Institute of Biomedical Science

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IBMS REGISTRATION TRAINING PORTFOLIO VERSION 4.3

Guidance for Organising a Verification and Examples of Evidence

September 2023

Contents

1. INTRODUCTION

Thank you for becoming a verifier to assess the pre-registration training of candidates who wish to become biomedical scientists. This document is designed to help you as the person responsible for completing the verification to understand the IBMS Registration Training Portfolio Version 4.3, what it contains and what you should be aware of when completing a verification. The portfolio is mapped to the Health and Care Professions Council (HCPC) standards of proficiency (2014) for biomedical scientists and the candidate will need to demonstrate how they meet all standards to successfully complete the portfolio.

The candidate will have discussed their training plan with their designated trainer and collect pieces of evidence. The portfolio is comprised of 10 modules across 2 sections and requires a total of 30 pieces of evidence to be submitted.

The pieces of evidence for each module are a free choice for the candidate to create and agree with their Training Officer but these must map clearly to the remaining HCPC standards of proficiency for the module. As the verifier, you must check that these pieces of evidence map clearly to the remaining HCPC standards of proficiency for the module. Examples of types of evidence that might be included are shown in Appendix 1.

There should be evidence that the Training Officer has met with the candidate regularly as they work through the pre-registration training plan to create and collate their pieces of evidence. Once all pieces of evidence have been completed and signed off, the verification (assessment) of the portfolio will be requested, unless the candidate is completing an integrated degree programme or degree apprenticeship. In this case, the University Placement Tutor or Programme Lead will coordinate the candidate details and organise the verifications.

As you know, the term biomedical scientist is the protected title awarded by the Health and Care Professions Council (HCPC) to those who carry out a range of laboratory investigations and scientific techniques on tissue samples and fluids to assist in the diagnosis and monitoring of disease, evaluate the effectiveness of treatments and provide expert advice for the treatment of patients and prevention of disease. Those wishing to use the protected title of Biomedical Scientist are required by statute to register with the Health and Care Professions Council (HCPC) www.hcpc-uk.org. Eligibility to apply for registration is based on achieving the HCPC Standards of Education and Training (SETs) and the updated HCPC Standards of Proficiency (SoPs) (2014) for biomedical scientists for the Version 4.3 Registration Training Portfolio. You must also ensure that the candidate is aware of the HCPC standards of conduct, performance and ethics which provides the ethical framework within which HCPC registrants must work.

The role of the Institute of Biomedical Science (IBMS) www.ibms.org in this process is as the awarding body for the Certificate of Competence. The Certificate of Competence is awarded to individuals who have completed an appropriate BSc degree programme (either an IBMS accredited programme, or a non-accredited programme followed by supplementary education, or "top-up" modules, identified by an IBMS degree assessment) **and** meet the competency requirement of the HCPC Standards of Proficiency for biomedical scientists by successful completion of the IBMS Registration Training Portfolio. The IBMS Registration Training Portfolio is a record of education and training in the workplace, providing evidence

that the knowledge, skills and competencies required for HCPC registration have been achieved.

Completion of the IBMS Registration Training Portfolio and acquiring evidence of competence must take place in an IBMS approved training laboratory and be supported by a structured training programme. Responsibilities lie with the candidate to ensure they only work within the limits of their practice, and with the trainer to ensure that they are satisfied that **each** standard of proficiency has been met, as evidence by their sign off in the candidate's evidence presented in their portfolio. The HCPC SoPs should be signed off and dated when they are achieved, not when the portfolio is completed.

Once complete, the portfolio evidence will be submitted to be verified by you as an external assessor and if the verification is successful, the candidate is declared 'fit to practise' as a Biomedical Scientist and is eligible to apply for professional registration with the HCPC.

This document provides guidance on completion of the Institute of Biomedical Science (IBMS) Registration Training Portfolio Version 4.3 and the verification process (assessment of the completed portfolio).

2. PURPOSE OF THE REGISTRATION TRAINING PORTFOLIO

The IBMS is approved as an education provider to deliver four Health and Care Professions Council (HCPC) routes to registration of biomedical scientists, as summarised below:

1. **Route 1. Certificate of Competence (accredited degree containing the Registration Training Portfolio)** -Flexible - approved March 2010

   Full-time or part-time degrees with mandatory placement(s) in a pathology laboratory that has IBMS approval for pre-registration training. The placement is an integral part of the degree, and the education provider is responsible for ensuring arrangements are in place to enable completion of the IBMS Registration Training Portfolio during the degree. The degree award must enable students to be eligible for the award of the IBMS Certificate of Competence upon graduation, thereby evidencing that graduates are eligible to apply to the HCPC for registration as a biomedical scientist. These degrees may also be approved by the HCPC through a similar process of review against the HCPC standards of education and training (SETS).

   To note: This model includes Healthcare Science Practitioner Training Programme degrees where students follow discipline-specific pathways in their final year and Level 6 degree apprenticeship programmes. For these degrees, the subject benchmark statement must still be met by all students / apprentices and is therefore reliant on being achievable through modules that are core to all students, irrespective of the degree pathway.

2. **Route 2. Certificate of Competence (accredited degree followed by the Registration Training Portfolio)** -Flexible - approved March 2010

   This route includes:

   - Full-time or part-time degree without placement opportunities.
   - Full-time or part-time degree with an optional placement* in an IBMS-approved training laboratory or extended to include a research or industrial laboratory. Completion of the IBMS Registration Training Portfolio (which must be in an IBMS-approved training laboratory) is optional and not a requirement for the degree award.

**This model may take different forms. Where an education provider offers a programme with placement(s) this could be in an IBMS-approved laboratory or other situations where professional work experience can be gained. In these degrees the placement period is still recognised as part of the degree programme and therefore stays within the university responsibility for student welfare and arrangements for the placement.*

Routes 1 and 2 rely on the completion of an IBMS accredited degree and are therefore seen as standard routes into the profession.

3. **Certificate of Competence (Non -accredited degree followed by the Registration Training Portfolio)** - Flexible - approved March 2010

   Route 3 is for graduates with a partially relevant science degree or a non-IBMS accredited biomedical science degree and provides a route of academic equivalence to the accredited degree. Individuals with these degrees are likely to require supplementary study of specified modules from an IBMS accredited degree to meet the equivalent of an accredited biomedical science degree and the academic content required by the HCPC standards of proficiency. In this case, the candidate should submit their completed BSc (honours) (and MSc qualifications if relevant) for an IBMS degree assessment to identify the supplementary education required. More information can be found here: https://www.ibms.org/registration/degree-assessment-for-hcpc-registration/

4. **The Certificate of Competence by Equivalence (Biomedical Scientist)** -Flexible - approved August 2015.

