

## Clinical Scientists

This document details suggested changes to the profession-specific standards for clinical scientists.

The PLG has considered the following following information with specific reference to clinical scientists:

- (i) Registration Assessors' questionnaires (pages 4 to 6)
- (ii) Professional bodies' questionnaires (the response of the Association of Clinical Scientists, pages 16 to 18)
- (iii) Summary of feedback

This document incorporates the suggestions made in relation to the clinical scientist standards (where possible) and makes recommendation to the PLG for changes, where appropriate.

The profession-specific standards are shown in italics. Where the PLG is required to make a decision in relation to a standard, this is shown in the grey shaded areas.

The generic standards incorporate the suggestions made elsewhere.

### Expectations of a health professional

#### 1a: Professional autonomy and accountability

Registrant clinical scientists must:

- 1a.1 be able to practise within the legal and ethical boundaries of their profession
  - understand what is required of them by the Health Professions Council
  - understand the need to respect, and so far as possible uphold, the rights, dignity and autonomy of every patient, client and user including their role in the **preventative** diagnostic and therapeutic process
- 1a.2 be able to practise in a non-discriminatory manner
- 1a.3 be able to maintain confidentiality and obtain informed consent
- 1a.4 be able to exercise a professional duty of care

**1a.5: be able to practise as an autonomous professional, exercising their own professional judgement**

- be able to assess a situation, determine the nature and severity of the problem and call upon the required knowledge and experience to deal with the problem
- be able to initiate resolution of problems and be able to exercise personal initiative
- **know the limits of their practice and when to seek advice or refer to another professional**
- **recognise that they are personally responsible for and must be able to justify their decisions**

1a.6 recognise the need for effective self-management of workload **and resources** and be able to practise accordingly

1a.7 understand the obligation to maintain fitness to practise

- understand the importance of caring for themselves, including maintaining their health

1a.8 understand the need for career-long self-directed learning

**Suggestion:**

maintain an awareness of new methods of diagnostic and therapeutic practice (ACS)

**Decision:**

The PLG is invited to conclude that the addition of the above profession-specific standard is not necessary (professional bodies paper, page 18).

**1b: Professional relationships**

Registrant clinical scientists must:

1b.1 know the professional and personal scope of their practice and be able to make referrals

1b.2 be able to work, where appropriate, in partnership with other professionals, support staff, patients, clients and users, and their relatives and carers

- understand the need to build and sustain professional relationships as both an independent practitioner and collaboratively as a member of a team
- understand the need to engage patients, clients, users and carers in planning and evaluating diagnostics, treatments and interventions to meet their needs and goals

**Suggestion:**

The following standard has been deleted (ACS):

be able to respond to enquiries regarding the service they provide when dealing with clinical colleagues

(N.B: No rationale for this suggestion was given by the ACS but an additional profession-specific standard of this nature seems unnecessary given the content of standards 1b.2, 1b.3 and 1b.5)

**Decision:**

The PLG is invited to approve the removal of this standard.

**Suggestion:**

be able to recognise the need for and to demonstrate impartiality and to be recognised by patients, referrers and colleagues as a source of impartial scientific and technical advice (registration assessors' paper, page 5).

be able to provide impartial and up to date scientific and technical advice and information for patients, referrers and colleagues (summary of feedback, PLG papers 7<sup>th</sup> March 2006, suggested as additional standard "1a.9").

**Decision:**

The PLG may wish to consider whether the suggestions shown above are necessary as a threshold entry standard. If so, the PLG may wish to consider whether the standard would be most appropriately located in 1b.2.

1b.3 be able to contribute effectively to work undertaken as part of a multi-disciplinary team

1b.4 be able to demonstrate effective and appropriate skills in communicating information, advice, instruction and professional opinion to colleagues, patients, clients, users, their relatives and carers

- 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
- understand how communication skills affect the assessment of patients, clients and users, and how the means of communication should be modified to address and take account of factors such as age, physical and learning disability
- be able to select, move between and use appropriate forms of verbal and non-verbal communication with patients, clients, users and others

- be aware of the characteristics and consequences of non-verbal communication and how this can be affected by culture, age, ethnicity, gender, religious beliefs and socio-economic status
- understand the need to provide patients, clients and users (or people acting on their behalf) with the information necessary to enable them to make informed decisions
- understand the need to use an appropriate interpreter to assist patients whose first language is not English, wherever possible [not included in the dietitian standards]
- recognise that relationships with patients, clients and users should be based on mutual respect and trust, and be able to maintain high standards of care even in situations of personal incompatibility

**Suggestion:**

be able to present the outcome of research and development activity in peer reviewed journals and at scientific meetings (ACS)

**Decision:**

The PLG is invited to conclude that this standard is not necessary (professional bodies paper, page 17).

