
Standards of proficiency

Biomedical scientists

Contents

Foreword 1

Introduction 3

Standards of proficiency 7

Foreword

We are pleased to present the Health and Care Professions Council's standards of proficiency for biomedical scientists.

We first published standards of proficiency for biomedical scientists when our Register opened in July 2003. We published revised standards in 2007. We review the standards regularly to look at how they are working and to check whether they continue to reflect current practice in the professions we regulate.

These new revised standards are a result of our most recent review of the standards of proficiency. As a result of the first stage of the review, and the results of a public consultation, we have revised our generic standards which apply to all the professions we regulate. The revised standards are now based around 15 generic statements. This new structure means that we can retain the standards which are shared across all the professions we regulate, whilst allowing us more flexibility in describing the detailed standards which are specific to individual professions.

The profession-specific standards for biomedical scientists included in this document were developed through the input of the relevant professional bodies and the views of all stakeholders during a further public consultation. The review process and consultation produced valuable feedback and we are grateful to all those who gave their time to help us in shaping the new standards.

We have made a small number of changes to the standards overall, mainly to reflect developments in education and practice, to clarify our intentions and to correct any errors or omissions. We have also made some minor changes to the introduction, in particular to explain the language we use in the standards.

We are confident that the standards are fit for purpose and reflect safe and effective professional practice for biomedical science.

These standards are effective from Monday 1 December 2014.

Introduction

This document sets out the standards of proficiency. These standards set out safe and effective practice in the professions we regulate. They are the threshold standards we consider necessary to protect members of the public. They set out what a student must know, understand and be able to do by the time they have completed their training, so that they are able to apply to register with us. Once on our Register you must meet those standards of proficiency which relate to the areas in which you work.

We also expect you to keep to our standards of conduct, performance and ethics and standards for continuing professional development. We publish these in separate documents, which you can find on our website.

The standards of proficiency in this document include both generic elements, which apply to all our registrants, and profession-specific elements which are relevant to registrants belonging to one of the professions we currently regulate. The generic standards are written in **bold**, and the profession-specific standards are written in plain text.

We have numbered the standards so that you can refer to them more easily. The standards are not hierarchical and are all equally important for practice.

A note about our expectations of you

You must meet all the standards of proficiency to register with us and meet the standards relevant to your scope of practice to stay registered with us.

It is important that you read and understand this document. If your practice is called into question we will consider these standards (and our standards of conduct, performance and ethics) in deciding what action, if any, we need to take.

The standards set out in this document complement information and guidance issued by other organisations, such as your professional body or your employer. We recognise the valuable role played by professional bodies in providing guidance and advice about good practice which can help you to meet the standards in this document.

Your scope of practice

Your scope of practice is the area or areas of your profession in which you have the knowledge, skills and experience to practise lawfully, safely and effectively, in a way that meets our standards and does not pose any danger to the public or to yourself.

We recognise that a registrant's scope of practice will change over time and that the practice of experienced registrants often becomes more focused and specialised than that of newly registered colleagues. This might be because of specialisation in a certain area or with a particular client group, or a movement into roles in management, education or research. Every time you renew your registration, you will be asked to sign a declaration that you continue to meet the standards of proficiency that apply to your scope of practice.

Your particular scope of practice may mean that you are unable to continue to demonstrate that you meet all of the standards that apply for the whole of your profession.

As long as you make sure that you are practising safely and effectively within your given scope of practice and do not practise in the areas where you are not proficient to do so, this will not be a problem. If you want to move outside of your scope of practice, you should be certain that you are capable of working lawfully, safely and effectively. This means that you need to exercise personal judgement by undertaking any necessary training or gaining experience, before moving into a new area of practice.

Meeting the standards

It is important that you meet our standards and are able to practise lawfully, safely and effectively. However, we do not dictate how you should meet our standards. There is normally more than one way in which each standard can be met and the way in which you meet our standards might change over time because of improvements in technology or changes in your practice.

We often receive questions from registrants who are concerned that something they have been asked to do, a policy, or the way in which they work might mean they cannot meet our standards. They are often worried that this might have an effect on their registration.

As an autonomous professional, you need to make informed, reasoned decisions about your practice to ensure that you meet the standards that apply to you. This includes seeking advice and support from education providers, employers, colleagues, professional bodies, unions and others to ensure that the wellbeing of service users is safeguarded at all times. So long as you do this and can justify your decisions if asked to, it is very unlikely that you will not meet our standards.

Language

We recognise that our registrants work in a range of different settings, which include direct practice, management, education, research and roles in industry. We also recognise that the use of terminology can be an emotive issue.

Our registrants work with very different people and use different terms to describe the groups that use, or are affected by, their services. Some of our registrants work with patients, others with clients and others with service users. The terms that you use will depend on how and where you work. We have used terms in these standards which we believe best reflect the groups that you work with.

In the standards of proficiency, we use phrases such as ‘understand’, ‘know’, and ‘be able to’. 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 for registration for the first time.

These standards may change in the future

We have produced these standards after speaking to our stakeholders and holding a formal public consultation.

We will continue to listen to our stakeholders and will keep our standards under continual review. Therefore, we may make further changes in the future to take into account changes in practice.

We will always publicise any changes to the standards that we make by, for instance, publishing notices on our website and informing professional bodies.

