Professional Accreditation for Clinical Informaticians – Final Report

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0.5	08.07.22	Executive summary drafted; identified risks added; further clarification provided within recommendations section and other restructuring following feedback from Working Group and Professionalism Standing Committee.
0.6	03.08.22	Final draft – updated by JW to include an Executive Summary and other small changes and final proof read by JH. Submitted to WG for final sign off and recommendation for it to go to Professionalism SC and Council.
Final	15.08.22	Updated to final report responding to comments from WG on Executive Summary. Submitted to Chair of Professionalism SC for onward submission to the SC and to Council for sign off.

Approved by:

Version	Date	Description

Executive summary

The Professionalism Standing Committee set up a Working Group with the prime task of carrying out exploratory work to determine what the Faculty of Clinical Informatics (FCI) should be doing to deliver "professional accreditation for clinical informaticians". Two priorities have consistently been high on the wish lists resulting from membership reviews:

- Professional accreditation for clinical informaticians
- Professional development and career progression pathways

Early discussions uncovered significant difficulties with definitions of terms, resulting in an early decision that a glossary should be produced. Since all of our Members and Fellows and at least half of our Associates are registered with one of the statutory regulators who set standards for all of our registrable qualifications, it was further decided that the group should do some exploratory research to develop a better understanding of the workings of the regulators and their regulations. This was with a view to helping to ensure that all FCI Continuing Professional Development (CPD) and any future training would be carried out in ways that would be compatible with that regulatory

framework. This is a complex area and one that tends to change over time. For the purposes of this exploratory project the scope was therefore limited to cover GMC / NMC / GPhC / HCPC which collectively cover 95% of FCI's current registered members.

The group adopted the following definition of Professional accreditation:
"Professional accreditation refers to certification, trade certification, or professional designation that allows a person to perform a job or task. Professional accreditation uses a formal process to identify and acknowledge individuals who have met a recognised standard"

An important distinction was made between CPD which would be primarily for Members and Fellows wishing to maintain and develop their professional accreditation, and post qualification / postgraduate training which would be primarily for those at an earlier career stage wishing to develop their competencies as clinical informaticians and then to progress to membership by undergoing an assessment based on standards set by FCI. Both CPD and postgraduate training are important if the Faculty is to deliver on the two membership priorities described above and it would make sense for both to be grounded on the CF. The development of formal postgraduate training would require amongst other things the development of a curriculum plus means of assessment. While FCI has been developing CPD it has not so far engaged in the development of postgraduate training.

The Working Group has therefore carried out an exploratory project to determine what actions the Faculty would need to undertake in order to develop postgraduate / post qualification training that would fit within the statutory regulatory framework and to determine to what extent those actions are already covered by current work for example as laid out in the Competency Framework Working Group report.

The outputs of this project include:

- A glossary of terms
- An account of the essential details of regulations and standards relating to professional accreditation and career progression for each of the statutory regulators listed above
- Problems identified by Working Group members
- A set of six recommendations with associated actions required and to what extent these are or are not currently being addressed

The six recommendations are as follows:

1. **FCI should develop a comprehensive, clear and unambiguous strategy that clearly describes what it wants to achieve in time across all of continuous professional development (CPD) and postgraduate training in relation to clinical informatics.**
2. FCI should very seriously consider developing a curriculum plus means of assessment for postgraduate training, based on its CF, for a qualification in clinical informatics which would be:
    a. Registrable when and where appropriate to regulatory frameworks
    b. Approvable by professional bodies when and where appropriate
3. Development and maintenance of curriculum plus assessment should:
    - Be owned by FCI and developed collaboratively

- Abide by the standards set by the statutory regulators who govern the majority of FCI Members, and, in due course, be approved / endorsed by those regulators
- In time, provide the main future pathway to membership of FCI.

4. Postgraduate training would be primarily targeted on future up-and-coming clinical informaticians and should:

    - Be multi-professional – accessible to people from any clinical background
    - Integrate as far as possible with broader career long education and training initiatives going on and being developed outside FCI
    - Have more than one route to accreditation (e.g., assessment / portfolio)
    - Be additional to all of FCI's current education and training initiatives

5. Credentialing should be seriously considered as a means of providing **a single set of standards accessible to all future potential members of FCI**. There appears to be no bar to stating the development of curriculum and assessment (short term), and even to implementing (medium term), without formal regulatory approval but for regulatory approval to follow later (longer term) for example with FCI then being formally recognised as a 'credentialing body'.
6. Provision should be made for further work to keep information about regulatory frameworks up to date and, in the interests of inclusiveness, when needed to extend coverage to include other regulators and other parts of the Professional Standards Authority domain beyond statutory regulators

FACULTY OF CLINICAL INFORMATICS

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1. Introduction

1.1. Definitions

The following definitions are provided to assist with reading this report. Descriptions of "Clinical Informatics" and a "Clinical Informatician" were developed in the context of statement outputs from Phase 1 of the FCI Core Competencies Project.[1]

Clinical Informatics *is the application of data and information technology to improve patient and population health, care and wellbeing outcomes and to advance treatment and the delivery of personalised, coordinated support from health and social care.*[1]

A clinical informatician *uses their clinical knowledge and experience of informatics concepts, methods and tools to promote patient and population care that is person-centred, ethical, safe, effective, efficient, timely, and equitable.*[1]

Further definitions have been developed as part of the outputs of this project. The methods to develop these definitions are described in 3.2 Development of Glossary. This included a working definition of Professional Accreditation, which is included below:

Professional accreditation *refers to certification, trade certification, or professional designation that allows a person to perform a job or task. Professional accreditation uses a formal process to identify and acknowledge individuals who have met a recognised standard.*

1.2. Background

The Faculty of Clinical Informatics (FCI) membership survey 2021 identified "professional accreditation" for clinical informaticians as a top priority amongst those responding.

FCI's charitable objects are: "To advance the health of the public, in particular, but not exclusively, through the following:

- the development and monitoring of professional standards in clinical informatics
- the provision of education and training to clinicians
- the provision of guidance on the commissioning, design, development and delivery of health and care information systems
- the promotion of the inclusion of clinical informatics in core clinical training to help promote safe, effective and professional standards."

In the 2021 FCI Annual Membership survey, members believed the FCI's top priorities, in order, over the next five years should be:

1. Embedding clinical informatics into core health and care training
2. Professional accreditation for clinical informaticians
3. Professional development and career progression pathways
4. Guidance on informatics best practice (e.g. commissioning, design, development and delivery of health and care information systems, design and delivery of training, etc)
5. Influencing national policy

[1] Phase 1 Report – Consultation Exercise and Output Competences for a Clinical Informatician (v1.1): https://facultyofclinicalinformatics.org.uk/web/content/1476?unique=f8d4bded4c7a0d1aa1b7e6e7d9bc5f54b43a5417&download=true [Accessed 16 February 2021]

The majority of members responding to the 2021 survey are subject to statutory regulation and that is also true for all FCI Fellows and Members and some Associates. The overarching body for statutory regulators is the Professional Standards Authority (PSA). Statutory regulators exist to provide assurance for the General Public. The PSA states that regulators do four things[2]:

1. Set standards of competence and conduct that health and care professionals must meet in order to be registered and practise
2. Check the quality of education and training courses to make sure they give students the skills and knowledge to practise safely and competently
3. Maintain a register that everyone can search
4. Investigate complaints about people on their register and decide if they should be allowed to continue to practise or should be struck off the register - either because of problems with their conduct or their competence.

There are clearly strong synergies between our charitable objects and the priorities set by our members. The Faculty has carried out high quality work in developing its Competency Framework (CF) but as yet has not looked in detail at how those standards could be embedded into existing regulatory frameworks. Just before the Faculty was launched (2017), some exploratory work looking at regulators was carried out. However, when the Faculty was in its infancy with limited resources, it was necessary at that time to concentrate on developing the CF. The intention was to return to considering regulatory frameworks later, and the Professional Accreditation Working Group has provided an opportunity to do just that. There are many examples to learn from where similar professional membership bodies have successfully embedded their standards into regulatory frameworks (for example, see here for a list of GMC-approved postgraduate curricula).

2. Aim

To identify the actions that the Faculty will need to undertake in order to effectively embed its professional standards into existing regulatory frameworks.

3. Objectives

1. Make an analysis of the requirements of existing regulatory frameworks as they relate to operationalising professional standards by 1 June 2022.
2. Compare these requirements with planned outputs from the Competency Framework Working Group (CFWG) report tasks by 1 July 2022.
3. Identify actions that the Faculty will need to undertake in order to effectively embed its professional standards into existing regulatory frameworks which are not yet being addressed by currently planned Faculty activities by 1 August 2022.

4. Approach

4.1. Preparatory Phase

[2] https://www.professionalstandards.org.uk/what-we-do/our-work-with-regulators/about-regulators

A multi-professional Working Group was assembled, with representatives from each of the Faculty's professional interest groups. The group was asked for volunteers to act as Chair and to provide an explanation of their relevant experience and suitability for the role. Applications were reviewed by Chair of the FCI Professionalism Standing Committee and John Williams was selected as Chair of the group. See Appendix A for full list of Working Group membership.

The overarching context and the project Aim were discussed to develop a shared understanding of the issues. Based on that shared understanding the detail of the project was then agreed.

4.2. Research to understand the regulatory domain for health and social care

The main focus was to identify the regulatory requirements around professional standards for professions of health and social care. The output was planned to be a list of requirements / problems that FCI would need to address on the way to embedding its professional standards into regulatory frameworks.