   Route 4 was launched in January 2016 and is for experienced practitioners working in the field of biomedical science and at a level commensurate with a biomedical scientist, for whom registration with the HCPC is desirable. This would include graduates with several years' experience in a clinical pathology laboratory who undertake tasks that biomedical scientists would also complete. These colleagues might work in genetics, genomics, andrology or another specialised discipline where HCPC registration is not mandatory but is desirable.

Most of the candidate's academic knowledge base will be provided by their IBMS-accredited degree programme (or non-accredited degree supplemented by "top-up" modules from an IBMS accredited BSc programme). The IBMS Registration Training Portfolio provides the framework for the continued education and laboratory-based training of candidates that allows them to demonstrate that the HCPC standards of proficiency for biomedical scientists have been met.

The candidate can demonstrate the HCPC standards of proficiency by training either within a single pathology discipline, or in more than one discipline.

The IBMS verifies competence to practise against the HCPC Standards of Proficiency once the portfolio has been completed by a process of independent assessment (the verification). Following successful verification, the IBMS Certificate of Competence can be awarded to individuals who wish to apply to register as a biomedical scientist with the HCPC.

Individuals awarded the Certificate of Competence will, at the threshold level of fitness to practise, be able to:

- demonstrate professionalism by working in accordance with good professional practice in partnership with other professionals, support staff, patients and service users
- demonstrate a knowledge and application of health and safety requirements
- undertake the correct procedures for the handling of specimens, before, during and after analysis
- use the main laboratory computer system in accordance with service requirements

- operate equipment used in the preparation and analysis of samples
- perform a range of laboratory tests without the need for immediate supervision, and demonstrate knowledge of the scientific basis for tests and the disease processes under investigation
- demonstrate awareness of factors affecting sample integrity, risks associated with the sample reagents or method, and other tests indicated by the outcome of the analysis
- be able to apply principles of quality control and quality assurance
- demonstrate skills in troubleshooting and resolving typical problems in the clinical laboratory and be familiar laboratory safety, laboratory regulations, information systems and management.

The HCPC standards of proficiency for biomedical scientists (2014) have been grouped together into relevant modules within the IBMS Registration Training Portfolio Version 4.3 and identified as either a knowledge or competence standard. The purpose of these standards is to ensure that all registered practitioners meet the same threshold standards of competence on Day 1 of registered practice. The standards do not necessarily demonstrate the candidate's ability to fulfil a particular role, nor are they a demonstration of specific in-depth knowledge and skills within a particular discipline.

As the Registration Training Portfolio only demonstrates a threshold level of competence required for registration and autonomous practice, it is expected that practitioners will undergo further post-registration training to enhance their knowledge and scope of practise specific to a discipline or disciplines. The higher and specialist qualifications offered by the IBMS to support this journey can be found here: https://www.ibms.org/education/

Your role as the verifier is to ensure that the candidate has reached the threshold level of knowledge and competence to enable them to register as a biomedical scientist. A successful verification outcome means that the candidate has been declared fit to practice and is eligible to apply to the HCPC for registration.

If you do not feel that the candidate has reached the appropriate level of knowledge and competence after reviewing their portfolio, you can postpone the verification visit and ask that the candidate and Training Officer update and improve some if the pieces of evidence presented. Once this has been done, you can arrange a new verification date. After completing the laboratory tour, if you are not satisfied that the candidate has the required knowledge, understanding and competencies to be eligible to register, you can suggest that a repeat verification visit (face to face or online) is organised. You should identify the areas of deficiency and suggest a date for a second verification visit once the candidate has undergone further training.

The initial verification should still be recorded using the verification report form and the second verification also recorded to identify the improvements made.

If neither the portfolio and the laboratory tour are not completed satisfactorily, the candidate should fail the verification and be given clear feedback on what they need to do to reach an appropriate level, using the verifier report form. If you have concerns about the quality of the training in the laboratory, you should alert the Education Team using the registration@ibms.org email address. An investigation can be carried out and support put in place if necessary to improve the training in the laboratory.

3. UNDERSTANDING THE HCPC STANDARDS OF PROFICIENCY

The HCPC standards of proficiency set out safe and effective practise in the professions that the HCPC regulates. They are the threshold standards considered necessary to protect members of the public. They set out what the candidate must know, understand and be able to do when they have completed their training. By demonstrating these standards, you will be able to apply to register with the HCPC as a biomedical scientist. Once on the register, you must continue to meet the standards of proficiency which relate to the areas in which you work and record CPD (continuing professional development) activities regularly to evidence to the HCPC if you are chosen to be audited.

Due to the natural groupings of some HCPC standards of proficiency (SoPs), they have been organised into two sections in the IBMS Registration Training Portfolio (Version 4.3) as shown below:

Section 1 Professional Conduct

This section is core to the principles of fitness to practise and is defined by standards that relate to professional roles and conduct. The modules within this section are:

- Module 1: Personal Responsibility and Development
- Module 2: Equality and Diversity
- Module 3: Communication
- Module 4: Patient Records and Data Handling
- Module 5: Professional Relationships

Section 2 Professional Practise

This section is core to the principle of applicants being able to demonstrate that they have the knowledge and skills required to practise as biomedical scientists. The modules within this section are:

- Module 1: Professional Knowledge
- Module 2: Health and Safety
- Module 3: Quality
- Module 4: Performing Standard Investigations
- Module 5: Research and Development

The IBMS has grouped the standards together into relevant sections and modules, identifying each one as either a knowledge or competence standard. As a result, the standards are not listed in numerical order throughout the portfolio when compared to the HCPC full list of standards of proficiency but are instead listed in the module where they will be demonstrated.

It is important for the candidate to understand the implications of the standards of proficiency and how they relate to their professional practise, as failure to work to these standards could lead to exclusion from the register. For example, registrants must abide by the standards of conduct, performance and ethics as this relates to standards of proficiency in Section 1 Module 1 (Professional Responsibility and Development) of the Registration Training Portfolio. Evidence in this module must demonstrate they understand the implication of these standards to their practice and monitoring during their training must confirm they apply them to their practice.

To be eligible to apply for registration as a biomedical scientist, the candidate must evidence how they meet **all** HCPC standards of proficiency for a biomedical scientist (as detailed in the verifier report form).

4. LABORATORY TRAINING

The IBMS Registration Training Portfolio can only be completed in laboratories that hold IBMS pre-registration training approval. This ensures that the laboratory has the necessary training plans, support and resources in place to ensure that the candidate is able to undertake the necessary training to complete the portfolio.

Information on how to achieve IBMS laboratory training approval can be found in the document *IBMS Laboratory Training Standards*, which is available on the Institute website.
https://www.ibms.org/resources/documents/ibms-laboratory-training-standards/

Each candidate must have a training plan that sets out the sections of the laboratory they will rotate through, the expected duration in each area, the standards to be covered, and how that may be done. The training rotation is an intended programme and the IBMS recognises that service pressures can affect its delivery. While the IBMS encourages rotation around multiple departments to gain broad experience of pathology, this is not compulsory and the portfolio can be completed successfully within a single discipline or department.