1b.5 understand the need for effective communication throughout the care of the patient, client or user

- recognise the need to use interpersonal skills to encourage the active participation of patients, clients and users

*be able to communicate the outcome of problem solving and research and development activities*

- *be able to summarise and present complex scientific ideas in an appropriate form*

## The skills required for the application of practice

### 2a: Identification and assessment of health and social care needs

Registrant clinical scientists must:

2a.1 be able to gather appropriate information

- *be able to identify the clinical decision which the test or intervention will inform*

#### **Suggestion:**

be able to gather appropriate information including clinical history if appropriate (CS Registration Assessor)

be able to gather appropriate information, including clinical history within the family (summary of feedback)

(Suggested as generic)

#### **Decision:**

The PLG may wish to consider whether a profession-specific standard regarding clinical history is necessary (please see comments made in generic standards paper).

The PLG is invited to conclude that the existing standards suitably encompass gathering appropriate information, using appropriate assessment techniques which could include clinical history. The PLG is therefore invited to conclude that no additional standards are necessary.

2a.2 be able to use appropriate assessment techniques

- be able to undertake and record a thorough, sensitive and detailed assessment, using appropriate techniques and equipment

2a.3 be able to undertake or arrange clinical **or scientific** investigations as appropriate

2a.4 be able to analyse and evaluate the information collected

## **2b: Formulation and delivery of plans and strategies for meeting health and social care needs**

Registrant clinical scientists must:

2b.1 be able to use research, **clinical** reasoning and problem solving skills (and, in the case of clinical scientists, conduct fundamental research)

- recognise the value of research to the systematic evaluation of practice
- be able to conduct evidence-based practice, evaluate practice systematically, and participate in audit procedures
- be aware of methods commonly used in health and social care research
- be able to demonstrate a logical and systematic approach to problem solving
- be able to evaluate research and other evidence to inform their own practice
  
- *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 should take*
- *be able to search and to appraise scientific literature and other sources of information critically*
- *be able to develop the aims and objectives associated with a project*
- *be able to develop an experimental protocol to meet the aims and objectives in a way that provides objective and reliable data (free from bias)*
- *be able to perform the required experimental work and be able to produce and present the results (including statistical analysis)*
- *be able to interpret results in the light of existing knowledge and the hypothesis developed, and be able to formulate further research questions*
- *be able to present data and a critical appraisal of it to peers in an appropriate form*

### **Suggestion:**

be able to advise practice development based upon research findings (ACS)

be able to evaluate and introduce new developments into clinical practice (Summary of feedback, suggested as addition to 2b.2)

### **Decision:**

The PLG may wish to consider whether these ideas are effectively encapsulated in the existing standards, particularly within the terms of 2b.1.

2b.2 be able to draw on appropriate knowledge and skills in order to make professional judgements

- be able to change their practice as needed to take account of new developments
- be able to demonstrate a level of skill in the use of information technology appropriate to their profession

2b.3 be able to formulate specific and appropriate management plans including the setting of timescales

- understand the requirement to adapt practice to meet the needs of different client groups distinguished by, for example, physical, psychological, environmental, cultural or socio-economic factors

- *be able to develop an investigation strategy which takes account of all the relevant clinical and other information available*

2b.4 be able to conduct appropriate diagnostic or monitoring procedures, treatment, therapy or other actions safely, skilfully and **effectively**

- understand the need to maintain the safety of both patients, clients and users, and those involved in their care

- ensure patients, clients and users are positioned (and if necessary immobilised) for safe and effective interventions

- know the indications and contra-indications of using specific paramedic techniques, including their modifications

2b.5 be able to maintain records appropriately

- *be able to keep accurate, legible records and recognise the need to handle these records and all other [ ] information in accordance with applicable legislation, protocols and guidelines*

- *understand the need to use only accepted terminology (which includes abbreviations) in making [ ] records*

**Suggestion:**

be able to critically appraise the safety, security and legal aspects of computer based information systems (ACS)

**Decision:**

The PLG may wish to consider whether the above suggestion is appropriate as a threshold standard for minimum safe and effective practice, rather than a task undertaken at more advanced levels of seniority. It is proposed that the existing standard for record keeping is sufficient. Further, standard 2b.2 covers IT skills.

