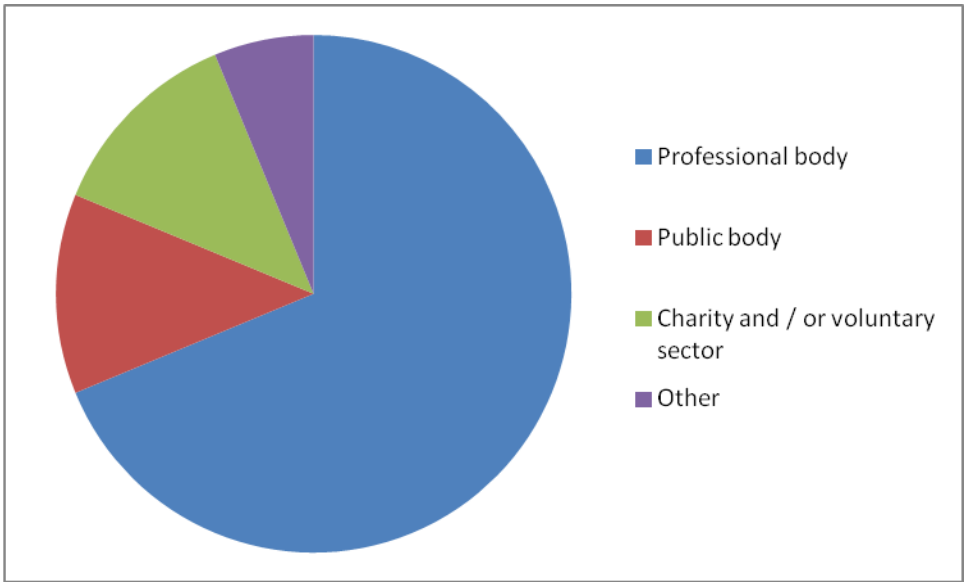


Table 1 – Breakdown of responses to each question

Questions	Yes	No	Partly	Don't know
1. Do you think the standards are at a threshold level necessary for safe and effective practice?	39 (85%)	2 (4%)	4 (9%)	1 (2%)
2. Do you think any additional standards are necessary?	12 (26%)	32 (70%)	N/A	2 (4%)
3. Do you think there are any standards which should be reworded or removed?	20 (43%)	21 (46%)	N/A	5 (11%)
4. Do you have any comments about the language used in the standards?	9 (20%)	36 (78%)	N/A	1 (2%)

Table 2 – Breakdown of responses by respondent type

	Individuals					Organisations			
	Yes	No	Partly	Don't Know		Yes	No	Partly	Don't Know
Question 1	24 (80%)	2 (7%)	4 (13%)	0 (0%)		15 (94%)	0 (0%)	0 (0%)	1 (6%)
Question 2	4 (13%)	25 (83%)	N/A	1 (3%)		8 (50%)	7 (44%)	N/A	1 (6%)
Question 3	10 (33%)	17 (57%)	N/A	3 (10%)		10 (63%)	4 (25%)	N/A	2 (13%)
Question 4	4 (13%)	26 (87%)	N/A	0 (0%)		5 (31%)	10 (63%)	N/A	1 (6%)

- Percentages in the tables above have been rounded to the nearest whole number and therefore may not add to 100 per cent.
- Question five invited any further comments rather than a 'yes' or 'no' answers so it is not included in the above tables.

3. General comments

3.1 This section outlines the general themes that arose from the responses we received to the consultation.

Interaction with other frameworks

3.2 A few respondents mentioned other frameworks which outline recommendations and good practice for both clinical scientists and other healthcare professionals. They subsequently sought some reference to these in the revised standards. These included:

- the International Organisation for Standardization's standards and terminology (including ISO 15189);
- Health Education England's (HEE) research and innovation strategy;
- the Department of Health and National Health Service (NHS) Commission Board's Compassion in Practice – Our Culture of Compassionate Care (6 C's) guidelines;
- the NHS Scientist Training Programme's (STP) curricula;
- wider regulatory bodies' standards and compliance with them for example the Medicines and Healthcare Products Regulatory Agency (MHRA); and
- the Academy for Healthcare Science's *Good Scientific Practice* document which summarises professional standards across healthcare science.

3.3 On the other hand, one respondent commented that our proposed standards already met the requirements of other organisations and their standards, such as the Human Fertilisation and Embryology Authority's (HFEA) code of practice.

Content of individual standards

3.4 Several respondents were concerned about the content of individual standards and / or pointed to possible omissions. The following provides an overview of some of the main concerns voiced by respondents.

3.5 A few respondents commented on communication issues within the standards. There was general support for strengthening the communication requirements in a number of spheres. These included:

- reference to co-morbidity, its impact on communication and placing an onus on registrants to assist further with individual communication requirements;
- communicating with colleagues both within and outside of their profession;
- communicating the outcome of investigations to service users and others;
- utilising assistive technology to aid communication;

- adapting communication requirements to take account of sensory loss;
- communicating with carers and relatives; and
- extending our English language competency requirements to all registrants and service users.

3.6 Other respondents sought to strengthen the requirements for registrants in a number of spheres. These included:

- practising in a non-discriminatory manner;
- assuring the quality of their practice; and
- adhering to a duty of candour.

3.7 Some respondents also sought additional profession-specific detail in the standards. These included:

- referring to additional terms and specialisms;
- record keeping; and
- strengthening the learning requirements for registrants (including reference to inter-professional learning) in the standards.

3.8 One respondent sought the inclusion of additional standards which had been contained or derived from the proposed standards for biomedical scientists. These included:

- be able to assess the significance of British, European and International standards of practice; and
- be able to assess and communicate the impact of the modality's clinical services on the patient pathway.