There should be regular (typically monthly) meetings between the candidate and their allocated trainer/mentor. The aims of these meetings are to:

- set training targets in line with the training programme
- review previous work and evidence
- highlight any issues or concerns
- ensure the portfolio is on target for completion.

An example template to record these sessions is available in Appendix 4.

If an individual wishes to seek alternative employment while completing the Registration Training Portfolio and can transfer to another IBMS approved laboratory, then their portfolio is transferrable. However, the laboratory that applies for the verification is responsible for ensuring the candidate has achieved all the standards of proficiency and has completed the required evidence to the appropriate standard. The new laboratory may therefore wish to re-assess the individual's competence and/or require certain pieces of evidence to be re-done and signed off. In such circumstances, any relevant sections of the portfolio already completed in the previous laboratory must be identified, updated and countersigned by the responsible trainer in the new laboratory.

The length of time to complete the Registration Training Portfolio will vary but is typically expected to take about 9-12 months. There is a requirement for evidence to be current (i.e. within three years of the verification). Evidence older than three years should not be included unless, in exceptional circumstances its currency can be confirmed by the trainer and the piece of evidence has been updated appropriately.

5. COMPLETING THE REGISTRATION TRAINING PORTFOLIO

The IBMS Registration Training Portfolio is issued to the candidate (using a unique case number) and cannot be transferred to another individual. This case number should be quoted in any communication with the IBMS Education Team or the verifier about the IBMS Registration Training Portfolio Version 4.3 (ideally in the subject line of any email).

The Certificate of Competence cannot be issued to the candidate until the Registration Training Portfolio has been successfully verified **and** the candidate has completed their IBMS accredited BSc degree programme. The candidate must be able to supply a transcript of their IBMS accredited degree (or non-accredited degree and completion of appropriate top-up modules) to the Education Team using the registration@ibms.org email address. The Education Team will have a record of the completed verification and can then issue the Certificate of Competence.

If the candidate is completing an integrated degree programme or degree apprenticeship, the university will supply the degree transcripts (or pass list) for the completing cohort directly to the Education Team. The Education Team will confirm if they have a record of the completed verification in addition to the completed degree and can then issue the Certificate of Competence.

Evidence of Achievement

The HCPC SoPs (2014) have been grouped together in modules in the IBMS Registration Training Portfolio so that it is more obvious where knowledge and skills overlap. This enables the candidate to demonstrate that several standards have been met in each piece of evidence. Each piece of evidence in the portfolio should be clearly mapped to the standards of proficiency that the candidate and trainer agree the evidence demonstrates.

The candidate is required to produce three separate pieces of evidence for each module of the IBMS Registration Training Portfolio, resulting in a total of 30 pieces of evidence for the entire portfolio. The selection of each piece of evidence is the responsibility of the candidate, but choices should be guided by the training officer and informed by the training plan.

Please note: The evidence of each achievement for each module of the portfolio are a free choice for the candidate and trainer to agree and must evidence the HCPC SoPs for the module. Example types of evidence that may be generated during training that could be used to demonstrate the remaining HCPC standards of proficiency per module are given in Appendix 1.

The portfolio is expected to contain a range of different types of evidence and not a limited selection of evidence types. Some common evidence types include reflective statements, audits, feedback from presentations, annotated documents/laboratory results and question and answer tutorials. The candidate is expected to select pieces of evidence that cover several standards of proficiency. The generic nature of the standards of proficiency permits different types of evidence to be acceptable. The best examples of evidence will demonstrate the candidate's knowledge and understanding, plus their application of this knowledge and understanding in a laboratory-based activity.

The candidate is required to justify the selection of each piece of evidence and identify the standards of proficiency it demonstrates. The verification visit will be used to review the justification for the selected pieces of evidence, in addition to how well the piece of evidence demonstrates the stated HCPC SoPs.

It is the named Training Officer's responsibility to ensure that all HCPC standards of proficiency within a module have been met across the 3 pieces of evidence, before signing them off. The purpose of the verification visit is to review the 30 pieces of evidence to give a holistic overview of the whole training and evidence collection process and ensure that all the HCPC standards of proficiency have been met. The candidate will be expected to defend their choices of evidence during the verification and their interaction with the verifier.

Evidence of the Training Officer's review, annotation and inclusion of constructive feedback is expected on each piece of evidence. The use of feedback is very important, and improvement should be seen throughout the portfolio in response to the feedback given. An example of good evidence would be where a candidate undertakes a task, receives constructive feedback from the Training Officer, responds to this, and progress can be seen in the final version of the piece of evidence. Evidence of this feedback loop demonstrates a good relationship between the trainer and candidate, and is useful to you as the verifier in assessing the quality of the training experience. This feedback should be obvious to you in all pieces of evidence submitted in the portfolio.

- The candidate should annotate any evidence that is not their original work (e.g. printout of results)
- Every page of evidence should be annotated; if you can't comment on it to show how it has enhanced your practice, then it should not be in the portfolio.
- Highlighting and underlining text in a piece of evidence alone is insufficient; it must be obvious why it has been offered as evidence
- The candidate needs to demonstrate their knowledge and understanding and apply this to the laboratory context
- Each piece of evidence should be clearly linked back to the SoP's it demonstrates
- Lack of annotation can result in that piece of evidence being discounted or require updating

Portfolio ownership rests with the candidate, but you as the training officer should check that each piece of evidence is appropriate and meets the required standard for external verification. All pieces of evidence in the candidate's portfolio will require sign-off by the candidate and you as the training officer. This demonstrates ownership of the work by the candidate, and that it has also been reviewed and assessed by the trainer.

Referencing and plagiarism

A plagiarism statement confirms that the portfolio is the candidate's own work. It is important for the candidate to acknowledge the various resources used during their training and in their evidence. Any evidence of plagiarism will result in failure of the portfolio, and the candidate will be required to complete a new Registration Training Portfolio.

If you suspect any plagiarism has taken place when the candidate has prepared their pieces of evidence (copying from another candidate, cutting and pasting written content "word for word" without re-writing it in their own words), you should address this with the candidate immediately. All pieces of evidence should be original and not simply reproduced from other sources. All written pieces of work that use information from published sources (published journal articles, textbooks, web pages, manufacturer's instructions etc) should contain an intext citation and the full reference must also be provided in a reference list. You should agree with your candidate how they will reference source material in their portfolio evidence.

It is common to reference in the Harvard style, ie including the name of the author or organisation, the year of publication, the title of the article or book chapter, and page numbers. If the source is from the internet, it should be referenced using the name of the author or organisation, the year of publication, the title of the piece, the unique URL and the date on which the website was accessed.