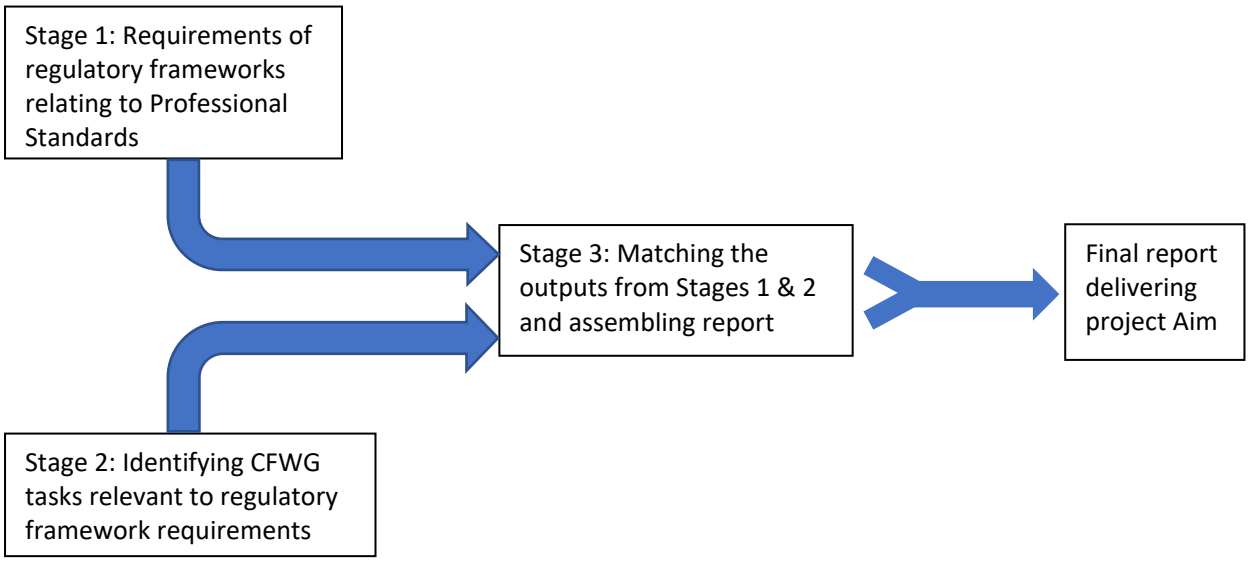
4.3. Review of progress with the CFWG report tasks that are relevant to the Project Aim

This stage was steered by the output of the previous research stage above in order to identify the tasks from the CFWG report that were relevant to those requirements. It then explored what were the stated deliverables of these tasks, whether they were on track and how they were being prioritised.

4.4. Compare outputs from research phase with outputs from review of CFWG tasks

This next stage identified which regulatory requirements were matched by ongoing (or planned) work from the FCI professionalism programme, and which were not. It also looked at prioritisation of what was required and summarised any significant problems identified. The output of this third stage would essentially deliver the project Aim and provide the FCI with clarity about the actions it will need to consider, prioritised and with information about important problems. This would provide a robust basis for planning further actions.

4.5. High level project framework representing the project approach



5. Results: preparatory phase

5.1. Developing a shared understanding

In the initial meetings of the Working Group, the group reviewed the results of previous FCI Membership surveys, where Professional Accreditation rated highly as a Member priority. They also reviewed the landscape of regulation for health and care professionals. The draft project plan was discussed and the approach, as outlined in this paper, was finalised and agreed.

5.2. Regulatory landscape

In the report "Right-touch assurance: a methodology for assessing and assuring occupational risk of harm" (Oct 2016), the PSA describes a "continuum of assurance", with different forms of assurance needed depending on the degree of risk of harm to patients and service users arising from the practice of an occupation. It states that, as the level of risk increases, the regulatory force required to manage that risk also increases.

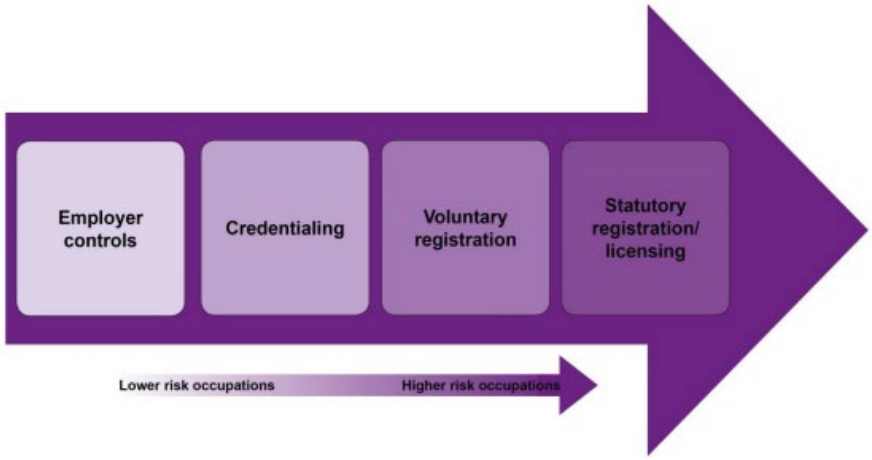


Figure 1: Continuum of assurance. Taken from: "Right-touch assurance: a methodology for assessing and assuring occupational risk of harm" (Oct 2016)

In the article from the Department of Health & Social Care, Healthcare regulation: deciding when statutory regulation is appropriate, the criteria for deciding whether to regulate a profession are listed. Some key points include:

1. The decision whether to regulate a profession is made by government informed by a number of factors
2. Risk of harm sits at the heart of the decision making – important criterion but note 'other factors'
    a. Proportionality
    b. Targeted regulation
    c. Consistency – can effective regulation be achieved in a way that complements the existing regulatory framework, ensuring that the regulatory landscape can be easily understood by the public
3. Other factors sometimes deemed relevant but which should not form part of this assessment
    a. Conferring status / esteem / prestige on a profession should not be a reason for regulation
    b. Regulation must not be used to restrict access to a profession other than where that is required for public protection
    c. Negative consequences of regulation
        i. Increased costs
        ii. Barriers to entry: a key element of regulation is the formalisation of education and training requirements for the professions. This can act as a barrier to entry to the profession for some individuals

5.3. Priorities identified

5.3.1. Scoping and initiation of Glossary

At a very early stage of the project it became clear that there was a need to clarify the language used by bodies external to the Faculty for example around regulation, accreditation and assessment. After some discussion it was agreed that it would be of value across the whole Faculty to develop and maintain a glossary.

Aim
To foster a clear, unambiguous understanding of key language related to professionalisation of the clinical informatician avoiding any confusion or mis-use of terminology.

Intended audience
- Whole FCI membership.
- Anyone who is working in the areas of professional standards and regulation.
- Anyone who is communicating / working with external stakeholders relating to professional standards and regulation.

Objective
To provide a list of definitions for key terms related to the clinical informatics and professionalisation of the role by end April 2022.

Scope
The output of this work will be a list of terms and accepted definitions for these. The definitions should be clear, concise and unambiguous. It was expected that the Glossary of Terms would initially include approximately 20-30 words.

The FCI Core Competency Project outlined a number of definitions, including: clinical informatician, clinical informatics, competence, competency, competency framework and professional attribute. These existing, published definitions, and others sought from reliable sources, were adopted wherever possible, rather than creating novel definitions.

Exclusions
The Glossary would not include terms that do not relate to professionalisation of the clinical informatician, eg, technical terms that relate to the work of a clinical informatician.

Governance and communication
The Glossary was initially developed by the Professional Accreditation project Working Group, in collaboration with the FCI Education & Training Lead and Education and Standards Standing Committee (ESSC). The draft glossary was first reviewed by the Professionalism SC to ensure an acceptable methodology had been followed and then presented to FCI Council for approval. Any concerns raised about either definitions or scope were referred back to an expert editorial panel.
It is recommended that the final output should be published on the FCI website in an easy to access location and that this should be communicated to FCI Members via the e-newsletter, on social media, and via the FCI Special and Professional Interest Groups.
Following this approval process, these definitions will be adopted by all FCI staff and governing bodies to ensure consistency of communication across all FCI work.
It is recommended that the Glossary should be reviewed every 1-2 years to ensure it remains accurate and relevant, or more frequently if required.

6. Results: research phase

6.1. FCI Membership

To inform recommendations made in this report, data were compiled on the makeup of the FCI membership, including the proportions of Fellow:Member:Associate Members and the number of these with current PSA registrations. This study concluded that:

- 95% of Members and Fellows are covered by GMC / GPhC / NMC / HCPC.
- 47% of Associates have a professional registration. Of these, just under 98% are likewise covered by GMC / GPhC / NMC / HCPC.
- Of all Members, Fellows and Associates who are statutorily registered, over 95% are registered by these four predominant regulators.

The detailed findings of this study are provided in **Appendix B**.

6.2. Development of Glossary

The Working Group discussed which terms should be included in the glossary and these were compiled in a shared spreadsheet that all Working Group members were able to contribute to developing. See "Outputs" section for more detail.

6.3. Key findings related to specific professional groups and regulators

This section of the report is based on the insights, experiences and research of the Working Group members.

1. Doctors: GMC
2. Nurse and midwives: NMC
3. Allied health professionals: HCPC
4. Pharmacists and pharmacy technicians: GPhC
5. Healthcare Scientists: HCPC or other

6.3.1. Doctors: regulated by GMC

See also **Appendix C**.