'Be able to' / 'understand' etc

3.9 Whilst some respondents supported and acknowledged the rationale behind the use of such phrases as 'know', 'be able to', 'be aware of' and 'understand' which made the standards more accessible and usable, a number of other respondents were concerned about this choice of construction. There was a variety of views on this point.

3.10 Concerns voiced by respondents about this wording and construction of the standards included:

- questioning how we would measure this requirement;
- questioning whether the current wording made for safe and effective practice;
- pointing to the tension between understanding a competency and actually applying it in practice;
- supporting stronger reference to compliance; and
- substituting this requirement with a stronger expectation.

3.11 A stronger application / requirement was sought by some respondents in the following standards:

- Standard 2 – be able to practise within the legal and ethical boundaries of their profession;

- Standard 4.4 – be able to initiate resolution of problems and be able to exercise personal initiative;
- Standard 12.10 – recognise the need to be aware of emerging technologies and new developments;
- Standard 13.3 – recognise the role of other professions in health and social care; and
- Standard 14.20 – be able to critically evaluate research and other evidence to inform their own practice.

3.12 Whereas another respondent suggested compiling two sets of standards, one for education requirements and the other for practice requirements, in order to overcome difficulties with the wording and to clarify our expectations for both perspective registrants and registrants.

Employer tensions, nature of the role and meeting the standards

3.13 A few respondents were concerned about the ability of all registrants to meet the standards of proficiency and provide evidence for this. These concerns included:

- questioning the applicability of the standards for all registrants; and
- arguing that the nature of the role of a clinical scientist did not cater for much direct patient contact.

3.14 Several respondents commented on the issue of informed consent. There was a disparity of views with regard to the importance and relevance of obtaining informed consent for all registrants. Some respondents:

- supported registrants checking if informed consent had been obtained by another healthcare professional;
- supported registrants having an understanding of current legislation on this issue; and
- supported extending the requirement for a registrant to obtain informed consent when undertaking fundamental research.

3.15 Other respondents, meanwhile, questioned the applicability of a variety of standards and / or terminology used therein for registrants. These included:

- Standard 4.6 – be able to make and receive appropriate referrals;
- Standard 11.2 – recognise the value of case conferences and other methods of review;
- Standard 13.2 – be aware of the principles and applications of scientific enquiry, including the evaluation of treatment efficacy and the research process;
- Standard 14.3 – know how to position or immobilise service users for safe and effective interventions; and
- the profession-specific standards under generic standard 15 – understand the need to establish and maintain a safe practice environment.

3.16 Other suggestions for improving the applicability of the standards to all registrants included:

- reducing the number of standards to a core set of standards which would be applicable for all registrants; and
- combining or ensuring that the standards of proficiency for both biomedical scientists and clinical scientists were as similar as possible.

3.17 In relation to the latter point, one respondent expressed particular concern about the perceived absence of the practical component of clinical science (including for those registrants who work outside of a pathology laboratory setting) in the draft standards. They argued that the practical component was more evident in the draft standards of proficiency for biomedical scientists and recommended its inclusion in the draft standards for clinical scientists. They argued that the draft standards:

- under-represent the clinical aspects of a registrant's role;
- under-represent the role of assessing the implications for dealing with issues such as errors and problems, research and clinical literature and guidelines; and
- fail to recognise the skills necessary for effective participation in clinical audit and clinical service assessment and improvement.

3.18 In contrast another respondent pointed to the draft standards of proficiency for clinical scientists being wider than those standards proposed for biomedical scientists although both groups of registrants often work in similar or complimentary roles.

3.19 One respondent voiced some unease about the interaction between our standards and an employer's expectations and requirements. They were concerned that the requirement for registrants to adhere to our standards of proficiency could result in some tensions with their employer, particularly in relation to standard 4.4 – be able to initiate resolution of problems and be able to exercise personal initiative.

4. Comments in response to specific questions

4.1 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?

4.2 The vast majority of respondents (85 per cent) agreed that the proposed standards were set at a threshold level necessary for safe and effective practice.

4.3 Some of these respondents commented that the standards:

- demonstrated the role of the clinical scientist in delivering positive outcomes for service users, members of the public, or patients;
- were detailed and covered all aspects of a health professional's work as part of a multidisciplinary team;
- were set at a high level and represented the knowledge and skills derived at pre-registration training;
- described the minimum set of requirements to practise safely;
- were set at the level necessary for registration as a clinical scientist; and
- were thorough, clear, comprehensive and fitted with other frameworks.

4.4 Two respondents suggested that the standards were possibly set at a higher level than the threshold for safe and effective practice. This included:

- a concern that the competencies had been set at too high a level and were too experience-orientated; and
- a concern that some students who completed their education and training via a more academic route would be required to obtain the same level of competence and practical skills over a short period of time as their full-time vocational student counterparts would develop over a more extended period.

4.5 A number of respondents **did not** or only **partly** agreed that the standards were set at a threshold level necessary for safe and effective practice (four and nine per cent respectively).

4.6 Some of these respondents proposed further areas for consideration in order to strengthen the standards. These included:

- clarifying the role of the standards of proficiency including our expectations for both registrants and potential registrants; and
- ensuring that the standards are relevant for all disciplines within clinical science and for all registrants.

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

4.7 The majority of respondents did not think that any additional standards were necessary, with 70 per cent stating this to be the case, as opposed to 26 per cent stating that additional standards were necessary.

4.8 There was a disparity of views among respondents on the inclusion of additional standards. One respondent was concerned that the inclusion of additional standards would detract students from the vocational skills they need to develop and increase the academic burden. In contrast a second respondent welcomed the introduction of several new standards and areas of consideration in the standards including the reference to leadership and a broadening of the communication requirements.