Below is an example of a website reference:

In-text citation example

(ThermoFisher (2023))

Reference format in the Reference List

ThermoFisher (2023) 5 Steps to efficient PCR.

Available at: https://www.thermofisher.com/uk/en/home/life-science/pcr/5-steps-pcr.html

(Accessed: 1st September 2023).

Below is an example of a journal article reference:

In-text citation example:

(Salvi, Michielli and Molinari (2020))

Reference format in the Reference List:

Salvi M, Michielli N and Molinari F. (2020). Stain Color Adaptive Normalization (SCAN) algorithm: Separation and standardization of histological stains in digital pathology. Comput Methods Programs Biomed.;193:105506. doi: 10.1016/j.cmpb.2020.105506. Epub 2020 Apr 17. PMID: 32353672.

A plagiarism statement confirms that the portfolio is your own work. It is important that you acknowledge the various resources used during your training and in your evidence. Any evidence of plagiarism will result in failure of the portfolio, and you will be required to complete a new Registration Training Portfolio.

6. REGISTRATION TRAINING PORTFOLIO VERIFICATION PROCESS

General Points about Verification:

- An in-depth knowledge of a single discipline is not needed as the Registration Portfolio is generic.
- Rotation around all disciplines is not required but does provide a wider experience. Evidence of some departmental collaboration in respect of training does complement the biomedical science degree and is recommended by the IBMS, as it gives the student a more complete experience of the profession.
- The trainer should be satisfied that the candidate is able to demonstrate consistency in their achievement of competence.
- All pieces of evidence must be authenticated as originating from the candidate. This is achieved by each piece of evidence containing signatures and dates from the candidate and Training Officer (or delegated colleague).
- Beyond the specified 30 pieces of evidence, the candidate should not provide any additional documentation to be verified.
- Evidence should be valid, authentic and linked to the standards of proficiency and competencies being evidenced.
- The candidate should be aware of good professional practise. For example, laboratory reports or patient data must be fully anonymised, and any hand-written annotation needs to be legible.
- It is important to see that a holistic approach to training has been taken (i.e. evidence to demonstrate that the candidate has integrated into the team working of the laboratory and that they attend meetings where appropriate).
- If some evidence does not demonstrate the standards of proficiency very well, there may be an opportunity on the laboratory tour to explore this in more depth and confirm that the required HCPC standards have been met.
- **Any evidence of plagiarism will result in failure.** The candidate will be required to complete a new portfolio of evidence and apply for a new Registration Training Portfolio.
- If the candidate plagiarises any evidence when completing their portfolio as part of an integrated degree award, they may also be subject to appropriate disciplinary action from their University, for example an academic misconduct hearing or a fitness to practise panel.

Arranging a Verification

Once the Registration Training Portfolio has been completed to a level where the Training Officer reasonably believes the candidate capable of a pass, the verification can be organised.

The named Training Officer must ensure that the portfolio has been completed fully and that all the standards of proficiency have been signed off against the pieces of evidence in the portfolio before applying for the verification visit.

The training officer is responsible for applying for a verification visit (unless the portfolio was issued by the university as part of an integrated degree, in which case the verification will be organised by the university). Applications from candidates cannot be considered.

To apply for the IBMS Registration Training Portfolio Version 4.3 verification, the Training Officer should submit an "Application for Verification" form to registration@ibms.org for individual sandwich students, or colleagues in practice. This will contain the candidate and training officer names and contact details. The Education Team will source a verifier from the IBMS pool of verifiers. The Training Officer and verifier will then liaise by email to confirm the date of the verification.

For students from an integrated degree programme (integrated placement on a BSc Applied Biomedical Science programme), or apprentices completing a Level 6 degree apprenticeship programme, the university Placement Tutor or Programme Leader will coordinate the application for verification for the cohort. They will submit a summary spreadsheet containing the details of all students / apprentices who have completed their degree programme and also been successfully verified to registration@ibms.org

As the standards of proficiency are generic to all disciplines, it is not necessary to appoint discipline-specific verifiers. This will not disadvantage either the verifier or the candidate, as an in-depth knowledge of the pathology discipline is not required (this is assessed at the end of Specialist Portfolio training), and the focus is on obtaining minimum standards applicable to the scope of practice of a biomedical scientist rather than the in-depth role of a specialist.

The verification will follow the format outlined below:

Informal Interview with Candidate and Training Officer (15–20 mins)

This is an opportunity for everyone to be put at ease. The verifier will ask questions that give them a feel for the routine work of the laboratory (DGH, teaching or specialist, such as National Blood Service) and the day-to-day workload. These questions are generated from a need for the IBMS to have an awareness of the environment in which the training is taking place, to meet the HCPC standards of education and training.

It is important that the candidate is encouraged to talk about their training experience and give their views on the training provided. A judgement is made of the quality of the training support to see if it was effective (i.e. Was it one to one? Was there one trainer, designated trainers, rotation and secondment if needed?). The verifier will discuss the production of the portfolio evidence with the candidate and the training officer, including whether there were any difficulties or issues.

Verifiers will also confirm there was inter-professional learning with other learners and that candidates can demonstrate what to do if they feel that they may have been discriminated against. The candidate will also be asked to confirm whether they felt there is effective support if they have concerns about the safety and well-being of service users that they wish to raise and how to ensure action has been taken in response to the concerns.

Portfolio Verification (maximum 90 mins)

The external verifier will complete their scrutiny of the portfolio evidence. The verifier may review the portfolio on-site for a face-to-face verification or may have completed their portfolio review online prior to the on-site verification visit.

Alternatively, the portfolio review and the verification laboratory tour can both be completed entirely online using electronic files of evidence being emailed to the verifier, followed by a Teams or Zoom meeting with the candidate and trainer.

The following documents should be made available to the external verifier, at **least 1 week prior** to the agreed verification date to ensure that the verifier can access all digital files:

- Registration Portfolio Training Plan for the candidate.
- Completed portfolio containing the 30 pieces of evidence mapped to the HCPC Standards of Proficiency for biomedical scientists.

Tour of Laboratory (40 mins)

The laboratory tour will typically take 40 minutes. The laboratory tour must be conducted by the verifier and the candidate **only**. The candidate may be asked to grant permission for an additional person to accompany the verifier on the tour for training and audit purposes only (their role should be as an observer and play no part in the decision-making process). The laboratory tour can be completed face to face during an in-person visit, or entirely online, as agreed between the trainer and verifier.

This part of the verification gives the candidate the opportunity to show their fitness to practise by demonstrating the knowledge and competence they have achieved during their training. An overview of facilities, equipment and the laboratory environment should be given, and they must be able to articulate their knowledge of the procedures and discuss laboratory scenarios. This is a proactive question-and-answer session where the verifier will ensure that the candidate has the threshold knowledge and skill required for the role of a biomedical scientist. It will also provide an opportunity for the verifier to probe any areas they feel may need further clarification following their review of the portfolio evidence.