Clinical profession(s)	**Medicine**
How do individuals obtain their basic qualification and become registered?	• Complete medical school and foundation levels 1 and 2. • Alternative route available for doctors who have trained "out of country".
Does the regulator have any further level of registration or licensing related to postgraduate training?	• Foundation level (FY1 and FY2) • Speciality training (CT1-n, ST1-n) • Specialist register (consultants)
How do individuals maintain their registration/licence to practise?	• In training programs (Foundation and Speciality training): ARCP (Annual Review of Competence Progression) • Out of training program (SAS doctors (speciality and associate specialist)): annual appraisals.
What guidelines or standards does the regulator expect should be followed with regard to undergraduate and postgraduate training?	Set by GMC and Royal Colleges
What formal or informal standards exist for	GMC credentials

credentialing under this regulator and/or for a specific profession?	See **Appendix C** for an outline of the GMC credential pathway and how the FCI could navigate this.
Does the regulator have a code of best practice, or similar that all registrants must satisfy in order to maintain registration?	GMP (Good Medical Practice) https://www.gmc-uk.org/-/media/documents/good-medical-practice---english-20200128_pdf-51527435.pdf

6.3.2. Nurses and midwives: regulated by NMC

Clinical profession(s)	**Nursing and midwifery**
How do individuals obtain their basic qualification and become registered?	Complete a nursing programme of education approved by NMC to foundation degree level. Half of the programme based in clinical practice with direct contact with patients and families. Meet requirement of good health and character. Pay NMC registration fee £120
Does the regulator have any further level of registration or licensing related to postgraduate training?	Education programmes such as prescribing and specialist practitioner, return to practice and teacher are all added as a separate registration to the pre-registration status on the NMC register. For a recordable qualification there is a £25 fee.
How do individuals maintain their registration/licence to practise?	Annual fee to NMC. Revalidation every 3 years, produce a prep portfolio. Contains proof of 450 hours work in last 3 years, 35 hours of CPD, 5 pieces of practice related feedback, 5 written reflective accounts, reflective discussion, declaration of health and character, evidence of professional indemnity arrangement and confirmation.
What guidelines or standards does the regulator expect should be followed with regard to undergraduate and postgraduate training?	New post-registration standards will be officially launched in June 2022. Standards are set to assess safety and effectiveness of all learning environments via curricula.
What formal or informal standards exist for credentialing under this regulator and/or for a specific profession?	3 different pathways to achieving the RCN advanced level nursing credential. Nurses require relevant Masters, non-medical prescribing (NMP) and active membership of the NMC to credential from an RCN accredited university. Credential awarded at no cost for the first 3 years. Credentialing | Professional Development | Royal College of Nursing (rcn.org.uk)
Does the regulator have a code of best practice, or similar that all registrants must satisfy in order to maintain registration?	Code of Conduct needs to be upheld. Along with CPD portfolio and those requirements.

6.3.3. Allied health professionals: regulated by HCPC

See also **Appendix D**.

Note: The Health and Care Professions Council (HCPC) regulates 15 health and care professions. In the table below, examples have been provided for some of these 15 professions, but it should be noted that this does not represent the landscape and information for them all.

Clinical profession(s)	**Allied health professionals**

How do individuals obtain their basic qualification and become registered?	Undergraduate courses ranging from 3-4 years. PGDip or MSc courses of 18months – 2 years. Gradual introduction of apprenticeships for some professions providing access onto the degree programmes.
Does the regulator have any further level of registration or licensing related to postgraduate training?	HCPC have powers to annotate the register to show where a registrant has additional entitlements because they have completed additional training in a particular area of practice. Currently annotated where a registrant has completed training around medicines and has obtained entitlements to sell, supply, administer or prescribe these medicines. The annotations available are different across the different AHP professions. **Advanced Clinical Practice (ACPs) for AHPs:** A competency pathway exists focused around 4 pillars of practice which require criteria to be fulfilled across all 4.
How do individuals maintain their registration/licence to practise?	HCPC Professional registration - each HCPC profession renews at a set time and these dates are the same every two years and published on HCPC website: Registration | Health and Care Professions Council (HCPC) | (hcpc-uk.org) At registration renewal registrants are asked to sign a form to confirm that they continue to meet the HCPC's standards, including CPD During each renewal a random selection of 2.5 per cent of each profession are asked to submit their CPD profile.
What guidelines or standards does the regulator expect should be followed with regard to undergraduate and postgraduate training?	The HCPC sets high level standards in relation to training / education and how new education programmes are approved. Professional bodies e.g., CSP / RCOT / RCSLT, etc., set the pre-registration standards for their professional curriculum and HEE deliver accordingly. Currently only limited digital element included in some curriculums.
What formal or informal standards exist for credentialing under this regulator and/or for a specific profession?	We are not aware of any mechanism of credentialing by the HCPC, only the additional entitlements as below: https://www.hcpc-uk.org/check-the-register/additional-entitlements/
Does the regulator have a code of best practice, or similar that all registrants must satisfy in order to maintain registration?	The HCPC sets standards of conduct, performance and ethics (the ethical framework within which registrants must work). Each professional body then sets specific quality assurance standards which sit under the HCPC standards.
Other relevant information	Some professional bodies have allocated professional lead roles within informatics / digital and have produced some digital resources, but this is not consistent. Some networks and special interest groups exist but this is dependent on professional body and they are largely informal member led groups.

	See **Appendix D** for examples.

6.3.4. Clinical scientists: Regulated by HCPC, AHCS or other

See also **Appendix E**.

Clinical profession(s)	**Clinical scientists**
How do individuals obtain their basic qualification and become registered?	Two educational providers – NSHCS/IBMS There are 2 routes for NSHCS: Direct Entry Route and In-service route IBMS: Only approved for Clinical Biochemistry, Clinical Immunology and Haematology See **Appendix E** for more information.
Does the regulator have any further level of registration or licensing related to postgraduate training?	A query was sent to HCPC regarding any further level of registration required beyond clinical scientist, at the consultant level, for example. HCPC confirmed that, "There is no further level or ranking of registration beyond your initial registration." With regard to licensing, HCPC referred us to: https://www.hcpc-uk.org/education/
How do individuals maintain their registration/licence to practise?	As above for AHPs – see 3.3.3.
What guidelines or standards does the regulator expect should be followed with regard to undergraduate and postgraduate training?	As above for AHPs – see 3.3.3.
What formal or informal standards exist for credentialing under this regulator and/or for a specific profession?	With regard to licensing for clinical scientists, HCPC referred us to: https://www.hcpc-uk.org/education/
Does the regulator have a code of best practice, or similar that all registrants must satisfy in order to maintain registration?	Clinical Scientists must adhere to Good Scientific Practice – which sets the professional standards in the healthcare science workforce. https://www.ahcs.ac.uk/standards/ https://www.hcpc-uk.org/standards/standards-of-proficiency/

6.3.5. Pharmacists and pharmacy technicians: regulated by GPhC

Clinical profession(s)	**Pharmacists and pharmacy technicians**
How do individuals obtain their basic qualification and become registered?	**Pharmacists:** MPharm degree at one of 31 accredited universities (https://www.pharmacyregulation.org/education/approved-providers-education-and-training/accredited-mpharm-degrees) Mpharm is either 4 years and then 1 year pre-registration training at a hospital or community pharmacy (or split placements with GPs), or a 5 year degree where the pre-registration year is integrated into programme.

	Then sit pre-registration exam and register with GPhC as a pharmacist if pass. **Pharmacy Technician:** One of the recognised competency-based qualifications **and** one of the recognised knowledge-based qualifications listed in the criteria, **or** a combined competency qualification, also listed in the criteria, plusa minimum of two years' work-based experience in the UK, Isle of Man or Channel Islands
Does the regulator have any further level of registration or licensing related to postgraduate training?	Regulator (GPhC) has only one set of annotations that can be added to the register (Supplementary or Independent Prescriber) following postgraduate training. Professional body (RPS) has a framework for advanced practice and consultant pharmacist credentialing - not managed by regulator. Prof. body for technicians (APTUK) doesn't currently have an advanced practice framework but is planning to develop one.
Does the regulator have any further level of registration or licensing related to postgraduate training?	Regulator (GPhC) has only one set of annotations that can be added to the register (Supplementary or Independent Prescriber) following postgraduate training. Professional body (RPS) has framework for advanced practice and consultant pharmacist - not managed by regulator. Prof. body for technicians (APTUK) doesn't currently have an advanced practice framework but is planning to develop one.
What guidelines or standards does the regulator expect should be followed with regard to undergraduate and postgraduate training?	• GPhC Standards for the initial education and training of Pharmacists • GPhC Standards for the initial education and training of Pharmacy Technicians • GPhC Standards for the education and training of Pharmacist Independent Prescribers
What formal or informal standards exist for credentialing under this regulator and/or for a specific profession?	RPS have developed curriculum for both advanced level and consultant level pharmacy practice. Pharmacists need to submit a portfolio demonstrating how they meet these requirements to the RPS who will assess and then grant the appropriate level. For consultant level the RPS will grant 'eligibility for consultancy' but a consultant post must also be available to be a consultant pharmacist. APTUK currently don't have an advanced level framework for pharmacy technicians but are planning to develop one following a review of their foundation framework. RPS Consultant Pharmacist Curriculum RPS Core Advanced Pharmacist Curriculum
Does the regulator have a code of best practice, or	Yes - https://www.pharmacyregulation.org/standards/standards-for-pharmacy-professionals

similar that all registrants must satisfy in order to maintain registration?	Major themes are: • Person centred care • Partnership working • Effective communication • Professional skills and knowledge • Professional judgement • Professional behaviour • Confidentiality and privacy • Speaking up about concerns • Leadership
Other relevant information	Registration requirements for EEA Pharmacists wanting to register with GPhC differ slightly.