4.9 A minority of respondents (26 per cent) suggested that additional standards were necessary. 50 per cent of organisations who responded thought that additional standards were necessary, but only 13 per cent of individual respondents thought additional standards were necessary.

4.10 There were a number of reasons proposed by respondents for including additional standards. These included:

- to refine and clarify the intention and requirement of different standards;
- to reflect a broadening of job roles and specialisms; and
- to address the fact that the current scope of the standards was inadequate.

4.11 All of the additional standards suggested by respondents are set out in appendix two. The main areas suggested by respondents including additional standards relating to:

- learning from colleagues and other health and care professionals;
- our expectations with regard to confidentiality and safeguarding issues;
- duty of candour;
- proactively seeking to change and review not only a registrant's own practice but supporting the changes in practice of colleagues and others in order to improve outcomes; and
- providing additional profession-specific detail in a number of spheres including protocols on carrying out research and / or other clinical investigations.

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

4.12 46 per cent of respondents did not think that any standards needed to be reworded or removed. However, a significant minority of respondents (43 per cent) thought that some standards needed to be reworded or removed.

4.13 One respondent observed that the standards were reasonable and worked well generally over a wide range of disciplines.

4.14 Some of the suggestions we received were based on concerns about the general use of language in the standards, these concerns have been summarised in response to question four below.

4.15 We have listed all the proposed amendments to the standards in appendix three. Respondents suggested changes to the standards for a number of reasons. However, these were mainly aimed at clarifying our intentions or requirements in the standards and / or to provide additional profession-specific detail in a number of spheres.

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

4.16 The majority of respondents (78 per cent) indicated that they had no comments to make about the language used in the standards.

4.17 There was a noticeable difference in the responses we received, in that only 13 per cent of individual respondents commented on the use of language, as opposed to 31 per cent of organisations who responded.

4.18 Those respondents who commented on this issue were generally supportive of the language used in the standards. They observed that the language used:

- was accessible, appropriate, clear, comprehensible and user friendly;
- effectively outlined our expectations;
- saw the adoption of strengthened terminology and the removal of some unambiguous phrases from the standards; and
- marked an improvement on previous versions.

4.19 Other respondents suggested that the language used in the standards could be further improved. These suggestions included:

- strengthening the requirement / expectation contained in some standards; and
- providing additional terminology.

Question 5: Do you have any other comments on the standards?

4.20 Several respondents indicated that they had other comments to make regarding the standards. To avoid duplication, some of those comments have not been included here if they have been addressed elsewhere in this document. Some respondents:

- commended the important role played by the Institute of Biomedical Science (IBMS) in setting standards for its members over many years; and
- suggested greater involvement of other stakeholders connected with the profession in the pre-review process.

5. Our responses

5.1 We received a range of comments about the standards during the consultation process, including suggested amendments and possible additional standards, which we have carefully considered. The following section outlines our responses to these comments and suggestions including the changes we will make to the draft standards.

Level of detail in the standards

5.2 A number of comments we received suggested additional standards and amendments to provide more prescriptive detail about the requirements for registrant clinical scientists.

5.3 We considered the following in deciding whether we should make suggested changes or amendments:

- 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 clinical scientists on entry into the profession?
- Does the standard reflect existing education and training?
- Is the standard written in a broad and flexible way so that it can apply to the different environments in which clinical scientists might practise or the different groups that they might work with?

5.4 The standards set out the proficiencies necessary to practise the 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 for the benefit of service users or in the public interest.

5.5 Part of our focus for the review of the standards is to ensure that the standards are relevant to the scope of practice of the clinical scientist profession. When making decisions about whether to make changes to the standards, we must therefore consider whether the changes would make the standards too specific or would limit the scope of the standards.

5.6 We also aim to avoid duplication in the standards, to ensure they are clearly worded, and maintain consistency between different professions' standards wherever possible and appropriate.

The standards and scope of practice

5.7 Some respondents sought further reference to scope of practice in the standards and clearer guidance for more experienced registrants who have specialised in a particular area of practice who may or may not be able to meet all of the standards of proficiency.

5.8 The standards set out the threshold proficiencies required of applicants when they first 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.

5.9 We recognise that a registrant's scope of practice will change over time and that the practice of experienced registrants may become more focused and specialised than that of newly registered colleagues. However, the standards are intended to set the threshold knowledge, understanding and skills required by a registrant for entry to our Register. Therefore, we do not outline or stipulate competencies above a threshold level.

Use of 'be able to' and 'understand' etc

5.10 We intentionally use phrases such as 'understand', 'know', 'be aware of' 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. It also makes sure that the standards are written in a similar way to the learning outcomes set for pre-registration education programmes.

5.11 It is important to note the current standards of proficiency use verbs and starting phrases in the same way as the revised 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 respondents have anticipated.

Comments on specific standards

5.12 We have noted the comments we received for strengthening the communication requirements for registrants in a number of spheres. .

5.13 We have noted the concern expressed by some respondents on the ability of all registrants to meet the standards of proficiency due the nature of the role and / or questioning their applicability and relevance for an individual registrant's scope of practice.

5.14 We acknowledge that employers and other organisations such as the International Organisation for Standardisation (ISO) produce specific

guidance and policies in a number of spheres which can be used in conjunction with our standards.

5.15 We have carefully considered and noted the comments above. However, we have concluded that, on balance, we are satisfied that the revised standards do reflect the threshold entry requirements for entry to the Register as a clinical scientist.