An assessment of the training culture can also be made; for example, are there up-to-date notice boards for training? Does the laboratory have a positive attitude towards training? All of these help to build up a picture of the training experience.

For virtual verifications, the laboratory tour can be done using a PowerPoint presentation with the candidate explaining the images on the slides, or a virtual walk-through tour (the candidate and trainer should check the Wi-Fi signal is strong enough in the laboratory to support this type of tour in advance). The virtual laboratory tour should still be in interactive discussion and not just a pre-prepared slide presentation.

Meeting with Training Officer (15 mins)

This is an opportunity discuss any good practice identified in the training plan or innovative pieces of evidence used in the portfolio. The verifier can also raise any issues or concerns identified during the verification visit and make constructive suggestions for how these might be tackled going forwards. This is also an opportunity to discuss laboratory training in the laboratory in general, in the context of IBMS training approval.

If no issues have been identified, the verifier may choose to proceed directly to the next stage.

Feedback Comments to Trainer and Candidate (15 mins)

The verifier will communicate the outcome of the verification visit to the candidate and trainer and clarify the recommendation they will make to the IBMS in their report (ie if the candidate has passed or failed).

This is also an opportunity for the verifier to give constructive feedback. For example, the portfolio evidence or training strategy could be improved by encouraging candidates to spend a day in other laboratories, or by developing a collaborative and coordinated approach to training across the disciplines. Maximising the use of resources can avoid the same training being replicated unnecessarily to a number of pre-registration training candidates.

Possible outcomes of the verification:

Successful (pass)

- The candidate has demonstrated the minimum competence required across their portfolio evidence and the laboratory tour against each standard of proficiency.
- The verifier recommends that the candidate should be awarded the Institute Certificate of Competence.

Unsuccessful (fail)

- The candidate has not demonstrated the minimum competence for several standards of proficiency.
- The verifier will provide feedback and guidance regarding how the candidate can address the identified deficiencies.
- The verifier will determine whether submission of additional documentation will address the deficiencies, or a further full verification is required.
- The verifier will agree a reasonable deadline to provide any updated evidence (if appropriate) with the candidate and training officer.
- If a full verification is required, the verifier will inform the Education Team to note this decision and the training officer will liaise with the Education Team via the registration@ibms.org inbox to organise a verification when the candidate has updated their evidence for the portfolio as advised by the verifier.

Post-verification documentation to be completed:

External Verifier's Report

- The verification report is completed by the verifier **within one week of the visit.**
- A copy of the verification report must emailed to registration@ibms.org and the training officer/ training manager copied in to the email.
- The report should be completed in detail and indicate examples of good practice and areas which could be improved, comments on the range of evidence and summary topics covered in the laboratory tour.
- Reports which merely confirm the standards were met (though use of check boxes or inadequate comments) will be returned to the verifier for further detail.

Please do not just list the types of evidence submitted. Short descriptive sentences which include the type of evidence, whether it met the standards and if so, how, are required for the IBMS to document what was presented. For example '*a short reflective statement detailing the candidate's role in investigating an incident. This statement clearly described the incident itself and what role the candidate played in the investigation. The reflection was detailed and the candidate was able to demonstrate what they had taken from it. There was clear evidence that they met the required HCPC standards mapped to this piece of evidence.'*

Laboratory Feedback Report

- The laboratory feedback report must be completed by the training officer/manager **within one week of the visit.**
- This report must emailed to registration@ibms.org and the external verifier copied in to the email.
- The laboratory feedback report provides an opportunity to communicate the training officer and the candidate's experience of the verification process.
- It also provides feedback on the performance of the verifier.
- Completion of this form is a mandatory requirement for continued approval of the laboratory for training and enables the IBMS to audit all aspects of the verification process to maintain consistency and parity of verifiers on a national level. It is designed to be constructive.

While the expectation is that minor concerns are documented in this form, the IBMS appreciates that it may not be appropriate to mention some more serious concerns in this way. In such circumstances, the external verifier or training officer should contact the IBMS Education Team directly using the registration@ibms.org inbox to discuss the issue/s.

Certificate of Competence

Only when both the verifier's report and laboratory feedback form have been recieved and logged (in addition to the completion of an appropriate IBMS accredited BSc programme) will the IBMS Education Team be able to process the Certificate of Competence and pass the candidate's details to the HCPC.

Please note: if the verification was completed prior to completion of an accredited degree (i.e. sandwich placement or an integrated placement / apprenticeship) the candidate will not receive their Certificate of Competence until they (or their University liaison person) have provided a copy of their degree certificate (or transcript) to the IBMS Education Team via registration@ibms.org following the final exam board.

The candidate will receive an email letting them know that their details have been passed to the HCPC and that they can begin the application process to join the register.

Please note: It is important that the candidate keeps their contact details up to date with the IBMS to ensure they receive this information.

7. FREQUENTLY ASKED QUESTIONS

About Training

Q. – What pieces of evidence are required in the Registration Training Portfolio?

A. The portfolio is split into 2 sections that contain 5 modules each. Each module contains 3 pieces of evidence, giving 30 pieces of evidence in total across the portfolio.

The pieces of evidence per module are a free choice to be agreed by the candidate and trainer but must adequately demonstrate the remaining HCPC standards of proficiency mapped to each module. Producing a variety of evidence types across the modules is expected and demonstrates good practice. Examples of evidence types that could be used across the portfolio can be found in Appendix 1.

Q. Does the candidate need to be in a trainee position?

A. The IBMS Registration Training Portfolio provides the framework for education and professional training by which those seeking to become registered biomedical scientists can demonstrate their fitness to practise. This is achieved by evidencing that all the HCPC standards of proficiency for biomedical scientists have been met. The term "candidate" is used to refer to the individuals undertaking the pre-registration training required to successfully complete the portfolio. The candidate does not need to be in a funded trainee biomedical scientist post but must have a structured training plan and the time and ability to complete the training required to produce evidence to demonstrate they meet all the HCPC standards of proficiency.

Q. Can someone who has completed a non-accredited degree and is employed as support staff complete the portfolio?

A. Yes, provided they follow a structured training plan in an IBMS approved training laboratory that enables them to meet the HCPC standards of proficiency required for registration as a biomedical scientist. In this case, the employee would need to submit their completed qualifications for an IBMS degree assessment to identify areas of supplementary education they will be required to undertake to reach equivalence to an IBMS accredited BSc programme. More information can be found here:

https://www.ibms.org/registration/degree-assessment-for-hcpc-registration/

The IBMS registration training portfolio evidence is only valid for a period of 3 years prior to verification, so it would be useful to identify what supplementary education ("top-up" modules) are required and how long this is likely to take to complete the necessary modules prior to applying for a registration training portfolio.

