

## Draft standards of proficiency for biomedical scientists

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This document sets out the proposed changes to the standards of proficiency for biomedical scientists. Proposed deletions are indicated in the text by ~~strike through~~ whilst additions are shown in **bold** in the proposed amendments column. Text in *italics* sets out our reasoning for making certain amends.

Generic standards are indicated by shaded cells. These are standards which apply across all 15 professions. We have moved some standards around to ensure the generic standards are at the top of each section, and so are numbered consistently across all the professions. Feedback relating to these standards should be provided in **Part A: Generic standards** of the survey.

White cells are profession-specific standards. These are unique to each profession, although in many cases these are still consistent across multiple professions. Feedback relating to these standards should be provided in **Part B: Profession-specific standards** of the survey.

Where we have proposed to create a new standard, we have created a new row and assigned this a letter. This is to make it easier to refer back to when providing feedback. Please note the order of some of these standards may be subject to change. Once we have determined what changes we are going to make, we will update the numbering of the standards.

We have endeavoured to make the proposed changes as clear as possible. However, we are aware that this is still a complicated document. We have therefore created a 'clean' version of the standards, available on the consultation page. If you have any questions about the proposed changes, you can email [consultation@hcpc-uk.org](mailto:consultation@hcpc-uk.org) or call the Policy and Standards team on 020 7840 9815, and a member of the team will be able to talk through this document and the changes. **Please note, due to COVID-19, as the team is working from home, the above phone line is not manned. Instead, you will be prompted to leave a message.**

The current standards of proficiency for biomedical scientists are available to download and view for comparison at: <https://www.hcpc-uk.org/standards/standards-of-proficiency/biomedical-scientists/>

No.	Standard	Proposed amendments
<b>Registered biomedical scientists must:</b>		
<b>1</b>	<b>be able to practise safely and effectively within their scope of practice</b>	
1.1	know the limits of their practice and when to seek advice or refer to another professional	know the limits of their practice and when to seek advice or refer to another professional <b>or service</b>
1.2	recognise the need to manage their own workload and resources effectively and be able to practise accordingly	recognise the need to manage their own workload and resources <del>effectively and be able to practise accordingly</del> <b>safely and effectively</b>
<b>2</b>	<b>be able to practise within the legal and ethical boundaries of their profession</b>	
2.1	understand the need to act in the best interests of service users at all times	understand the need to <del>act in the best interests of service users</del> <b>promote and protect the service user's interests</b> at all times
2.A		<b>understand the importance of safeguarding and the need to engage in appropriate safeguarding processes where necessary</b>
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	understand the importance of and be able to obtain informed consent <i>Moved from 2.7</i>
2.6	be aware of the British, European and International Standards that govern and affect pathology laboratory practice	be able to exercise a professional duty of care <i>Moved from 2.8</i>
2.7	understand the importance of and be able to obtain informed consent	<del>understand</del> know about current legislation applicable to the work of their profession <i>Moved from 2.5</i>
2.8	be able to exercise a professional duty of care	be aware of the British, European and International Standards that govern and affect pathology laboratory practice <i>Moved from 2.6</i>
<b>3</b>	<b>be able to maintain fitness to practise</b>	
3.1	understand the need to maintain high standards of personal and professional conduct	
3.2	understand the importance of maintaining their own health	understand the importance of maintaining their own <b>mental and physical</b> health <b>and be able to take appropriate action if their health may affect their ability to practise safely and effectively</b>
3.A		<b>understand the role that coping strategies can play in maintaining fitness to practise and the importance of seeking help and support when necessary</b>
3.3	understand both the need to keep skills and knowledge up to date and the importance of career-long learning	understand both the need to keep skills and knowledge up to date and the importance of <del>career-long learning</del> <b>continuous professional development</b>
<b>4</b>	<b>be able to practise as an autonomous professional, exercising their own professional judgement</b>	
4.1	be able to assess a professional situation, determine the nature and severity of the problem and call upon the	recognise that they are personally responsible for and must be able to justify their decisions <i>Moved from 4.4 to emphasise importance of this standard</i>