Our decisions

5.16 The proposed standards had a very high approval rating overall among respondents which included 85 per cent of respondents indicating that they were set at a threshold level necessary for safe and effective practice.

5.17 Also, some of the changes suggested by respondents were not included because we felt that they would duplicate content already contained within the standards we set, or they would not make our requirements clearer.

5.18 We have made one change to the standards based on the comments we received in consultation as summarised below. The draft revised standards following consultation can be found in appendix one.

- We have made a minor amendment to standard 14.3 to clarify the requirement for registrants to position or immobilise their service users for safe and effective interventions appropriate to their particular modality. We have made this change due to the frequency of comments received from respondents who questioned this standard's applicability for all the modalities of clinical science practice.

6. List of respondents

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

Academy for Healthcare Science
Association for Biochemistry and Laboratory Medicine
Association for Clinical Embryologists
Association for Clinical Genetic Science
British Academy of Audiology
British Blood Transfusion Society
British Society for Clinical Electrophysiology of Vision (BriSCEV)
Centre for the Advancement of Interprofessional Education (CAIPE)
Council of Healthcare Science in Higher Education
Federation of Clinical Scientists (FCS)
Institute of Biomedical Science (IBMS)
NHS Education for Scotland
Public Health England
The Royal College of Pathologists

Appendix 1: Draft standards of proficiency for clinical scientists

New standards and amendments to standards 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	recognise the need 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	understand the importance of and be able to obtain informed consent
2.7	be able to exercise a professional duty of care
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 career-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 treatment or the use of techniques or procedures, and record the decisions and reasoning appropriately
4.3	be able to make judgements on the effectiveness of procedures
4.4	be able to initiate resolution of problems and be able to exercise personal initiative
4.5	recognise that they are personally responsible for and must be able to justify their decisions
4.6	be able to make and receive appropriate referrals
4.7	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
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	be 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**
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[2]
8.3	understand how communication skills affect assessment of, and engagement with, service users and how the means of communication should be modified to address and take account of factors such as age, capacity, learning ability and physical ability
8.4	be able to select, move between and use appropriate forms of verbal and non-verbal communication with service users and others
8.5	be aware of the characteristics and consequences of verbal and non-verbal communication and how this can be affected by factors such as age, culture, ethnicity, gender, socio-economic status and spiritual or religious beliefs
8.6	understand the need to provide service users or people acting on their behalf with the information necessary to enable them to make informed decisions
8.7	understand the need to assist the communication needs of service users such as through the use of an appropriate interpreter, wherever possible

[2] The International English Language Testing System (IELTS) tests competence in 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 provide evidence that they have reached the necessary standard. Please visit our website for more information.

8.8	recognise the need to use interpersonal skills to encourage the active participation of service users
8.9	be able to communicate the outcome of problem solving and research and developmental activities
8.10	be able to summarise and present complex scientific ideas in an appropriate form
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 practitioner and collaboratively as a member of a team
9.3	understand the need to engage service users and carers in planning and evaluating diagnostics, treatments and interventions to meet their needs and goals
9.4	be able to contribute effectively to work undertaken as part of a multi-disciplinary team
10	**be able to maintain records appropriately**
10.1	be able to keep accurate, comprehensive and comprehensible records in accordance with applicable legislation, protocols and guidelines
10.2	recognise the need to manage records and all other information in accordance with applicable legislation, protocols and guidelines
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 case conferences 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 audit procedures

12.2	be able to gather information, including qualitative and quantitative data, that helps to evaluate the responses of service users to their care
12.3	be aware of the role of audit and review in quality management, including quality control, quality assurance and the use of appropriate outcome measures
12.4	be able to maintain an effective audit trail and work towards continual improvement
12.5	be aware of, and be able to participate in, quality assurance programmes, where appropriate
12.6	understand the importance of participating in accreditation systems related to the modality
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
12.9	be able to use quality control and quality assurance techniques, including restorative action
12.10	recognise the need to be aware of emerging technologies and new developments
13	**understand the key concepts of the knowledge base relevant to their profession**
13.1	understand the structure and function of the human body, together with knowledge of health, disease, disorder and dysfunction relevant to their profession
13.2	be aware of the principles and applications of scientific enquiry, including the evaluation of treatment efficacy and the research process
13.3	recognise the role of other professions in health and social care
13.4	understand the structure and function of health and social care services in the UK
13.5	understand the concept of leadership and its application to practice

13.6	understand the theoretical basis of, and the variety of approaches to, assessment and intervention
13.7	know the basic science underpinning the modality in which they practice, understand relevant basic clinical medicine and be aware of the fundamental principles of clinical practice
13.8	understand the wider clinical situation relevant to the service users presenting to the speciality
13.9	understand the clinical applications of the speciality and the consequences of decisions made upon actions and advice
13.10	understand the evidence base that underpins the use of the procedures employed by the service
13.11	understand the principles associated with a range of techniques employed in the modality
13.12	know the standards of practice expected from techniques
14	**be able to draw on appropriate knowledge and skills to inform practice**
14.1	be able to change their practice as needed to take account of new developments or changing contexts
14.2	be able to conduct appropriate diagnostic or monitoring procedures, treatment, therapy or other actions safely and effectively
14.3	know**, appropriate to the modality,** how to position or immobilise service users for safe and effective interventions
14.4	be able to perform a range of techniques employed in the modality
14.5	understand the need to conform to standard operating procedures and conditions
14.6	understand the need to work with accuracy and precision
14.7	be able to solve problems that may arise during the routine application of techniques
14.8	be able to formulate specific and appropriate management plans including the setting of timescales
14.9	be able to develop an investigation strategy which takes account of all the relevant clinical and other information available