Q. Can training take place in special reference laboratories?

A. Candidates can train in any biomedical science service laboratory that holds IBMS training approval if they can evidence knowledge and practical competences relevant to all HCPC standards of proficiency for biomedical scientists. If candidates need to be seconded to another laboratory for particular aspects of their training, formal arrangements must be in place and detailed in their training plan.

Q. Can the portfolio be completed in more than one laboratory? I have moved jobs halfway through my portfolio.

A. A candidate can transfer to another IBMS approved training laboratory while completing the IBMS Registration Training Portfolio. However, the laboratory which applies for the verification is responsible for ensuring that the candidate has achieved all the standards of proficiency and has completed the required evidence to the appropriate standard. The new laboratory may wish to request that certain pieces of evidence are re-done and countersign any relevant sections of the portfolio already completed prior to submission of the portfolio for verification.

Q. How long do you expect completion of the Registration Training Portfolio to take?

A. It is expected that the Registration Training Portfolio will normally take the equivalent of 9-12 months to complete, depending on the experience of the candidate and whether they are completing it as part of sandwich placement, an integrated degree or while employed in a support grade, rather than a full-time trainee or associate practitioner position.

Q. Can the portfolio be transferred to another candidate?

A. No, the portfolio is not transferable to another candidate.

Q. Who signs off the competencies?

A. The internal training officer/facilitator/coordinator is responsible for ensuring that training is structured and provided in accordance with departmental training policies and training plan, and at an appropriate level. Other colleagues may sign off certain pieces of evidence if appropriate, for example the sample reception manager, training manager, or other biomedical scientists and clinical scientists in the laboratory who have mentored the candidate to complete a piece of evidence. The named training officer should be satisfied that any delegated training responsibility is carried out properly and in accordance with safe, effective practice and to the level expected of a threshold level biomedical scientist.

The training officer will complete the final sign-off of the portfolio of evidence prior to the request for verification.

About Evidence

Q. Is it only the training officer who can sign off evidence in the portfolio?

A. No, it should be the most appropriate person. The training officer is responsible for ensuring that whoever is carrying out the training fully understands the level and requirements expected from that candidate. A list of 'key' of signatories should be included in the portfolio document for any colleagues who will be signing off pieces of evidence. The verifier can check that the most appropriate person has conducted the training and signed the candidate off.

Q. As each piece of evidence should map to defined HCPC SoPs, how big should a single piece of evidence be?

A. Both the candidate and trainer should be thinking 'quality rather than quantity'. Each piece of evidence should be valuable and relevant to the HCPC SoPs it is mapped to but also concise. It is an important skill as a scientist to be able to explain complex information in a clear and concise manner to a variety of audiences. All candidates will have completed a BSc degree programme and should be proficient in creating a variety of materials for assessment including laboratory reports, posters, presentations, case studies, data analysis and scientific pieces of writing.

Long written pieces of evidence do not necessarily show good knowledge and understanding, just the candidate's ability to find information and format it into a single written piece of evidence. For any single written piece of evidence that is included, it is recommended that a maximum word count of 1500-2000 words should be used (excluding the reference list, or hyperlinks may be used for the references within the text). This will ensure that the candidate focusses on the main points they wish to communicate. The candidate will also be able to practice their ability to "filter" the important information they wish to include in the final version of their written piece of evidence as they work through and reduce the word count in drafts with their trainer.

Examples of evidence types per module of the Registration Training Portfolio are given in Appendix 1. For Section 2 Module 5 (Research and Development) the candidate should not include their research project from the final year of their degree programme in its entirety as the mandatory piece of evidence. They should include a short, written report on a workplace-based activity or project (or summarise their final year university research project) to include statistical analysis, data interpretation and evaluation of the study design.

Q. Should the candidate include essay style evidence?

A: Rather than including long written pieces of work as evidence, the candidate should focus on pieces of evidence that are clearly linked to their own experience and practice. Short reviews or executive summaries of information they have read, or the use of diagrams or flow charts of work they have completed could be good examples of evidence. Alternatively, a reflection on what they learned from a presentation or training course they have attended and how they will apply this to their practice is better than including just the slides or certificate of attendance as evidence. The candidate should reflect on how they will incorporate what they have learned into their practice and / or use the activity summarised in the piece of evidence to address a gap in their skills or knowledge to enhance their laboratory-based practice.

If a piece of evidence includes published material (scientific information from journal articles or textbooks, images or information from laboratory SOPs, manufacturer instructions or diagrams) that is not the candidate's, the sources should be clearly referenced using in text citations and a reference list at the end of the piece of work (or hyperlinks to the primary source of information).

Pieces of evidence that include original photographs, data or images that are annotated, structured questions and answers, or case studies are not subject to the 1500-2000 word count, but should again be clear, concise and demonstrate the appropriate HCPC standards of proficiency.

Q. Should the candidate include witness statements as evidence?

A: Witness statements are not good examples of evidence. The 30 pieces of evidence should be selected by the candidate as the best evidence to show how they have demonstrated they meet the HCPC standards of proficiency. A witness statement that simply states someone else has watched the candidate complete the task does not ensure the candidate's understanding of the HCPC standards of proficiency has been demonstrated.

A better piece of evidence would be a summary of a discussion with the person who observed the task being completed that includes feedback on what the candidate did well, some reflection on how they might improve next time. The following questions may be useful prompts for this reflection:

What learning or competency development did the candidate undertake?

What did the candidate learn or achieve through this activity?

How has the candidate applied (or will they apply) this learning to their day-to-day practice?

How could this developmental task change the candidate's practice to benefit the training laboratory or service user?

Q. Is reflection required anywhere in the portfolio?

A. Yes, the expectation is that the candidates will reflect on their skill development, competencies and future improvements in all their pieces of evidence. There should be evidence of reflection in the justification used for each piece of evidence throughout the portfolio, ie why the piece of evidence was chosen and how it clearly demonstrates the HCPC SoPs it has been mapped to. Self-reflection is a skill that candidates should master early in their career.

Section 1 Module 5 (Professional Relationships) Mandatory Evidence 1 is a reflective statement that describes how the candidate's engagement with service users and colleagues has positively contributed to their professional development. Opportunities for candidates to demonstrate self-reflection might include a single reflection on going on a ward round, maybe working with point of care testing and talking about what they learned and how this contributed to their development, or it could be a reflective statement that talks about multiple examples of how the candidate's interactions with service users have improved their development. The candidate could include answering patient queries and clinicians' queries and reflect on how this has improved their communication. Speaking to clinicians using biomedical terminology but also being able to talk to patients (where applicable, e.g. instructions on collecting urine samples) show the candidate's ability to communicate with different people and use different language to communicate most effectively.