7. Results: Review of progress with the CFWG report tasks

A review of CFWG report took place to identify those that appeared to be most relevant to the FCI Membership Survey's top priorities. In the CFWG report, 18 recommendations were made and grouped as follows:

Group A	High priority recommendations with immediate urgency
Group B	High priority recommendations with medium-term urgency
Group C	Medium priority recommendations with immediate urgency
Group D	Medium priority recommendations with medium-term urgency

The recommendations were also allocated to one of four workstreams (W1-4):

W1	FCI policy and strategy
W2	Membership
W3	Education, training and CPD
W4	Professionalisation

The recommendations identified as being most relevant to the five top Membership priorities were as follows:

- Embedding clinical informatics into core health and care training: B6 W3
- Professional accreditation for clinical informaticians B2 W2
- Professional competency standards for job roles: B8 W4
- Professional development and career progression pathways: B7 W4
- Influencing national policy: A3 W1, B6 W3

Please refer to the full of CFWG report for more detail of these recommendations.

In addition, the actions identified that were proposed by the Working Group were mapped to the recommendations of the CFWG report to identify whether each action was fully, partially or not met.

8. Outputs

In addition to the results of the research into the regulatory frameworks and standards for GMC, NMC, HCPC and GPhC, as outlined in section 6, above, the following outputs were achieved.

8.1. Glossary of terms.

The full Glossary of terms is provided in Appendix G.

8.2. Working definition of Professional accreditation

In order to achieve consistency of meaning during this project and beyond, across all Faculty activity, a working definition of Professional accreditation was developed, as follows:

Professional accreditation *refers to certification, trade certification, or professional designation that allows a person to perform a job or task. Professional accreditation uses a formal process to identify and acknowledge individuals who have met a recognised standard.*

8.3. Problems identified

During the research phase, members of the Working Group identified the following problems that may exist or may be perceived to exist while working towards professional accreditation for clinical informaticians.

Name of problem	Nature of problem	Possible mitigation
Cost of multiple credentials for nurses	Nurses can hold multiple credentials but there is a charge for each one held, which may be a barrier and put off nurses from considering pursuing a clinical informatics credential.	Explore pricing structures for credentials further with RCN/NMC to understand more about this.
Inconsistency of job roles	Similar job roles across the UK have different salary bandings, eg Digital Midwives at AfC bands 6/7/8a. This is similar for AHPs with similar roles but different titles e.g. Digital Leads / Allied Information Officers / Allied Health Information Officers, and with AfC banding varying between 7/8a/8c etc.	FCI to work with NHSE/I and respective professional groups to help develop career frameworks and definitions around roles and banding.
Confusion around multiple registrations and concerns around cost	Existing guidance, some of which derives from outside the Faculty, has led in some cases to the erroneous assumption that registration with multiple bodies might be required. For example, there are a lot of bodies that pharmacists pay registration to which may engender reluctance to join RPS/FCI to obtain digital credentials. Examples of common groups within secondary care are: PDA, UKCPA, RPS, FCI, GHCP, GPhC, APTUK	FCI to present clear guidance on its website, and to work with stakeholders to ensure information regarding professional registration(s) is accurate and up to date. Ensure value for money for FCI membership is demonstrated and clear to prospective members.
Several places to record CPD	Lack of a single place to easily record all CPD points awarded across various courses and events, which may be online or in person.	Explore possibility of helping with recording CPD via the FCI e-portfolio (in development)

FCI Core Competencies Framework lack of clarity	In places, the FCI core competencies are not clear in terms of what is needed to show you are competent.	Provide examples against each competency to demonstrate what is needed and explain differences between competency framework and curriculum
Requirement of PSA registration and/or professional body registration in order for credential to be recognised	For example, membership of the RPS (professional body for Pharmacists) is not mandatory and may not be present in all individuals seeking credentialing. Membership is not mandatory for RPS credentialing, however, there is support for credentialing available to RPS members, which may disadvantage non-members from gaining credentials.	Provide credentialling support via FCI. Develop a clear strategy with strong stakeholder management that addresses the various ways that credentialing can be approved without being registered
FCI Pharmacy input very Secondary Care focussed	Pharmacy input into the FCI is currently very focussed on secondary care. While standards and accreditation pathways are identical across the profession, it's possible that other barriers exist in Community or Primary Care pharmacy that are not currently identified. This may also apply to other more niche areas such as academia and industry.	Identify key contacts in other sectors to test ideas and assumptions
Mapping competencies	RPS already produce a list of competencies for advanced and consultant level practice. It may not be easy to map all of these to appropriate digital competencies or items on the FCI competency framework	Mapping exercise to be undertaken to identify issues.
Who can certify/supervise?	RPS competency frameworks require peer support and assessment by peers to verify that practice is at an appropriate level. The digital pharmacy role is often solitary or in a small team - there's unlikely to be another individual practicing at the level within Pharmacy in the same area to provide this support.	Seek cross-professional support. Potential for support/assessment from FCI.
Engagement with RPS	RPS Consultant framework is new and it's currently unclear what the future plans or direction are for the RPS, therefore hard to judge whether FCI plans will fit with that direction	Socialise plans via RPS Digital Advisory group
Maintaining registration as increasing proportion of working week is taken up by clinical informatics activities	Across many professions there is a general lack of clarity about the rules set by different regulators for maintenance of registration. This is likely to relate to rules and requirements around annual checks / appraisals / revalidation etc	FCI should support work to obtain authoritative statements on the rules that apply and consider what could be done to extend the assistance that is currently available to medically qualified members to other professions

9. Recommendations

In its Interim report of 2021 (Data Driven Healthcare in 2030), HEE produced a prediction of the workforce required by 2030 in England by area of work. For clinical informatics the forecast was for an extra 12,000 extra whole-time equivalents, an increase of 672%. Recommendation 4 in that report states:

"*To meet the anticipated workforce demand in clinical informatics in a future where health and care will be increasingly driven by data, the Faculty of Clinical Informatics should scope and develop standardised specialist job roles for multi-professional clinicians, working with other professional bodies including the medical royal colleges and NHS arm-length organisations, and relevant professional organisation service leads, educationalists, and chief professional officers. These job roles should incorporate hybrid clinician-informatician positions at the relevant skill levels, recognising their clinical practice and their role as data, digital, and technology specialists*."

To date, FCI has successfully completed robust work on its core competency framework (CF) with its six domains, 36 categories and 111 competencies. The FCI is working to operationalise that CF and must continue to do so in order to prepare to meet the enormous challenge laid out above. In doing that, the FCI would also be responding to two of the highest priorities consistently raised by its membership:

- Professional accreditation for clinical inform aticians
- Professional development and career progression pathways

The next section lays out the Working Group's six recommendations. To avoid cluttering the headlines important explanatory detail has been placed in footnotes

The Working Group recommends that:

1. **FCI should develop a comprehensive, clear and unambiguous strategy that clearly describes what it wants to achieve in time across all of continuous professional development (CPD) and postgraduate training in relation to clinical informatics.**[3]
2. FCI should very seriously consider developing a curriculum plus means of assessment for postgraduate training, based on its CF, for a qualification in clinical informatics which would be:
    a. Registrable when and where appropriate to regulatory framework[4]

[3] To support professional development and career progression for clinical informaticians there needs to be a clear distinction between formal post qualification training for beginners and CPD. CPD is important for maintaining and further developing professional accreditation for established members and fellows for example by providing support for appraisals and revalidation

[4] All basic qualifications for members registered with any of the statutory regulators are 'registrable'. Without such a qualification it would be illegal to practise. The position regarding more advanced qualifications obtained after basic qualification varies between statutory regulators and may change over time. For example, currently postgraduate qualifications as they relate to medical specialities, sub specialities and credentials are required and registrable by the GMC and it would be illegal to practise in such specialities / sub specialities without such registered qualifications. The aim here should be to ensure that wherever, and when ever, there is a legal requirement for such a registrable qualification, FCI will ensure that the appropriate

   b. Approvable by professional bodies when and where appropriate[5]

3. Development and maintenance of curriculum plus assessment should:

   - Be owned by FCI
   - Abide by the standards set by the statutory regulators who govern the majority of FCI Members, and, in due course, be approved / endorsed by those regulators
   - In time, provide the main future pathway to membership of FCI

4. Postgraduate training would be primarily targeted on future up-and-coming clinical informaticians and should:

   - Be multi-professional – accessible to people from any clinical background
   - Integrate as far as possible with broader career long education and training initiatives going on and being developed outside FCI
   - Have more than one route to accreditation (eg assessment / portfolio)
   - Be additional to all of FCI's current education and training initiatives

5. Credentialing should be seriously considered as a means of providing **a single set of standards accessible to all future potential members of FCI**. There appears to be no bar to stating the development of curriculum and assessment (short term), and even to implementing (medium term), without formal regulatory approval but for regulatory approval to follow later (longer term) for example with FCI then being formally recognised as a 'credentialing body'.*

6. Provision should be made for further work to keep information about regulatory frameworks up to date and, in the interests of inclusiveness, when needed to extend coverage to include other regulators and other parts of the Professional Standards Authority domain beyond statutory regulators

In the short term the most immediate priority would be to develop the strategy (see recommendation 1.). Continuing professional development (CPD) is clearly important for established members and fellows to support their further career development, keeping up to date, annual appraisals, revalidation etc., and this must continue. However, postgraduate training will be essential if FCI is to play its part in meeting the challenge of developing future up and coming clinical informaticians.