	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	<del>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</del> <b>be able to use their skills, knowledge and experience, and the information available to them, to make informed decisions or initiate solutions where necessary</b> <i>Moved from 4.1</i>
4.3	be able to initiate resolution of problems and be able to exercise personal initiative	be able to make and receive appropriate referrals <i>Moved from 4.5</i>
4.4	recognise that they are personally responsible for and must be able to justify their decisions	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 <i>Moved from 4.2</i>
4.5	be able to make and receive appropriate referrals	be able to initiate resolution of problems and be able to exercise personal initiative <i>Moved from 4.3</i>
4.A		be able to demonstrate a logical and systematic approach to problem solving <i>Moved from standard 14</i>
4.B		be able to use research, reasoning and problem solving skills to determine appropriate actions <i>Moved from standard 14</i>
4.6	understand the importance of participation in training, supervision and mentoring	understand the importance of <b>active</b> participation in training, supervision and mentoring <i>Moved from 4.6</i>
<b>5</b>	<b>be aware of the impact of culture, equality and diversity on practice</b>	

5.1	understand the requirement to adapt practice to meet the needs of different groups and individuals	understand the <del>need requirement</del> to adapt practice to <b>respond appropriately to meet</b> the needs of <b>all</b> different groups and individuals
5.A		<b>be aware of the impact of their own values and beliefs on practice</b>
5.B		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, <b>disability</b> , ethnicity, gender, <b>marriage or civil partnership, pregnancy or maternity, race, sex, sexual orientation</b> , socio-economic status and spiritual or religious beliefs <i>Moved from standard 8.6 as more relevant under this standard. Missing protected characteristics included, with the exception of marriage and civil partnership which considered could not impact on verbal and non-verbal communication</i>
<b>6</b>	<b>be able to practise in a non-discriminatory manner</b>	be able to practise in a non-discriminatory <b>and inclusive</b> manner
6.A		<b>be aware of the characteristics and consequences of barriers to inclusion</b>
<b>7</b>	<b>understand the importance of and be able to maintain confidentiality</b>	
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	understand the principles of information governance and be aware of the safe and effective use of health, <del>and</del> social care <b>and other relevant</b> 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	
<b>8</b>	<b>be able to communicate effectively</b>	

8.1	<p>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<sup>1</sup></p> <p><sup>1</sup> <i>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.</i></p>	<p>be able to <del>use demonstrate</del> effective and appropriate verbal and non-verbal skills <b>to communicate with</b> <del>in communicating information, advice, instruction and professional opinion to</del> service users, <b>carers</b>, colleagues and others</p> <p><i>Moved from 8.2</i></p>
8.2	<p>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</p>	<p>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<sup>1</sup></p> <p><sup>1</sup> <i>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.</i></p> <p><i>Moved from 8.1</i></p>
8.3	<p>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</p>	<p><del>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</del></p> <p><i>Captured by the new standards below</i></p>

8.4	be able to communicate the outcomes of biomedical procedures	<del>be able to communicate the outcomes of biomedical procedures</del> <i>Moved to 8.D</i>
8.5	be able to select, move between and use appropriate forms of verbal and non-verbal communication with service users and others	<del>be able to select, move between and use appropriate forms of verbal and non-verbal communication with service users and others</del> <i>Captured by the new standards below</i>
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	<del>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</del> <i>Moved to standard 5</i>
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	<del>understand the need to provide service users or people acting on their behalf with the information necessary to enable them to make informed decisions</del> <i>Captured by the new standards below</i>
8.8	understand the need to assist the communication needs of service users such as through the use of an appropriate interpreter, wherever possible	<del>understand the need to assist the communication needs of service users such as through the use of an appropriate interpreter, wherever possible</del> <i>Captured by the new standards below</i>
8.9	recognise the need to use interpersonal skills to encourage the active participation of service users	<del>recognise the need to use interpersonal skills to encourage the active participation of service users</del> <i>Captured by the new standards below</i>
8.A		<b>be able to work with service users or their carers to facilitate the service user's preferred role in decision-making, and provide service users and carers with the information they may need where appropriate</b>
8.B		<b>be able to modify their means of communication to address the individual communication needs and preferences of service users and carers, and remove any barriers to communication where possible</b>