The candidate can discuss how service users adding on tests and querying sample requirements has improved their awareness of the tests the lab does, what tests are done by other departments, what specimen requirements are for tests they don't do very often (this could be a reflection on a mixture of specific and general tests). Finally, the candidate might have had to give results which helped their awareness of reference ranges or might have queried results with clinicians or discussed staining. All these activities involve interactions with service users outside of pathology and all contribute to the candidate's professional development.

About Verification

Q. Should the portfolio be shared with the external verifier before the laboratory visit?

A. Yes, the verifier will need to access the candidate's portfolio once they have been assigned by the Education Team. The verifier and Training Officer will correspond by email to agree a date for the portfolio verification and if it will take place as a fully face to face visit, a hybrid verification, or completely online verification.

For a completely face to face verification, the verifier will require a quiet room at the training laboratory venue to access the candidate's completed Registration Training Portfolio on the agreed date of the verification visit. They will review the portfolio, then complete the laboratory tour in person in the training laboratory with the candidate. The verifier feedback to the candidate and Training Officer will also be given face to face, including the outcome of the verification before the verifier leaves.

For a hybrid verification, the verifier will be given access to the candidate's completed Registration Training Portfolio and review the pieces of evidence electronically in advance of the agreed verification date. The verifier will then visit the training laboratory to complete the laboratory tour in person with the candidate on the agreed date. The feedback to the candidate and Training Officer will also be given face to face, including the outcome of the verification before the verifier leaves.

For a completely virtual or online verification, the verifier will be given access to the candidate's completed Registration Training Portfolio and review the pieces of evidence electronically in advance of the agreed verification date. They will then complete the laboratory tour and discussion with the candidate online using Teams or Zoom. The feedback to the candidate and Training Officer will also be given through online meetings, including the outcome of the verification before the end of the meeting.

Q. Are there any changes to the verification questions following the implementation of the Version 5.0 Registration Training Portfolio?

A. The initial verification questions remain in place to encourage candidates to describe what they know about the support in place for them and who to raise issues with. How candidates have learnt with and from other professionals is also included, as this forms an important part of the HCPC standards of education and training. The verifier's report form contains prompts for these questions so verifiers should work from this to break the ice at the start of the verification process.

The verifier will also look at the portfolio holistically and review the range of evidence and variety of evidence types provided across all modules. They will ensure that the 30 pieces of evidence presented in the portfolio map to all HCPC standards of proficiency for biomedical scientists.

All verifiers who assess the Version 4.3 Registration Training Portfolio after 1st September will be required to ask the candidate some questions about the updated HCPC Standards of Proficiency. More information on these questions will be provided when you are assigned a portfolio to verify.

Q. There may be different types of evidence. How does the verifier know which are acceptable?

A. This involves applying professional judgement. Each piece of evidence must be relevant to the HCPC standards of proficiency it is mapped to and be authentic, showing that the candidate has met the standards in question. The rationale for the inclusion of each piece of evidence is supported by the justification for choosing the evidence presented.

We do not wish to stifle innovation, so we do not stipulate evidence types for for each module of the Registration Training Portfolio Version 4.3 and the generic nature of the HCPC standards of proficiency permits different types of evidence to be acceptable.

Q. How can one be sure about the validity of the evidence?

A. Evidence is produced as part of the training process so a qualified individual will have had responsibility for assessing the piece of evidence prior to its inclusion in the portfolio. The candidate should sign and date the work and should complete a plagiarism statement that states all work included is their own.

There should be evidence of marking and constructive feedback from the trainer that underpins iterative improvements in each piece of evidence.

Finally, the training officer/university tutor will have signed off the evidence and confirmed the HCPC standards of proficiency that have been demonstrated, as part of their professional responsibilities.

Q. Can verifiers clarify that all HCPC standards of proficiency have been met via the portfolio evidence and the laboratory tour?

A. If the verifier feels that some of the HCPC standards of proficiency have not been adequately demonstrated in the 30 pieces of evidence in the submitted Registration Training Portfolio, it may be possible for the verifier to ask targeted questions to obtain further information during the laboratory tour. The duration of the tour allows the verifier adequate time to ensure the candidate does meet the threshold standards to become registered as a biomedical scientist.

If the verifier does not feel that after reviewing the portfolio evidence and conducting the laboratory tour that the candidate has met the threshold standards, they may advise that some pieces of evidence need to be updated and resubmitted for them to review. Once they are satisfied that all standards of proficiency have been met, the verifier will be able to confirm that the candidate has passed their verification.

If there are several areas of concern and / or the verifier feels that the portfolio evidence has serious deficiencies that do not demonstrate the candidate has met all HCPC standards of proficiency, they may choose to postpone the verification visit. In this case, a new verification date will be agreed with the Training Officer and candidate that will give the candidate adequate time to update and replace their pieces of evidence to an appropriate standard and the verifier adequate time to complete a second review of the portfolio evidence prior to the postponed verification.

Appendix: 1

This appendix provides some **suggested examples** that may be used for evidence of achievement per module, that will demonstrate the HCPC standards of proficiency mapped to each module. These are not defined tasks that must be completed, but ideas of training activities that will cover several relevant SoPs at once. Alternative types of evidence can be used per module from existing training plans, provided they clearly demonstrate the listed HCPC SoPs for each module in the portfolio.

Section 1: Professional Conduct

Module 1: Personal Responsibility and Development

One of the following types of evidence could be considered to include:

- Personal statement that demonstrates your understanding of the limits of your practice and how you act accordingly.
- Describe, with reference to legal and professional requirements, how your training laboratory stores and disposes of human samples. This could be a diagram, table or flowchart that includes annotation or description of the legislation and how it is applied in your laboratory.
- Create a summary document that explains the role of the Health and Care Professions Council and what is required to be a registered biomedical scientist.
- Provide a record (a written summary or answer some structured questions) of how you effectively demonstrate the behaviours detailed in the IBMS *Guide to Good Professional Practice and Code of Conduct*.
- Show how you take responsibility for self-directed learning (e.g. reflective learning sheet, or a summary of your CPD activities). The examples of CPD should include reflection (annotation or comments) on how and why the activity has informed your laboratory practice.

Module 2: Equality and Diversity

One of the following types of evidence could be considered to include:

- Using specific examples, demonstrate how you apply the principles of equality, diversity and inclusion in your practice.
- Produce a personal statement, through discussion with colleagues, that describes how you demonstrate your commitment to EDI and awareness of diversity in your own professional behaviour.
- With reference to the HCPC Code of Conduct, Performance and Ethics, explain how mutual respect and trust of colleagues in your training laboratory helps you to maintain high standards in your practice.
- Create a case study to demonstrate how you tackle barriers to inclusion, model positive behaviours and recognise what reasonable adjustments may be appropriate in the workplace.
- Produce a diagram / flow chart / poster / leaflet for service users and / or carers that describes why it is important to know about protected characteristics and how these are respected during sample analysis.