The Working Group suggests that the strategy should be put in place as soon as possible so as to promote timely progress through short, medium and long term phases, for example, regarding the

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standards are met. Note that in the eyes of the regulators the point of registering qualifications forms an important part of protecting the public from harm. It is not intended to have anything to do with conferring elevated status on the registrant

[5] In the early stages of developing postgraduate / post qualification training and assessment it is likely to be advantageous to avoid the restrictions of legal regulation to avoid blocks to recruitment and training. In contrast it would be essential to get employers, professional bodies, and other key stakeholders to recognise FCI professional training and assessment standards as this will help to raise standards of practice in clinical informatics which would clearly be in the public interest. FCI strategic planning around credentialing should carefully consider a sequence starting with seeking approval by employers, moving forward to approval by professional bodies, and being wary of pushing for mandatory,registrable qualifications too early

development of credentialing. It further suggests that the strategy should include management of stakeholder relations, both internal and external communications and people's expectations.

* For more information about credentialing, see Appendix F.

9.1. Actions required by FCI

Action required	Is this covered by CFWG report? (Fully/partially/not covered)
1. Develop a comprehensive, clear and unambiguous strategy that clearly describes what FCI wants to achieve in time across all of continuous professional development (CPD) and postgraduate training in relation to clinical informatics.	**Not covered**
2. Develop a curriculum and means of assessment for postgraduate training	**Partially covered** – with reference to identifying subject matter experts to support curriculum, course and assessment development (recommendation A4*).
3. FCI to progress towards becoming a credentialing body, recognised by regulators	**Not covered**
4. Manage stakeholder relations, with both internal and external communications that manage people's expectations.	**Partially covered** (see recommendation A3*) but not specifically on the topic of professional accreditation.
5. Maintain and where necessary extend information held about regulatory framework	**Not covered**

**Please refer to the full* of *CFWG report for more detail of these recommendations.*

9.1.1. Risks identified related to these actions

Nature of risk	Likelihood	Consequence	RAG rating	Suggested mitigation
Failure to engage with key stakeholders on a timely basis	High	Stakeholders develop separate, possibly discipline- specific plans.	Amber	Develop stakeholder list and engagement plan.
Plans not tested with professional bodies or regulators.	High	Plans may not integrate with those of other professional bodiess and regulators and either suffer delays or re-alignment at a later stage, wasting effort.	Amber	Meeting with professional bodiess and regulators to discuss FCI plans at an early stage.
Plans not tested with NHS E/I, who may not prioritise or commission FCI to do this work	High	May not be resourced to undertake the work on curriculum development/ credentialling.	Amber	Meet with NHSE/I professionalism leads and Heads of Profession at an early stage to discuss FCI plans.
If FCI does not become actively involved in developing robust training there is a	High	FCI loses 'ownership' of the discipline of clinical informatics and the ability to influence development	Amber	Develop strategy for postgraduate training that will be seen to be aimed at reducing the risks of public harm and to be raising

risk that in response to a major incident causing harm to the Public, statutory measures could be introduced leading to a third party imposing standards on clinical informaticians		of the discipline and of career progresson		standards of practice along with a robust and dynamic stakeholder management policy
Pursuing the aim to be recognised by the GMC as a 'Credentialing Body' FCI could lead to UKMERG / GMC deciding to mandate credentialing as a registrable qualification for doctors too soon	Medium / Low	Recruitment and training becomes complicated by differing requirements from different regulators and encumbered with regulatory requirements at too early a stage	Amber	Meet with GMC soon to lay out plans for orderly development and seek initially to develop curriculum in full sight of GMC without becoming a formal credentialing body

Appendices

Appendix A: Membership of FCI Professional Accreditation Working Group

Name	Job title Organisation	Representing
John Williams	Honorary clinical research fellow, Nuffield Dept of Primary Care, Oxford University Member Trustee Board, Faculty of Clinical Informatics	GP
Mark Bailey	Speciality Doctor in Respiratory Medicine and Clinical Informatician Gloucestershire Hospital NHS Foundation Trust	Doctors Early Careers Group
Liam Bastian	Lead Pharmacist for Digital Medicines Royal Cornwall Hospitals NHS Trust |Pharmacy Department	Pharmacy
Pavenjit Deagon	Lead Pharmacist – Digital Medicines & Pharmacy Informatics for NELFT	Pharmacy
Paul Grant	Medical Informatics & Innovation Director Medefer	Doctors
Sarah Harper	Clinical digital transformation lead NELFT	Nurses & midwives
Sam Neville	CNIO and Clinical Safety Officer for Mid and South Essex NHS Foundation Trust.	Nurses & midwives
Ali Toft	Allied Health Information Officer (AIO) Great Ormond Street Hospital NHS Foundation Trust.	AHP
Melanie Waszkiel	Head of EPR Programmes at University Hospitals of Morecambe Bay NHS Trust	AHP
Tengyue Zheng	Clinical Bioinformatician	Healthcare Scientist
Kieran Zucker	NIHR Clinical Lecturer - University of Leeds Honorary Clinical Oncology Registrar – LTHT	Early Careers Group

Appendix B: Study of FCI Membership

The following points summarise details of the FCI Membership on **24 March 2022**.

404 Members
283 Fellows
346 Associates
*(1033 Total)**

Of all **Members and Fellows**, the Professional Registration Body listed is as follows:

Body	Number of M/F	% of total M & F (n=687)
AHPRA	1	0.1%
CPHVA	1	0.1%
GDC	8	1.2%
GMC	404	58.8%
GOC	1	0.1%
GOsC	1	0.1%
GPhC	95	13.8%
HCPC	66	9.6%
NMC	85	12.4%
Social work England	2	0.3%
UKCPA	1	0.1%
International registration (but now resident in UK)	1	0.1%

Of all **Associate** members, the Professional Registration Body listed is as follows:

Body	Number of Associate members	% of total Associates (n=346)
BPS British Psychological Society	1	0.3%
CITP Chartered IT Professional	1	0.3%
GMC	79	22.8%
GPhC	21	6.1%
HCPC	23	6.6%
NMC	36	10.4%
TOPRA / RAPS (Regulatory Affairs Professionals)	1	0.3%
No registration body provided	185	53%

*NB. International members have been excluded

Student members

Of the 1033 total Membership, the following are tagged as “Student”.
1 Member (HCPC)
15 Associate Members (also of these: 3 NMC, 2 GMC)

Conclusions

- 95% of Members and Fellows are covered by GMC / GPhC / NMC / HCPC.
- 47% of Associates have a professional registration. Of these, just under 98% are likewise covered by GMC / GPhC / NMC / HCPC.
- Of all Members, Fellows and Associates who are statutorily registered, over 95% are registered by these four predominant regulators.
- 185 Associates are without any professional reg body. They make up about 18% of total Membership and an unknown proportion of these will be people who are senior and not aiming to become clinical informaticians (e.g. they may be FedIP registered).

Appendix C: GMC Credentialing

See below, an outline of the GMC credential pathway and how the FCI could navigate this.