8.C		be able to use information and communication technologies appropriate to their practice <i>Moved from standard 14</i>
8.D		be able to communicate the outcomes of biomedical procedures <i>Moved from 8.4</i>
<b>9</b>	<b>be able to work appropriately with others</b>	
9.1	be able to work, where appropriate, in partnership with service users, other professionals, support staff and others	be able to work, where appropriate, in partnership with service users, <b>their relatives and carers</b> , 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	be able to contribute effectively to work undertaken as part of a multi-disciplinary team <i>Moved from 9.4</i>
9.A		<b>understand the qualities, behaviours and benefits of leadership and be able to apply them in the context of your practice</b>
9.4	be able to contribute effectively to work undertaken as part of a multi-disciplinary team	understand the need to engage service users and carers in planning and evaluating diagnostics, treatments and interventions to meet their needs and goals <i>Moved from 9.3</i>
9.5	be aware of the impact of pathology services on the patient care pathway	be aware of the impact of pathology services on the <b>service user</b> <del>patient</del> care pathway
<b>10</b>	<b>be able to maintain records appropriately</b>	
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	be able to use systems for the accurate and correct identification of <b>service users</b> <del>patients</del> 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	
<b>11</b>	<b>be able to reflect on and review practice</b>	
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	
<b>12</b>	<b>be able to assure the quality of their practice</b>	
12.1	be able to engage in evidence-based practice, evaluate practice systematically and participate in audit procedures	be able to engage in evidence-based practice, <del>evaluate practice systematically and participate in audit procedures</del>
12.2	be able to gather information, including qualitative and quantitative data, that helps to evaluate the responses of service users to their care	be able to gather <b>and use feedback and</b> information, including qualitative and quantitative data, <del>that helps to</del> 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	<del>be aware of the role of audit and review in quality management, including quality control, quality assurance and the use of appropriate outcome measures</del>

		<i>Captured by the new standard below</i>
12.4	be able to maintain an effective audit trail and work towards continual improvement	be able to <b>monitor and systematically evaluate the quality of practice, and</b> maintain an effective audit trail <del>to and</del> work towards continual improvement
12.5	be aware of, and be able to participate in, quality assurance programmes, where appropriate	<del>be aware of, and be able to participate in, quality assurance programmes, where appropriate</del> <i>Captured by the new standard below</i>
12.A		<b>be able to participate in audit procedures and quality management, including quality control, quality assurance and the use of appropriate outcome measures</b>
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	<del>recognise the need to monitor and evaluate the quality of practice and</del> the value of contributing to the generation of data for quality assurance and improvement programmes <i>Captured by the amendments above</i>
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	
<b>13</b>	<b>understand the key concepts of the knowledge base relevant to their profession</b>	
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	recognise the role(s) of other professions in health and social care <b>and understand how they may relate to the role of biomedical scientist</b>
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	<del>understand the concept of leadership and its application to practice</del> <i>Addressed by a new standard on leadership under standard 9 (9.A)</i>
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	
<b>14</b>	<b>be able to draw on appropriate knowledge and skills to inform practice</b>	
14.1	be able to change their practice as needed to take account of new developments or changing contexts	be able to change their practice as needed to take account of new developments, <b>technologies and</b> <del>or</del> changing contexts

14.2	be able to conduct appropriate diagnostic or monitoring procedures, treatment, therapy or other actions safely and effectively	be able to gather appropriate information <i>Moved from 14.18</i>
14.3	be able to perform and supervise procedures in clinical laboratory investigations to reproducible standards	be able to analyse and critically evaluate the information collected <i>Moved from 14.24</i>
14.4	be able to operate and utilise specialist equipment according to their discipline	be able to select and use appropriate assessment techniques <i>Moved from 14.20</i>
14.5	be able to validate scientific and technical data and observations according to pre-determined quality standards	be able to undertake and record a thorough, sensitive and detailed assessment, using appropriate techniques and equipment <i>Moved from 14.21</i>
14.6	be able to demonstrate proficiency in liquid handling methodologies, including preparation of standard solutions and buffers	be able to undertake or arrange investigations as appropriate <i>Moved from 14.23</i>
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	be able to conduct appropriate diagnostic or monitoring procedures, treatment, therapy or other actions safely and effectively <i>Moved from 14.2</i>
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	be aware of a range of research methodologies <i>Moved from 14.31</i>
14.9	be able to demonstrate practical skills in the investigation of disease processes	recognise the value of research to the critical evaluation of practice <i>Moved from 14.30</i>
14.10	be able to work in conformance with standard operating procedures and conditions	be able to <b>critically</b> evaluate research and other evidence to inform their own practice <i>Moved from 14.32</i>
14.11	be able to work with accuracy and precision	be able to perform and supervise procedures in clinical laboratory investigations to reproducible standards <i>Moved from 14.3</i>