Module 3: Communication

One of the following types of evidence could be considered to include:

- Explain the different methods you use to communicate effectively within your department and with service users.
- Provide a reflective summary of your interpersonal skills (a short video, vlog, or blog) and how you have adapted these to actively try to remove barriers to communication with different people.
- Record a workplace discussion (a written summary or create a diagram such as a feedback loop) with your Training Officer or another colleague that demonstrates how you ensure that information is given accurately and is understood by the recipient.
- Compare and contrast how information is communicated within your training laboratory (ie between scientists) and how and why this is adapted when communicated to service users, carers, and external colleagues.
- Give an example of how a questionnaire could be used to inform service delivery, including how you would ensure the questionnaire was accessible and correctly interpreted by a variety of service users.

Module 4: Patient Records and Data Handling

One of the following types of evidence could be considered to include:

- Review a specific sample pathway, from receipt to result, explaining the importance of consent and confidentiality.
- Ask your Training Officer or a colleague to undertake and record a direct observation of practice (DOP) to review your ability to use a basic laboratory information management system (LIMS) in accordance with standard operating procedures to access and input data.
- Using an example from specimen reception, demonstrate why minimum patient identification criteria is important and how the protocols used for inadequately or incorrectly labelled samples allow issues to be corrected.
- Explain record keeping systems in your laboratory, including how these systems ensure continuity, confidentiality and appropriate access to the records, whilst complying with data protection legislation.
- Produce an infographic that demonstrates how pre-analytical errors (eg insufficient specimen being received, or the sample/specimen has not been received in the correct preservative/fixative/container) impact the validity of the sample analysis and / or result.

Module 5: Professional Relationships

Mandatory Evidence 1- Reflective Statement describing how your engagement with service users and colleagues has positively contributed to your professional development.

This piece of evidence provides an opportunity for self-reflection that might include a single reflection on going on a ward round, maybe working with point of care testing and talking about what you have learned and how this contributed to your development, or it could be a reflective statement that talks about multiple examples of how your interactions with service users have improved your development.

You could write a statement to explain how you answer patient queries and clinicians' queries and reflect on how this has improved your professional communication. Speaking to clinicians using biomedical terminology but also being able to talk to patients (where applicable, e.g. instructions on collecting urine samples) will demonstrate how you interact with different people and use different language to communicate most effectively and foster positive professional relationships.

Evidence 2 and 3

These two pieces of evidence are a free choice for the candidate but must map to the remaining HCPC standards of proficiency for this module.

One of the following types of evidence could be considered to include:

- Explain how you have expanded your knowledge and understanding of the tests carried out by other departments and how your treatment of a sample might impact later analysis by other colleagues (eg vacutainer order of draw for blood).
- Describe how your interactions with clinical colleagues has informed your own practice and reflect on the importance of multi-disciplinary teams in the patient care pathway.
- List the areas of the laboratory where you have worked, giving a brief description of the different professional relationships you have formed, including the role(s) these staff (other than biomedical scientists) have in service delivery.
- Identify a specific leadership role in your laboratory and explain what skills are needed to be effective in that role. Reflect on how you already demonstrate some of these leadership skills and how you will learn from others to develop them further.

Section 2: Professional Practice

Module 1: Professional Knowledge

One of the following types of evidence could be considered to include:

- Case study based on a test that your laboratory performs, showing your understanding of normal physiology and disease progression for a specific disorder associated with this test.
- Review the laboratory investigations in which you have been trained, explaining the scientific principles by which they work and give an overview of their validation and diagnostic purpose in your clinical laboratory.
- Evaluate the diagnosis, prognosis and management of a specific disease and how you directly link

your theoretical knowledge to practice.

- Discuss the aetiology of a specific condition, including detailed scientific knowledge of the tissue, cellular or molecular changes that take place as the disease progresses.

Module 2: Health and Safety

One of the following types of evidence could be considered to include:

- Produce an example risk assessment that demonstrates how you work in accordance with health and safety legislation, including appropriate use of PPE, hazard controls and risk management strategies.
- Create a poster showing the common health and safety risks in your training laboratory and how these risks can be minimised.
- Compare and contrast the biological hazards and / or containment levels of different clinical laboratory specialisms and why these are required to manage risk, protect the safety of colleagues and maintain good laboratory practice.
- Write a self-reflection on how you maintain a high standard of professional effectiveness and a safe working environment, including how you would seek help and support when necessary.

Module 3: Quality

One of the following types of evidence could be considered to include:

- Participate in a scheduled quality audit in your laboratory and review the audit outcomes to identify any impact on service and potential improvements.
- List the external quality assurance accreditations that your training laboratory holds and explain why this external recognition is important for establishing and maintaining laboratory quality and competence.
- Summarise the quality control/quality assessment procedures you use in your practice, including the concepts of accuracy and precision, that inform the actions that you take to correct abnormal IQC data.
- Evaluate your ability to calibrate equipment and record relevant quality indicators in accordance with standard laboratory procedures by reflecting on a direct observation of practice (DOP) conducted by your Training Officer.
- Using a questionnaire that you have created, collect data to establish the quality of practice in your training laboratory and evaluate how these data will maintain and improve quality assurance processes.

Module 4: Performing Standard Investigations

One of the following types of evidence could be considered to include:

- Personal statement that demonstrates your experience of performing standard investigations, including your analysis of the data produced and evaluation of the decisions and/or referrals made.

- Using your competency training record (with annotation / explanation) demonstrate your proficiency in using a variety of equipment and your ability to follow standard operating procedures.
- Explain how automation is used in your laboratory to manage workload and resources safely and effectively.
- Outline the different roles and responsibilities of the laboratory to authorise results in primary care and community-based laboratory services or point of care tests.
- Using annotated images or photographs, demonstrate your proficiency to carry out a standard investigation in your laboratory, including the equipment used, methodologies, reagent preparation, prioritisation, quality control, result interpretation and validation.
- Reflect on a specific experience during your laboratory training where you have encountered problems with an intended analytical method, describing how you assessed, evaluated and resolved them.

Module 5: Research and Development

One of the following types of evidence could be considered to include:

- Written report on a workplace-based activity (or summary of final year university research project) that includes statistical analysis, data interpretation and evaluation of the study design.
- Demonstrate your logical and systematic approach to reasoning and problem solving by reviewing a series of experiments completed in your workplace to determine appropriate actions.
- Produce a scientific review (1500-2000 words) based on several relevant journal articles that demonstrates your awareness of the principles and applications of scientific enquiry, your evaluation of treatment efficacy and understanding of the research process.
- Create an infographic of new developments, novel technologies and changing contexts that inform evidence-based practice in the discipline(s) in which you have been trained.
- Evaluate a few different research methodologies relevant to your training laboratory and explain how and why service users should be involved.

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