Standards of proficiency

Registrant biomedical scientists must:

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 be aware of the British, European and International Standards that govern and affect pathology laboratory practice
- 2.7 understand the importance of and be able to obtain informed consent
- 2.8 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 initiate resolution of problems and be able to exercise personal initiative

4.4 recognise that they are personally responsible for and must be able to justify their decisions

4.5 be able to make and receive appropriate referrals

4.6 understand the importance of participation in training, supervision and mentoring

5 be aware of the impact of culture, equality and diversity on practice

5.1 understand the requirement to adapt practice to meet the needs of different groups and individuals

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 communicate in English to the standard equivalent to level 7 of the International English Language Testing System, with no element below 6.5¹
- 8.2 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
- 8.3 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 communicate the outcomes of biomedical procedures
- 8.5 be able to select, move between and use appropriate forms of verbal and non-verbal communication with service users and others
- 8.6 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
- 8.7 understand the need to provide service users or people acting on their behalf with the information necessary to enable them to make informed decisions
- 8.8 understand the need to assist the communication needs of service users such as through the use of an appropriate interpreter, wherever possible
- 8.9 recognise the need to use interpersonal skills to encourage the active participation of service users

¹ 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.

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
- 9.5 be aware of the impact of pathology services on the patient care pathway

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
- 10.3 be able to recognise, communicate and understand the risks and possible serious consequences of errors and omissions in both requests for, and results of, laboratory investigations
- 10.4 be able to use systems for the accurate and correct identification of patients and laboratory specimens
- 10.5 understand the need to adhere to protocols of specimen identification, including bar coding and electronic tag systems
- 10.6 understand the importance of backup storage of electronic data

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 be able to evaluate intervention plans using recognised outcome measures and revise the plans as necessary in conjunction with the service user
- 12.7 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
- 12.8 be able to select and apply quality and process control measures
- 12.9 be able to identify and respond appropriately to abnormal outcomes from quality indicators

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 be able to demonstrate knowledge of the underpinning scientific principles of investigations provided by clinical laboratory services
- 13.8 understand the role of the following specialisms in the diagnosis, treatment and management of disease: cellular science, blood science, infection science, molecular and genetic science and reproductive science
- 13.9 be able to evaluate analyses using qualitative and quantitative methods to aid the diagnosis, screening and monitoring of health and disorders
- 13.10 understand the techniques and associated instrumentation used in the practice of biomedical science
- 13.11 understand the biological hazards groups and associated containment levels

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 be able to perform and supervise procedures in clinical laboratory investigations to reproducible standards
- 14.4 be able to operate and utilise specialist equipment according to their discipline

- 14.5 be able to validate scientific and technical data and observations according to pre-determined quality standards
- 14.6 be able to demonstrate proficiency in liquid handling methodologies, including preparation of standard solutions and buffers
- 14.7 be able to demonstrate proficiency in practical skills in cellular science, blood science, infection science, molecular and genetic science and reproductive science, where appropriate to the discipline
- 14.8 be able to demonstrate practical skills in the processing and analysis of specimens including specimen identification, the effect of storage on specimens and the safe retrieval of specimens
- 14.9 be able to demonstrate practical skills in the investigation of disease processes
- 14.10 be able to work in conformance with standard operating procedures and conditions
- 14.11 be able to work with accuracy and precision
- 14.12 be able to prepare reagents accurately and consistently
- 14.13 be able to perform calibration and quality control checks
- 14.14 be able to demonstrate operational management of laboratory equipment to check that equipment is functioning within its specifications and to respond appropriately to abnormalities
- 14.15 understand the implications of non-analytical errors
- 14.16 know the extent of the role and responsibility of the laboratory with respect to the quality management of hospital, primary care and community based laboratory services for near-patient testing and non-invasive techniques
- 14.17 be able to formulate specific and appropriate management plans including the setting of timescales
- 14.18 be able to gather appropriate information

- 14.19 be able to select suitable specimens and procedures relevant to patients' clinical needs, including collection and preparation of specimens as and when appropriate
- 14.20 be able to select and use appropriate assessment techniques
- 14.21 be able to undertake and record a thorough, sensitive and detailed assessment, using appropriate techniques and equipment
- 14.22 be aware of the need to assess and evaluate new procedures prior to routine use
- 14.23 be able to undertake or arrange investigations as appropriate
- 14.24 be able to analyse and critically evaluate the information collected
- 14.25 be able to investigate and monitor disease processes and normal states
- 14.26 be able to use standard operating procedures for analyses including point of care in vitro diagnostic devices
- 14.27 be able to use statistical packages and present data in an appropriate format
- 14.28 be able to demonstrate a logical and systematic approach to problem solving
- 14.29 be able to use research, reasoning and problem solving skills to determine appropriate actions
- 14.30 recognise the value of research to the critical evaluation of practice
- 14.31 be aware of a range of research methodologies
- 14.32 be able to evaluate research and other evidence to inform their own practice
- 14.33 be able to design experiments, report, interpret and present data using scientific convention, including application of SI units and other units used in biomedical science
- 14.34 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 the application of principles of good laboratory practice

Notes

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Paper made from
recycled material
FSC® C012830

© Health and Care Professions Council 2014
Publication code: 20070509cPOL.PUB
(reprinted with amends November 2014)

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