14.12	be able to prepare reagents accurately and consistently	be able to operate and utilise specialist equipment according to their discipline <i>Moved from 14.4</i>
14.13	be able to perform calibration and quality control checks	be able to validate scientific and technical data and observations according to pre-determined quality standards <i>Moved from 14.5</i>
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	<del>be able to demonstrate proficiency in liquid handling methodologies, including preparation of standard solutions and buffers</del> <i>Moved from 14.6, deleted as captured by existing standard</i>
14.15	understand the implications of non-analytical errors	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 <i>Moved from 14.7</i>
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	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 <i>Moved from 14.8</i>
14.17	be able to formulate specific and appropriate management plans including the setting of timescales	be able to demonstrate practical skills in the investigation of disease processes <i>Moved from 14.9</i>
14.18	be able to gather appropriate information	be able to work in conformance with standard operating procedures and conditions <i>Moved from 14.10</i>
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	be able to work with accuracy and precision <i>Moved from 14.11</i>
14.20	be able to select and use appropriate assessment techniques	<del>be able to prepare reagents accurately and consistently</del> <i>Moved from 14.12, deleted as captured by existing standard</i>

14.21	be able to undertake and record a thorough, sensitive and detailed assessment, using appropriate techniques and equipment	be able to perform calibration and quality control checks <i>Moved from 14.13</i>
14.22	be aware of the need to assess and evaluate new procedures prior to routine use	be able to demonstrate operational management of laboratory equipment to check that equipment is functioning within its specifications and to respond appropriately to abnormalities <i>Moved from 14.14</i>
14.23	be able to undertake or arrange investigations as appropriate	understand the implications of non-analytical errors <i>Moved from 14.15</i>
14.24	be able to analyse and critically evaluate the information collected	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- <b>service user patient</b> testing and non-invasive techniques <i>Moved from 14.16</i>
14.25	be able to investigate and monitor disease processes and normal states	be able to formulate specific and appropriate management plans including the setting of timescales <i>Moved from 14.17</i>
14.26	be able to use standard operating procedures for analyses including point of care in vitro diagnostic devices	be able to select suitable specimens and procedures relevant to <b>service users' patients'</b> clinical needs, including collection and preparation of specimens as and when appropriate <i>Moved from 14.19</i>
14.27	be able to use statistical packages and present data in an appropriate format	be aware of the need to assess and evaluate new procedures prior to routine use <i>Moved from 14.22</i>
14.28	be able to demonstrate a logical and systematic approach to problem solving	<del>be able to demonstrate a logical and systematic approach to problem solving</del> <i>Moved to standard 4</i>
14.29	be able to use research, reasoning and problem solving skills to determine appropriate actions	<del>be able to use research, reasoning and problem solving skills to determine appropriate actions</del> <i>Moved to standard 4</i>

14.30	recognise the value of research to the critical evaluation of practice	be able to investigate and monitor disease processes and normal states <i>Moved from 14.24</i>
14.31	be aware of a range of research methodologies	be able to use standard operating procedures for analyses including point of care in vitro diagnostic devices <i>Moved from 14.26</i>
14.32	be able to evaluate research and other evidence to inform their own practice	be able to use statistical packages and present data in an appropriate format <i>Moved from 14.27</i>
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	<del>be able to use information and communication technologies appropriate to their practice</del> <i>Moved to standard 8</i>
<b>15</b>	<b>understand the need to establish and maintain a safe practice environment</b>	
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	be able to establish safe environments for practice, which <del>minimise risks</del> <b>appropriately manages risk</b> 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	