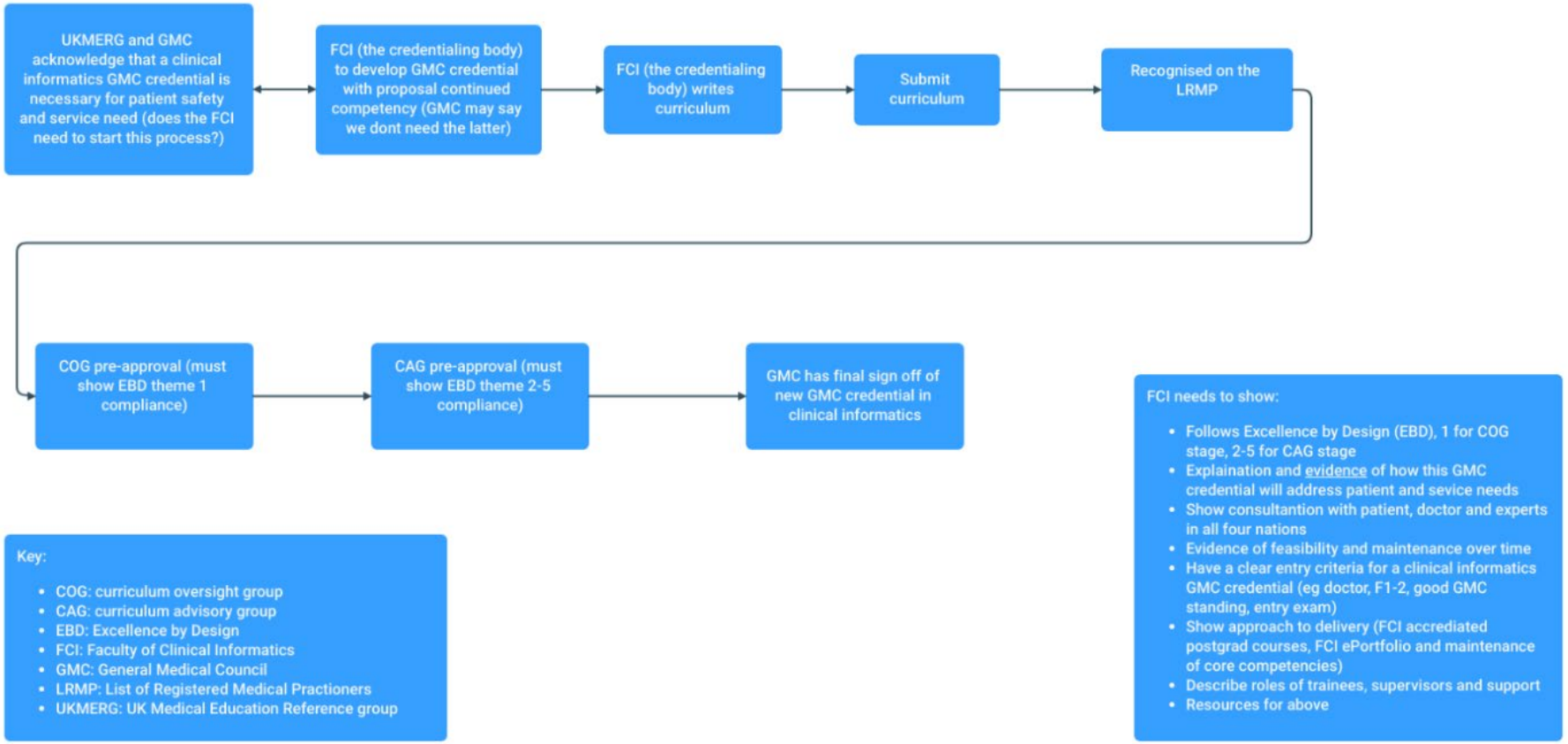

Figure 1. Process for the FCI to attain GMC credentials

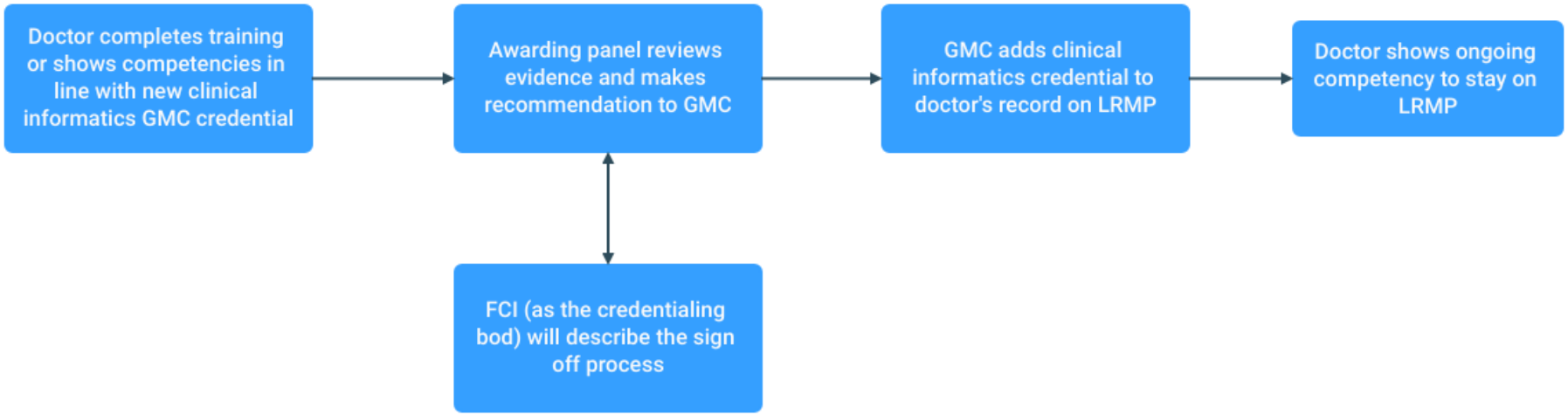

Figure 2. Process for doctor to attain and then maintain Clinical Informatics GMC credential.

6 Alie Street, London. E1 8QT.
T: (0)20 7451 6798 E: info@fci.org.uk

https://facultyofclinicalinformatics.org.uk/

Appendix D: Key findings related to Allied Health Professionals, regulated by the Health and Care Professions Council (HCPC)

Note: The Health and Care Professions Council (HCPC) regulates 15 health and care professions. In the table below, examples have been provided for some of these 15 professions, but it should be noted that this does not represent the landscape and information for them all.

Clinical profession(s)	**AHPs** With special thanks to the following individuals for providing information as representatives of their professions: **Occupational Therapy**: Suzy England **Physiotherapy**: Euan McComiskie **Speech and Language Therapy**: Kathryn Moyse **Dietetics**: (Amy Curtis-Brown - Professional Practice Officer / Eleanor Johnstone – Professional Practice Manager)
How do individuals obtain their basic qualification and become registered?	Undergraduate courses ranging from 3-4 years. PGDip or MSc courses of 18months – 2 years. Gradual introduction of apprenticeships for some professions providing access onto the degree programmes.
Does the regulator have any further level of registration or licensing related to postgraduate training?	HCPC have powers to annotate the register to show where a registrant has additional entitlements because they have completed additional training in a particular area of practice. Currently annotated where a registrant has completed training around medicines and has obtained entitlements to sell, supply, administer or prescribe these medicines. Annotations appear on the register for registrants who are qualified to practise in that area including: - **Independent prescribing** (some chiropodists/podiatrists/physios/paramedics/therapeutic radiographers) **Supplementary Prescribing** (some chiropodists/podiatrists/physios/paramedics/radiographers/dietitians) **Prescription only medicines – administration** (some chiropodists / podiatrists) **Prescription only medicines – sale/supply** – (some chiropodists / podiatrists and orthoptists) https://www.hcpc-uk.org/check-the-register/additional-entitlements/ **Patient group directives / patient specific directives** – dietitians can follow a process to enable them to supply & administer specific medicines for specific groups of patients e.g. diabetes **Advanced Clinical Practice (ACPs) for AHPs** A competency pathway exists focused around 4 pillars of practice which require criteria to be fulfilled across all 4. Multi-professional framework for advanced clinical practice https://www.hee.nhs.uk/sites/default/files/documents/multi-professionalframeworkforadvancedclinicalpracticeinengland.pdf Link to information on ACP for British Dietetic Association https://www.bda.uk.com/practice-and-education/nutrition-and-dietetic-practice/dietetic-workforce/advanced-practice.html

	Northern Ireland: Advanced AHP Practice Framework | Department of Health (health-ni.gov.uk) Scotland: https://www.advancedpractice.scot.nhs.uk/uk-progress/scotland/allied-health-professionals.aspx?tab=TabResources Wales: http://www.wales.nhs.uk/sitesplus/documents/829/NLIAH%20Advanced%20Practice%20Framework.pdf First Contact Practitioners & Advanced Practitioners Roadmaps to Practice (Dietetics /OT/Paramedics/ Physio/Podiatry): https://www.hee.nhs.uk/our-work/allied-health-professions/enable-workforce/ahp-roadmaps/first-contact-practitioners-advanced-practitioners-roadmaps-practice
How do individuals maintain their registration/licence to practise?	**HCPC Professional registration -** each HCPC profession renews at a set time and these dates are the same every two years and published on HCP website **Registration | Health and Care Professions Council (HCPC) | (hcpc-uk.org)** At registration renewal registrants are asked to sign a form to confirm that they continue to meet the HCPC's standards, including CPD During each renewal a random selection of 2.5 per cent of each profession are asked to submit their CPD profile. Decreased clarity regarding evidence expectations for registrants who are working in non-clinical roles such as leadership, digital, research etc. OT, Physio and SLT professional bodies advise such registrants to seek their own professional body guidance to support in this process. No clear guidance from the HCPC. Dietetics will tend to refer queries back to HCPC. Dietetics encourage use of their e learning tool kit https://www.bda.uk.com/practice-and-education/education/your-cpd/hcpc-audit.html Return to practice following extended leave / career breaks - support and guidance offered by professional bodies. **HEE funded projects on return to practice** – Return to practice | Health Education England (hee.nhs.uk) (includes return to HCPC register – currently under scoping / link currently does not provide more info for AHPs). HEE has an e-learning platform https://www.e-lfh.org.uk/ **NHS Education for Scotland** NHS Education for Scotland | NES **HCPC standards** Standards of CPD Standards of continuing professional development | (hcpc-uk.org) Meeting our standards Meeting our standards | (hcpc-uk.org) **HCPC standards** Standards of proficiency