In addition, paragraphs 2 (confidentiality) and 10 (record keeping) of the standards of conduct, performance and ethics address some of these issues.

The PLG is therefore invited to agree that this standard is not necessary.

## **2c: Critical evaluation of the impact of, or response to, the registrant's actions**

Registrant clinical scientists must:

2c.1 be able to monitor and review the ongoing effectiveness of planned activity and modify it accordingly

- be able to gather information, including qualitative and quantitative data that helps to evaluate the responses of patients, clients and users to their care
- be able to evaluate management plans against treatment milestones using recognised health outcome measures and revise the plans as necessary in conjunction with the patient, client or user
- 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
- be able to make reasoned decisions to initiate, continue, modify, **inform** or cease treatment or the use of techniques or procedures, and record the decisions and reasoning appropriately
- understand that outcomes may not always conform to expectations but may still meet the needs of patients, clients or users
  
- *be able to make judgements on the effectiveness of procedures*
- *be able to use quality control and quality assurance techniques, including restorative action*

### **2c.2 be able to audit, reflect on and review practice**

- understand the principles of quality control and quality assurance
- be aware of the role of audit and review in quality management, including quality control, quality assurance and the use of appropriate outcome measures
- be able to maintain an effective audit trail and work towards continual improvement
- participate in quality assurance programmes, where appropriate
- understand the value of reflection on clinical practice and the need to record the outcome of such reflection
- recognise the value of case conferences and other methods of review
  
- *understand the importance of participating in accreditation systems related to the modality*
- *recognise the need to be aware of emerging technologies and new developments*

**Suggestion:**

- be able to initiate and manage research and development activity
- be able to design, introduce and evaluate new and improved methods in diagnostics and therapeutic practice
- be able to specify, evaluate and commission new methods of diagnostic and therapeutic practice

**Decision:**

The PLG will wish to consider whether the above suggestions are at an appropriate level given the role of the standards as threshold standards for minimum safe and effective practice.

**Knowledge, understanding and skills**

3a:

Registrant clinical scientists must:

3a.1 know the key concepts of the biological, physical, social, psychological and clinical sciences which are relevant to their profession-specific practice

- understand the structure and function of the human body, relevant to their practice, together with a knowledge of health, disease, disorder and dysfunction
- be aware of the principles and applications of scientific enquiry, including the evaluation of treatment efficacy and the research process
- recognise the role of other professions in health and social care
- understand the theoretical basis of, and the variety of approaches to, assessment and intervention

*- know the basic science underpinning the modality in which the registrant practises, understand relevant basic clinical medicine, and be aware of the fundamental principles of clinical practice*

*- understand the wider clinical situation relevant to the patients presenting to the speciality*

3a.2 know how professional principles are expressed and translated into action through a number of different approaches to practice, and how to select or modify approaches to meet the needs of an individual, groups **or communities**

- understand the clinical applications of the speciality and the consequences of decisions made upon actions and advice*
- understand the evidence base that underpins the use of the procedures employed by the service*
- understand the principles associated with a range of techniques employed in the modality*
- know the standards of practice expected from techniques*

3a.3 understand the need to establish and maintain a safe practice environment

- 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
- be able to work safely, including being able to select appropriate hazard control and risk management, reduction or elimination techniques in a safe manner in accordance with health and safety legislation
- be able to select appropriate personal protective equipment and use it correctly
- be able to establish safe environments for clinical practice, which minimise risks to patients, clients and users, those treating them, and others, including the use of hazard control and particularly infection control
- understand and be able to apply appropriate moving and handling techniques

*understand sources of hazard in the workplace, including specimens, raw materials, clinical **and special** waste and equipment*

- *be aware of immunisation requirements and the role of occupational health*
- *know the correct principles and applications of disinfectants, methods for sterilisation and decontamination and dealing with waste and spillages correctly*

**Suggestion:**

- (i) The above suggestion is made (ACS).
- (ii) be able to advise on legislative compliance and undertake adverse incident investigations (ACS)

**Decision:**

- (i) The PLG is invited to approve the change made in the text of the standards above.
- (ii) The PLG is invited to agree that the other suggested change is not necessary (professional bodies' paper, page 20).