14.10	be able to gather appropriate information
14.11	be able to identify the clinical decision which the test or intervention will inform
14.12	be able to select and use appropriate assessment techniques
14.13	be able to undertake and record a thorough, sensitive and detailed assessment, using appropriate techniques and equipment
14.14	be able to undertake or arrange investigations as appropriate
14.15	be able to analyse and critically evaluate the information collected
14.16	be able to demonstrate a logical and systematic approach to problem solving
14.17	be able to use research, reasoning and problem solving skills to determine appropriate actions
14.18	recognise the value of research to the critical evaluation of practice
14.19	be aware of a range of research methodologies
14.20	be able to evaluate research and other evidence to inform their own practice
14.21	be able to conduct fundamental research
14.22	be able to interpret data and provide diagnostic and therapeutic opinions, including any further action which the individual directly responsible for the care of the patient or service user should take
14.23	be able to search and to appraise scientific literature and other sources of information critically
14.24	be able to develop the aims and objectives associated with a project
14.25	be able to develop an experimental protocol to meet these aims and objectives in a way that provides objective and reliable data free from bias

14.26	be able to perform the required experimental work and be able to produce and present the results including statistical analysis
14.27	be able to interpret results in the light of existing knowledge and the hypothesis developed, and be able to formulate further research questions
14.28	be able to present data and a critical appraisal of it to peers in an appropriate form
14.29	be able to use information and communication technologies appropriate to their practice
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	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
15.4	be able to select appropriate personal protective equipment and use it correctly
15.5	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
15.6	understand sources of hazard in the workplace, including specimens, raw materials, clinical and special waste and equipment
15.7	be aware of immunisation requirements and the role of occupational health
15.8	know the correct principles and applications of disinfectants, methods for sterilisation and decontamination, and for dealing with waste and spillages correctly

Appendix 2: Suggested additional standards

No.	Standard	Suggested additional standards
1.	be able to practise safely and effectively within their scope of practice	Two respondents suggested further areas of consideration for additional standards under this standard. These included: • not working beyond the limits of a registrant's particular competence or scope of practice; and • ensuring adequate staffing levels.
2.	be able to practise within the legal and ethical boundaries of their profession	Two respondents suggested additional standards under this standard. These included: • know how to establish where appropriate consent has been obtained, eg for additional testing; and • be able to assess the significance of British, European and International standards of practice.
3.	be able to maintain fitness to practise	Two respondents suggested additional standards under this standard. These included: • engage in learning with, from and about colleagues in other branches of health and social care, to fully understand both their own and other's roles within health and social care; and • be an independent self-directed learner.
4.	be able to practise as an autonomous professional, exercising their own professional judgement	
5.	be aware of the impact of culture, equality, and diversity on practice	
6.	be able to practise in a non-discriminatory manner	

7.	Understand the importance of and be able to maintain confidentiality	Two respondents suggested additional standards under this standard. These included: • understand current legislation with regard to consent, record keeping and what to do when a breach of confidentiality occurs; and • understand the need to liaise appropriately with colleagues if you have any concerns about confidentiality or safeguarding issues.
8.	be able to communicate effectively	
9.	be able to work appropriately with others	One respondent suggested an additional standard under this standard which had been derived from the biomedical scientists' draft standards of proficiency: • be able to assess and communicate the impact of the modality's clinical services on the patient pathway.
10.	be able to maintain records appropriately	Two respondent suggested additional standards or areas of further consideration under this standard. One respondent suggested an additional standard: • be able to assess the impact and resolution of errors or omissions in requests and results of investigations. Whereas the second respondent supported reference to the importance of traceability in record maintenance.
11.	be able to reflect on and review practice	One respondent suggested two additional standards under this standard: • be able to assess scientific and medical literature in a critical manner; and • be able to challenge established practice appropriately.
12.	be able to assure the quality of their practice	A few respondents suggested additional standards under this standard. These included: • be able to develop quality assurance protocols for new developments and emerging technologies; • be able to identify one's own training needs and take appropriate steps to address them;

		• be aware of the role of clinical audit in the assessment of quality and clinical effectiveness of procedures; • understand the principles of good governance and have robust governance infrastructure in place; • understand the impact of their work not just on a service user's health and experience outcomes in the wider care pathway, but on the flow of patients through various healthcare settings; • understand the impact of the work of a clinical scientist on the patient experience; and • possess a quality improvement (QI) skill set. Whereas another respondent identified further areas of consideration for proposed additional standards. These included: • reference to the role of clinical scientists in assuring patient safety; and • reference to public health and prevention in the standards in order to reflect the movement from an 'illness' to a 'wellness' model for healthcare delivery.
13.	understand the key concepts of the knowledge base relevant to their profession	Two respondents suggested additional standards or areas of further consideration under this standard. One respondent suggested the inclusion of the following standard: • be aware of the role of clinical guidelines (national, NICE or local) and be able to assess their significance. Another respondent suggested the inclusion of an additional standard or reference to 'horizon scanning' within the profession-specific standards listed under this standard.
14.	be able to draw on appropriate knowledge and skills to inform practice	Two respondents suggested additional standards under this standard. These included: • understand the process for ethical approval of fundamental research; • understand the process for informed consent relating to fundamental research and other clinical investigations; and • be able to assess and set appropriate performance targets.

15.	understand the need to establish and maintain a safe practice environment	One respondent suggested an additional standard under this standard: • be able to advise other health professionals on the establishment of safe environments to practise taking into account current guidelines and legislation.