	Standards of proficiency | (hcpc-uk.org) Includes separate standards of proficiency documents for each HCPC registered Profession e.g. Standards of proficiency - Occupational therapists | (hcpc-uk.org) Standards of proficiency - Physiotherapists | (hcpc-uk.org) Standards of proficiency - Operating department practitioners | (hcpc-uk.org)
What guidelines or standards does the regulator expect should be followed with regard to undergraduate and postgraduate training?	The HCPC sets high level standards in relation to training / education and how new education programmes are approved **Standards of education and training | (hcpc-uk.org)** **Standards of education and training guidance | (hcpc-uk.org)** **Manage your education provision | (hcpc-uk.org)** **How to request approval for a programme | (hcpc-uk.org)** Professional bodies e.g., CSP / RCOT / RCSLT etc set the pre-registration standards for their professional curriculum and HEE deliver accordingly. Currently only limited digital element included in some curriculums. **Physio example:** Higher education institution educators | The Chartered Society of Physiotherapy (csp.org.uk) For Physio certain post-registration programmes and modules hold CSP accreditation. Post-registration programmes | The Chartered Society of Physiotherapy (csp.org.uk) **RCSLT:** Curriculum guidance for the pre-registration education of speech and language therapists Apprenticeship's guidance Once SLTs are qualified and registered with the HCPC they also follow a NQP framework. Go through a set of competencies across all areas of professional practice which will support their practice development and help give steer in their first year. The RCSLT sets the competencies & publishes the framework. NQ members are encouraged to log their progress. Once competencies are all complete, they get extra recognition in their title. Can't insist members do this but some jobs expect competencies to be signed off and it is an expectation to be a member of the RCSLT. **BDA** https://www.bda.uk.com/practice-and-education/education/pre-registration.html Pre reg accredited by BDA
What formal or informal standards exist for credentialing under this regulator and/or for a	Only aware of the additional entitlements as below: https://www.hcpc-uk.org/check-the-register/additional-entitlements/

specific profession?	
Does the regulator have a code of best practice, or similar that all registrants must satisfy in order to maintain registration?	**HCPC standards** Standards of conduct, performance & ethics Standards of conduct, performance, and ethics | (hcpc-uk.org) **Physio** Specific quality assurance standard which sits under the HCPC standards. Quality Assurance Standards (QAS) - https://www.csp.org.uk/publications/quality-assurance-standards-physiotherapy-service-delivery **RCOT** Professional standards for occupational therapy practice, conduct and ethics - RCOT Occupational Therapy Standards & Code Of Ethics - RCOT **SLT** Professional guidance aligned to meet HCPC standards RCSLT guidance to meet HCPC standards **BDA** Has a post registration professional development framework https://www.bda.uk.com/practice-and-education/nutrition-and-dietetic-practice/dietetic-journey.html **BDA** Code of conduct https://www.bda.uk.com/practice-and-education/nutrition-and-dietetic-practice/professional-guidance/regulation-codes-and-practice-guidance.html
Other relevant information	Some professional bodies have allocated professional lead roles within informatics / digital and have produced some digital resources, but this is not consistent. Some network, special interest groups exist but this is dependent on professional body and is largely informal member led groups. Some examples: - **Digital Informatics Physiotherapy Group (DIPG)** https://www.csp.org.uk/professional-clinical/digital-physiotherapy/digital-informatics-physiotherapy-group **OT Informatics Specific Resources / Strategy** RCOT Informatics Resources Occupational Therapy Informatics Digital Technologies - RCOT **RCOT Data & Innovation Strategy** https://www.rcot.co.uk/file/9130/download?token=xOoZfE4D **Digital Dietitians Network** – online forum / informal (platform to share / peer support) **National Frameworks / Documents**

	A digital framework for AHPs https://www.england.nhs.uk/publication/a-digital-framework-for-allied-health-professionals/ HEE Quality Strategy HEE Quality Framework 2021 Professional development framework for HEE educators

Appendix E: Key findings related to Clinical Scientists, regulated by the Health and Care Professions Council (HCPC), Academy of Healthcare Scientists, or others

Clinical profession(s)	Clinical Scientists
How do individuals obtain their basic qualification and become registered?	Two educational providers – NSHCS/IBMS NSHCS See URL below for more details. https://nshcs.hee.nhs.uk/programmes/stp/applicants/routes-into-programme/ 2 Routes **Direct Entry Route** This route is open to anyone with at least a 2:1 undergraduate degree in a relevant science subject, or a 2:2 with a relevant master's degree. Subsequently, trainees apply for the Scientist Training Programme (STP) supported by the National School of Healthcare Science (NSHCS), if successful the trainee will complete the full-time three years work-based training programme (except for any exemptions) and be employed by an NHS Trust. The fixed term training contract will be salaried at AfC Band 6 per annum and the trainee will also attend University to complete a fully funded, part time master's degree **In-service Route** The route is only open to existing NHS staff working in a recognised scientific specialty, who meet the qualification requirements and have been nominated by their employer. The trainee will need to apply to NSHCS Before applying, they should already have: 1. A nomination from current employer for the STP 2. Arrangements for training with current employer 3. The employer will receive an 'in-service code' which they must send to trainee, so they can complete the application. IBMS See URL below for more details: https://thebiomedicalscientist.net/science/registration-clinical-scientist Only approved for Clinical Biochemistry, Clinical Immunology and Haematology Applicants for the IBMS Clinical Scientist Certificate of Attainment (Experiential Route) do not have to be members of the Institute but are expected to be experienced scientists with a high level of expertise and specialisation. The experiential route will require an applicant to satisfy the IBMS Assessment Panel in their portfolio of evidence that they meet the HCPC standards of proficiency for clinical scientists. This can be demonstrated through a combination of education, training and experience that has already been gained in their professional practice.

Appendix F: Notes on credentialing

From the Working Group research we have established that both GMC and NMC are involved in credentialing but at this point in time not GPhC or HCPC. However, for pharmacists their Professional body (RPS) has a framework for advanced practice and consultancy credentialing which is not managed by GPhC.

At the present time the GMC has the most detailed arrangements around credentialing but we need to keep in mind that the NMC is about to launch new post registration standards and that it sets standards to assess the safety and effectiveness of all learning environments via curricula.

GMC has the concept of a Credentialing Body and has stated that it expects that such bodies may relate to multiple professions. However, in such situations GMC regulations and standards will only apply to doctors but the Credentialing Body, in addition to meeting GMC standards for doctors, would be expected also to have to meet the regulations and standards of other bodies relating to other professions.

There is a view that we could gain significant strategic advantage if we can succeed in persuading the GMC to recognise FCI as a Credentialing Body that will manage the postgraduate training of Clinical Informaticians through the process of credentialing. Based on research to date, with careful thought, it looks as if it should be possible to plan this in a way that not only would it be possible to take this forward in stages (See for example Alternative Options below) but also ensure from the start that the resulting postgraduate training and assessment would be accessible to all aspiring future clinical informaticians regardless of their professional background.

GMC credentialing

The following notes, based on information taken from the GMC website, may provide helpful background. Relevant pages on the GMC website can be reached directly from the following links:
Credentialing page
Updated framework for GMC credentials
Frequently asked questions

Aim of GMC credentialing

"…the aim of GMC credentials is to enable a more flexible training response to patient and service needs, and to reduce risks to patient safety. They will provide consistent standards in areas of practice where concerns about patient safety may arise due to gaps in training or service, where vulnerable patients are at risk, or to meet future service needs…"

GMC credentials will help to improve patient care and patient safety by facilitating:

- Quality assured training in areas where it will help meet patient or service needs
- Additional regulation in areas where it will help reduce risks to patient safety

All four UK governments view credentials as a mechanism that will help the medical workforce to develop in areas needed by the service and/or patients.

Prioritisation – roles and responsibilities

- The UK Medical Education Reference Group (UKMERG) – will identify areas of patient and service need, and make recommendations about which areas should be prioritised for entry into the GMC approval process
- GMC – will identify areas of significant patient safety risk for consideration, and will collaborate with UKMERG on decisions around prioritisation. It will invite submissions from credentialing bodies, on the basis of UKMERG recommendations
- Credentialing bodies – will engage with UKMERG and GMC on potential credential areas, and develop and submit proposals for approval when invited

Prioritisation decision

The UKMERG includes representatives from the four UK governments and their statutory education bodies (SEBs). It will identify and prioritise areas where GMC credentials are needed for UK health service delivery and to address risks to patient safety. The UKMERG is also responsible for national oversight of postgraduate training. Any recommendations about GMC credentials will be made alongside those about specialty training programmes. The UKMERG will decide on who is best placed to develop a credential in an area of practice. In some cases, two or more organisations may be asked to work together.

The decision that a GMC credential is needed will include an initial consideration of scope, and may involve dialogue with credentialing bodies with expertise in the area of practice. Prioritisation decisions may also include consideration of readiness, to facilitate the flow of submissions into the approval process.

Threshold for GMC credentials

The decision to approve a GMC credential must be a proportionate response to an identified patient risk or service need. **This is reflected in Excellence by design (EBD) requirement CR1.1: 'Explain the need for the curriculum based on an analysis of patient, population, professional, workforce and service needs.'**

A threshold for GMC credentials based on patient and service needs will form the basis of decisions about whether a GMC credential is needed in an area of practice. Whether ongoing maintenance is needed will also be considered at this stage. A range of factors will be considered when making these decisions. These will include, but are not limited to:

- Risks to patient safety due to service needs or workforce gaps
- Significant risks to patients due to limited clinical governance or inconsistent training in the area of practice
- Risks due to the level of complexity and expertise in clinical care
- Whether care takes place in the context of new, different or innovative services or care environments, including the private and charity sectors
- A need to train doctors from various backgrounds in a cross-specialty or new area
- Any other risk factors, including anticipation of future patient and service needs

The UKMERG will consider these factors to evaluate if a threshold for patient safety or service need has been met, and if a GMC credential is a proportionate response. The UKMERG will consider two questions: whether a GMC credential is needed; and whether as a result of exceptional circumstances additional maintenance is required. A recommendation will be made to the GMC on this basis

Alternative options
Discussions about which areas need GMC credentials will include oversight of credentials to be developed outside of GMC approval processes, which may be considered for GMC credentials in the future. These conversations will take place at the Curriculum Oversight Group (COG) as part of an ongoing process to look at current priorities.

How GMC credentials will be approved
GMC will approve and quality assure GMC credentials against their standards for medical education and training. Processes are aligned to those used for postgraduate curricula.