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	Comments
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	recognise the need to manage their own workload and resources effectively and be able to practise accordingly	One respondent suggested removing this standard.
2	**be able to practise within the legal and ethical boundaries of their profession**	Two respondents suggested including reference to the 'duty of candour' in this standard. One respondent commented that this area will be included in future Care Quality Commission (CQC) inspections which will also focus on the importance of honesty and transparency in patient care.
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	Two respondents commented on this standard. One respondent suggested amending this standard to the following wording: • recognise that relationships with service users should be based on mutual respect and trust, and be able to maintain high standards of care **at all times** ~~even in situations of personal incompatibility~~ This respondent commented that this is a requirement which should be met at all times, and the current wording may dissuade other colleagues from providing care due to previous issues. Although the second respondent suggested removing this standard.
2.5	know about current legislation applicable to the work of their profession	
2.6	understand the importance of and be able to obtain informed consent	Three respondents suggested amending this standard to take account of the difficultly some registrants experience in obtaining informed consent: • understand the importance of ~~and be able to obtain~~ informed consent; • understand the importance of and be able to obtain informed consent**, where appropriate**; or • understand the importance **and limitations** of ~~and be able to obtain~~ informed consent **and know how to obtain it**

2.7	be able to exercise a professional duty of care	
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	One respondent suggested removing this standard.
3.3	understand both the need to keep skills and knowledge up to date and the importance of career-long learning	One respondent sought a clearer reference to the importance of continuing professional development (CPD) in the standards.
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 treatment or the use of techniques or procedures, and record the decisions and reasoning appropriately	
4.3	be able to make judgements on the effectiveness of procedures	

4.4	be able to initiate resolution of problems and be able to exercise personal initiative	Two respondents commented on this standard. One respondent suggested amending this standard to the following wording: • **be able to recognise when a problem has arisen and** be able to initiate resolution of problems ~~and be able to exercise personal initiative.~~ Although the second respondent suggested removing this standard.
4.5	recognise that they are personally responsible for and must be able to justify their decisions	
4.6	be able to make and receive appropriate referrals	Two respondents suggested removing this standard. One of the respondents questioned the standard's applicability for all registrants.
4.7	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	Two respondents commented on this standard. One respondent suggested amending this standard to the following wording: • understand the requirement to ~~adapt practice to meet~~ **assess** the needs of different groups and individuals **and adapt practice accordingly** Whereas the second respondent suggested removing this standard.
6	**be able to practise in a non-discriminatory manner**	One respondent sought a clearer distinction and definition with regard to the required behaviours contained in this standard and how it differentiates from our expectations for registrants under generic standard five.

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	One respondent supported a reference to data protection in this standard.
7.3	be 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**	

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	Three respondents commented on this standard. Two respondents suggested amending the standard: • be able to demonstrate effective and appropriate verbal and non-verbal skills in communicating information, advice, instruction**, scientific conclusion** and professional opinion to service users, colleagues and others; or • be able to demonstrate effective and appropriate verbal and non-verbal skills in communicating information, advice, instruction and professional opinion to **patients and carers, clinical** service users, colleagues and others. As for the former suggestion, this respondent argued that such an amendment would take account of a requirement contained in the Scientists Training Programme (STP) curricula which stresses the importance of being able to communicate clearly both to professional and non-professional audiences. This requires the adoption of different approaches and skills for communication. Whereas the third respondent sough clarity on the reference to colleagues in this standard which could include from one's own and / or another profession.

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]	Three respondents commented on this standard. There was general support for strengthening the English language competency requirements for registrants regardless of their country of qualification. One respondent supported linking the IELTS standard requirement to a relevant website in order that the requirement will remain continuously applicable without having to re-write the standard. Although they also questioned whether the IELTS standards continue to be an adequate benchmark for meeting this requirement.
8.3	understand how communication skills affect assessment of, and engagement with, service users and how the means of communication should be modified to address and take account of factors such as age, capacity, learning ability and physical ability	Two respondents commented on this standard. One respondent suggested amending this standard to the following wording: • understand how communication skills affect assessment of, and engagement with, service users and how the means of communication should be modified to address and take account of factors such as age, capacity**, co-morbidity**, learning ability and physical ability. Whereas the second respondent suggested removing this standard.
8.4	be able to select, move between and use appropriate forms of verbal and non-verbal communication with service users and others	One respondent suggested removing this standard.
8.5	be aware of the characteristics and consequences of verbal and non-verbal communication and how this can be affected by factors such as age, culture, ethnicity, gender, socio-economic status and spiritual or religious beliefs	One respondent suggested removing this standard.

[3] The International English Language Testing System (IELTS) tests competence in 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 provide evidence that they have reached the necessary standard. Please visit our website for more information.

8.6	understand the need to provide service users or people acting on their behalf with the information necessary to enable them to make informed decisions	One respondent suggested removing this standard.
8.7	understand the need to assist the communication needs of service users such as through the use of an appropriate interpreter, wherever possible	Two respondents commented on this standard. One respondent suggested amending this standard to the following wording: • understand the need to assist the communication needs of service users such as through the use of an appropriate interpreter **and / or assistive technology**, wherever possible. Whereas the second respondent suggested removing this standard.
8.8	recognise the need to use interpersonal skills to encourage the active participation of service users	One respondent suggested removing this standard.
8.9	be able to communicate the outcome of problem solving and research and developmental activities	
8.10	be able to summarise and present complex scientific ideas in an appropriate form	
9	**be able to work appropriately with others**	One respondent sought to develop this standard further to ensure that working appropriately with others would lead to improved outcomes for patients and others.
9.1	be able to work, where appropriate, in partnership with service users, other professionals, support staff and others	One respondent suggested amending this standard to the following wording: • 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 practitioner and collaboratively as a member of a team	
9.3	understand the need to engage service users and carers in planning and evaluating diagnostics, treatments and interventions to meet their needs and goals	One respondent suggested removing this standard.
9.4	be able to contribute effectively to work undertaken as part of a multi-disciplinary team	One respondent suggested amending this standard to the following wording: • be able to ~~contribute effectively to work undertaken as part of a multi-disciplinary~~ **lead and follow within the inter-professional** team**, as appropriate**
10	**be able to maintain records appropriately**	
10.1	be able to keep accurate, comprehensive and comprehensible records in accordance with applicable legislation, protocols and guidelines	One respondent sought reference in this standard to ensuring that records kept by a registrant are accessible to colleagues and to make this requirement more explicit. This respondent suggested amending the standard to the following wording: • be able to keep **accessible,** accurate, comprehensive and comprehensible records in accordance with applicable legislation, protocols and guidelines
10.2	recognise the need to manage records and all other information in accordance with applicable legislation, protocols and guidelines	
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 case conferences and other methods of review	Two respondents commented on this standard. One respondent questioned the specific reference to 'case conferences' in this standard. They supported substituting this term with the incorporation of reflection into professional development, for example, clinical supervision and maintaining a professional portfolio. Whereas the second respondent suggested removing this standard.
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 audit procedures	One respondent suggested amending this standard to the following wording: • be able to engage in evidence-based practice, evaluate practice systematically and participate in **quality and clinical** audit procedures
12.2	be able to gather information, including qualitative and quantitative data, that helps to evaluate the responses of service users to their care	
12.3	be aware of the role of audit and review in quality management, including quality control, quality assurance and the use of appropriate outcome measures	
12.4	be able to maintain an effective audit trail and work towards continual improvement	
12.5	be aware of, and be able to participate in, quality assurance programmes, where appropriate	

12.6	understand the importance of participating in accreditation systems related to the modality	
12.7	be able to evaluate intervention plans using recognised outcome measures and revise the plans as necessary in conjunction with the service user	One respondent sought further clarification on what 'intervention plans' were in this standard. This respondent supported the adoption of standardised terminology in the standards such as that used by ISO.
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	
12.9	be able to use quality control and quality assurance techniques, including restorative action	One respondent suggested amending this standard to the following wording: • be able to use quality control and quality ~~assurance~~ **assessment** techniques~~, including~~ **to initiate appropriate** restorative action

12.10	recognise the need to be aware of emerging technologies and new developments	Three respondents commented on this standard. One respondent suggested amending this standard to the following wording: • recognise the need to be aware of **and be able to critically evaluate** emerging technologies and new developments. The second respondent sought reference to registrants proactively seeking to support change in the practice of colleagues and others. This would include an additional requirement for registrants being not only required to learn and deliver new activities, but also to place an onus on registrants to review their practice to ensure that they are not practising in any out dated ways. Whereas the third respondent supported strengthening the requirement for registrants to require a 'detailed understanding' of new developments in this sphere.
13	**understand the key concepts of the knowledge base relevant to their profession**	
13.1	understand the structure and function of the human body, together with knowledge of health, disease, disorder and dysfunction relevant to their profession	One respondent suggested removing this standard due to duplication elsewhere in the revised standards.
13.2	be aware of the principles and applications of scientific enquiry, including the evaluation of treatment efficacy and the research process	Two respondents commented on this standard. One respondent questioned this standard's applicability to all registrants. Whereas the second respondent suggested removing this standard due to duplication elsewhere in the revised standards.

13.3	recognise the role of other professions in health and social care	Three respondents commented on this standard. One respondent suggested amending this standard to the following wording: • recognise**, reflect upon and respect** the role**s and responsibilities** of other professions in health and social care. The second respondent suggested widening this standard in order to allow registrants to be able to recognise the role of other health and social care professions and to create a direct link between effective multi-disciplinary learning and improved outcomes for service users. Whereas the third respondent suggested removing this standard due to duplication elsewhere in the revised standards.
13.4	understand the structure and function of health and social care services in the UK	One respondent suggested removing this standard due to duplication elsewhere in the revised standards.
13.5	understand the concept of leadership and its application to practice	Two respondents commented on this standard. One respondent supported more emphasis being placed in the standards on the value and importance of leadership skills. Whereas the second respondent suggested removing this standard due to duplication elsewhere in the revised standards.
13.6	understand the theoretical basis of, and the variety of approaches to, assessment and intervention	One respondent suggested removing this standard due to duplication elsewhere in the revised standards.
13.7	know the basic science underpinning the modality in which they practice, understand relevant basic clinical medicine and be aware of the fundamental principles of clinical practice	One respondent suggested removing this standard due to duplication elsewhere in the revised standards.

13.8	understand the wider clinical situation relevant to the service users presenting to the speciality	One respondent suggested removing this standard due to duplication elsewhere in the revised standards.
13.9	understand the clinical applications of the speciality and the consequences of decisions made upon actions and advice	One respondent suggested removing this standard due to duplication elsewhere in the revised standards.
13.10	understand the evidence base that underpins the use of the procedures employed by the service	One respondent suggested removing this standard due to duplication elsewhere in the revised standards.
13.11	understand the principles associated with a range of techniques employed in the modality	One respondent suggested removing this standard due to duplication elsewhere in the revised standards.
13.12	know the standards of practice expected from techniques	One respondent suggested removing this standard due to duplication elsewhere in the revised standards.
14	**be able to draw on appropriate knowledge and skills to inform practice**	
14.1	be able to change their practice as needed to take account of new developments or changing contexts	Two respondents commented on this standard. One respondent sought reference in the standards for registrants proactively seeking to support change in the practice of colleagues and others. This would include an additional requirement for registrants being not only required to learn and deliver new activities, but also to place an onus on registrants to review their practice to ensure that they are not practising in any out dated ways. Whereas the second respondent suggested removing this standard due to duplication elsewhere in the revised standards.
14.2	be able to conduct appropriate diagnostic or monitoring procedures, treatment, therapy or other actions safely and effectively	One respondent commented that in order to achieve this objective it may require collaboration with other colleagues.

14.3	know how to position or immobilise service users for safe and effective interventions	Several respondents commented on this standard. The majority of respondents questioned this standard's applicability for all registrants. Some respondents supported removing the standard or questioned its inclusion in the first instance. Whereas another respondent suggested amending the standard further: • know how to position or immobilise service users for safe and effective interventions **where this is within their scope of practice.** Other comments with regard to this standard included: • highlighting that in order to achieve this requirement may require collaboration with colleagues; and • voicing concerns that many registrants would not have the knowledge or training required to meet this standard.
14.4	be able to perform a range of techniques employed in the modality	
14.5	understand the need to conform to standard operating procedures and conditions	One respondent suggested amending this standard to the following wording: • understand the need to conform to standard operating procedures and conditions**. Be able to recognise when deviation from these is necessary.**
14.6	understand the need to work with accuracy and precision	
14.7	be able to solve problems that may arise during the routine application of techniques	One respondent suggested amending this standard to the following wording: • be able to **recognise and** solve problems that may arise during the routine application of techniques.

14.8	be able to formulate specific and appropriate management plans including the setting of timescales	
14.9	be able to develop an investigation strategy which takes account of all the relevant clinical and other information available	One respondent suggested amending this standard to the following wording: • be able to develop an investigation strategy which takes account of ~~all the~~ relevant clinical and other information available**. Be able to amend strategies in light of further information obtained.**
14.10	be able to gather appropriate information	Two respondents commented on this standard. One respondent suggested including reference to communicating with colleagues in order to meet this requirement. Whereas the second respondent suggested removing this standard due to duplication elsewhere in the revised standards.
14.11	be able to identify the clinical decision which the test or intervention will inform	
14.12	be able to select and use appropriate assessment techniques	One respondent suggested amending this standard to the following wording: • be able to select and use appropriate assessment techniques **and recognise inappropriate ones**.
14.13	be able to undertake and record a thorough, sensitive and detailed assessment, using appropriate techniques and equipment	
14.14	be able to undertake or arrange investigations as appropriate	

14.15	be able to analyse and critically evaluate the information collected	
14.16	be able to demonstrate a logical and systematic approach to problem solving	
14.17	be able to use research, reasoning and problem solving skills to determine appropriate actions	
14.18	recognise the value of research to the critical evaluation of practice	
14.19	be aware of a range of research methodologies	Two respondents commented on this standard. One respondent suggested amending this standard for clarity: • be aware of a range of research methodologies **and their application**. The other respondent supported reference to innovation in the standards and cited Health Education England's (HEE) recent consultation 'Research and Innovation Strategy: delivering a flexible workforce receptive to research and innovation'.
14.20	be able to evaluate research and other evidence to inform their own practice	One respondent suggested amending this standard to the following wording: • be able to **critically** evaluate research and other evidence to inform their own practice
14.21	be able to conduct fundamental research	Two respondents commented on this standard. One respondent suggested amending this standard to the following wording: • be able to conduct fundamental **and applied** research **within the modality**. Whereas the second respondent suggested removing this standard due to duplication elsewhere in the revised standards.

14.22	be able to interpret data and provide diagnostic and therapeutic opinions, including any further action which the individual directly responsible for the care of the patient or service user should take	One respondent suggested moving this standard to under standard 14.16 as they felt it was more about providing interpretation and clinical advice on the assessments carried out under standard 14.13 rather than being part of the standards which focus on research.
14.23	be able to search and to appraise scientific literature and other sources of information critically	
14.24	be able to develop the aims and objectives associated with a project	
14.25	be able to develop an experimental protocol to meet these aims and objectives in a way that provides objective and reliable data free from bias	
14.26	be able to perform the required experimental work and be able to produce and present the results including statistical analysis	
14.27	be able to interpret results in the light of existing knowledge and the hypothesis developed, and be able to formulate further research questions	
14.28	be able to present data and a critical appraisal of it to peers in an appropriate form	
14.29	be able to use information and communication technologies appropriate to their practice	

15	**understand the need to establish and maintain a safe practice environment**	Two respondents commented on this standard. One respondent questioned the applicability of some of the profession-specific standards under generic standard 15. In contrast the second respondent supported strengthening the profession-specific standards under generic standard 15 in order to take account of the many registrants who do have direct contact with patients. This respondent also supported the inclusion of standard 14.3 under this generic standard.
15.1	understand the need to maintain the safety of both service users and those involved in their care	One respondent suggested including reference to carers and other professionals in this 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	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	
15.4	be able to select appropriate personal protective equipment and use it correctly	
15.5	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	

15.6	understand sources of hazard in the workplace, including specimens, raw materials, clinical and special waste and equipment	One respondent suggested amending this standard to the following wording: • understand sources of hazard in the workplace, including specimens, raw materials, clinical and special waste**,** **radioactive agents** and equipment
15.7	be aware of immunisation requirements and the role of occupational health	One respondent suggested removing this standard due to duplication elsewhere in the revised standards.
15.8	know the correct principles and applications of disinfectants, methods for sterilisation and decontamination, and for dealing with waste and spillages correctly	One respondent supported the deletion of this standard, as they felt the requirements were already covered in standards 15.3 – 15.5.