Approval – roles and responsibilities

- **GMC -** will provide information that will help credentialing bodies to prepare submissions. They will also manage the approval process, including chairing COG and Curriculum Advisory Group (CAG) meetings. They will make the final decision to approve a GMC credential, which will include approving any additional requirements around delivery of training and maintenance
- **COG –** will make recommendations to endorse the purpose statement for GMC credentials, and confirm the proposal will meet the need identified at the prioritisation stage
- **CAG –** will make recommendations to endorse the curriculum for GMC credentials, based on Excellence By Design requirements around governance, education, assessment and quality assurance (QA)
- **Credentialing bodies –** will develop proposals for GMC credentials and submit to the GMC

Appendix G – Glossary of Terms Professional Accreditation v0.6

The table below gives a description of the key terms used by the Faculty of Clinical Informatics when referring to the professionalisation of individuals. In some cases, more than one definition has been provided, where different definitions relate to different contexts. Where terms included within a definition have also been defined elsewhere in this Glossary, the term has been made **bold**.

Accreditation	*Generic definition:* The fact of being officially recognised, accepted, or approved of, or the act of officially recognising, accepting, or approving of something. *Related to a course:* A course can be said to have been accredited if it has been approved by a professional organisation to satisfy a particular requirement or requirements. *Related to a person:* The action or process of officially recognising someone as having a particular status or being qualified to perform a particular activity. *FCI CPD Accreditation:* Accreditation is FCI official **certification** that a course maps onto the Competencies Framework (or a subsection of the CF). See also **Professional accreditation**.
Agenda for change	NHS terms and conditions of service (excluding doctors).
Appraisal	*Generic definition:* The act of examining someone or something in order to judge their qualities, success, or needs. A process of facilitated self-review supported by information gathered from the full scope of an individual's work. *Medical appraisal:* Is an annual meeting between a doctor and a colleague who is trained as an appraiser. It is a process of facilitated self-review supported by information gathered from the full scope of the doctor's work. The supporting evidence gathered is key to demonstrating GMC fitness to practise whatever the doctor's branch of practice. The objectives of a medical appraisal are to provide an opportunity for the doctor to: • Reflect on individual practice and performance with the appraiser which helps inform the Responsible Officer's revalidation recommendation to the GMC. • Help in planning professional development. • Identify learning needs.

	• Ensure that the doctor is working in line with organisational priorities. • Demonstrate that the individual is remaining up to date and fit to practise.
Assessment	*Generic definition:* The act of judging or deciding the amount, value, quality, or importance of something, or the judgment or decision that is made. *Academic definition:* Evaluation of student learning and experience to determine whether students have acquired the skills, knowledge, and competencies associated with their program of study. *FCI definitions:* **Formative assessment**: an assessment which is used for improvement (individual or program level) rather than for making final decisions or for accountability. **Summative assessment**: a sum total or final product measure of achievement at the end of an instructional unit or course of study. **Direct assessment**: direct measures of student leaning require student to display their knowledge and skills as they respond to the instrument itself. Objective tests, essays, presentations, and classroom assignments all meet this criterion. **Indirect assessment**: methods such as surveys and interviews that ask students to reflect on their learning rather than to demonstrate it. **Performance-based assessment**: technique involving the gathering of data though systematic observation of a behaviour or process and evaluating that data based on a clearly articulated set of performance criteria to serve as the basis for evaluative judgments.
Assurance	*Generic definitions:* A promise to tell something to someone confidently or firmly, or a promise to cause someone to feel certain by removing doubt. A feeling of confidence in your abilities. *Clinical assurance:* Can apply to a check by expert clinicians in the designing and testing of clinical information systems and is often closely associated with technical assurance

	Clinical safety assurance: Is about ensuring that effective clinical risk management is carried out by organisations that are responsible for deploying, developing and modifying health IT systems. It involves ensuring compliance with safety standards DCB0129 and DCB0160.
Certificate	*Generic definitions:* An official document as proof that something has happened or been done, for example, when you are successful in an exam. *Certification:* The process of earning a certificate or having one conferred
Certificate of completion of training (CCT)	Confirms that a doctor has completed an approved training programme in the UK and is eligible for entry either on to the GMC GP register or the GMC specialist register.
Clinical informatician	*FCI definition:* A clinical informatician uses their clinical knowledge and experience of informatics concepts, methods and tools to promote patient and population care that is person-centred, ethical, safe, effective, efficient, timely, and equitable.
Clinical informatics	*FCI definition:* Clinical informatics is the application of data and information technology to improve patient and population health, care and wellbeing outcomes and to advance treatment and the delivery of personalised, coordinated support from health and social care.
Competence	*Generic definitions:* The ability to do something well. An important skill that is needed to do a job.
Competency	*FCI definition:* What the individual brings to the job (the input), what the individual does in the job (the process), or what is actually achieved (the output).
Continuing professional development (CPD)	*For all health and care professionals:* The way in which registrants continue to learn and develop throughout their careers so they keep their skills and knowledge up to date and are able to practise safely and effectively. *For doctors*:

	A continuing learning process, outside formal undergraduate and postgraduate training, which enables doctors to maintain and improve their performance across all areas of their practice through the development of knowledge, skills, attitudes and behaviours. Likely to be influenced by annual appraisals.
Credential	*Generic definitions:* *(noun)* Something that gives a title to credit or confidence. *(verb)* To bring assured training and regulatory oversight to areas where consistent clinical standards, recognised across the UK, are necessary for better patient care. The process of establishing whether professionals have the appropriate **qualifications** and experience.
Credentialing	A process which provides formal **accreditation** of **competence**s (which include knowledge, skills and performance) in a defined area of practice, at a level that provides confidence that the individual is fit to practise in that area. *Related to nurses (source: Royal College of Nursing, May 2022):* The process of assessing the background and legitimacy of nurses to practice at an advanced level through assessing their **qualifications**, experience and **competence**. Credentialing allows nurses to gain formal recognition of their level of expertise and skill in their clinical practice, their leadership, their education and their research in a way that is recognisable to colleagues, employers, patients and the public. Credentialing is open to nurses who can demonstrate that they are working at an advanced level, practise in the NHS or independent sector and are either members or non-members of the RCN. *Related to Doctors (source: GMC website, May 2022):* New framework being introduced to recognise a doctor's expertise in a specific area of practice – a GMC credential. **Credential**s will be developed and delivered by other bodies (recognised as 'credentialing bodies') but approved, quality assured and recognised by the GMC. The GMC will recognise the credential on the doctor's entry on the List of Registered Medical Practitioners. The GMC also recognises that credentialing bodies may also relate to professions not regulated by GMC.

	Related to pharmacists (source: Royal Pharmaceutical Society, May 2022): The Consultant Pharmacist credentialing process helps individuals to understand the requirements to enter consultant-level pharmacy practice in England, Wales and Northern Ireland. It sets out the entry-level knowledge, skills, behaviours and levels of performance expected of consultant pharmacists. These form the basis of the assessment, which individuals will be credentialed against. By successfully completing the consultant pharmacist credentialing process, an individual will be eligible to take an approved consultant pharmacist post.
Curriculum	*Generic definition:* A framework for setting out the aims of a programme of education, including the knowledge and understanding to be gained at each stage; for translating that framework over time into a structure and narrative and for evaluating what knowledge and understanding learners have gained against expectations. *FCI definition:* Standards-based sequence of planned experiences where students practice and achieve proficiency in content and applied learning skills. A curriculum has at least four important elements: content, teaching and learning strategies, assessment processes and evaluation processes.
Endorse	*Generic definition:* To make a public statement of approval or support for something or someone.
E-portfolio	*Generic definition:* An e-portfolio allows you to store and record a collection of evidence to demonstrate the skills you have developed. *FCI definition:* An electronic tool to store and record a collection of evidence that demonstrates learning, experience, achievements and abilities. It promotes life-long learning by encouraging professionals to reflect on their own competencies and professional development needs.
Licence to practise	Doctors who practise medicine in the UK need to hold a licence to practise in addition to the basic registration gained on basic qualification. It is the licence to practise which allows them to carry out certain activities such as prescribing medicines and treating patients.

	A doctor's status on the medical register will show if they hold a licence to practise or not. It will also show whether they are on the GP register, specialist register or, in a minority of cases, neither.
Licensing	*Generic definition:* The act of giving people official permission to do, have, or sell something.
Postgraduate training	*Generic definition:* Training activities undertaken after successful completion of an **undergraduate** degree. *Postgraduate medical training:* Doctors enter postgraduate training after qualifying from medical school starting with the foundation programme. What comes after the foundation programme depends on the field that they want to work in but typically will involve a training programme governed by a curriculum with assessments which have been developed by one of the medical Royal Colleges but approved, quality assured and recognised by the GMC.
Professional accreditation	*Generic definition:* The certification, trade certification, or professional designation that allows a person to perform a job or task. Professional accreditation uses a formal process to identify and acknowledge individuals who have met a recognised standard. See also **Accreditation.**
Professional attributes	*FCI definition:* The core features that underpin the work of a professional. Examples: • GMC - Good medical practice - ethical guidance • HCPC - Standards of conduct, performance and ethics • NMC - The Code • GPhC - Standards for pharmacy professionals
Professional body	An organisation with individual members practicing a profession or occupation in which the organisation maintains an oversight of the knowledge, skills, conduct and practice of that profession or occupation.

Professional Standards Authority (PSA)	The PSA protects the public by overseeing the regulation and registration of healthcare professionals. They are, in particular, concerned about risk of harm to the public. They review the work of the **regulator**s of health and care professionals and accredit organisations that register practitioners in unregulated occupations. They give advice to ministers and others and encourage research to improve regulation. The PSA is an independent organisation, governed by statute and accountable to the UK Parliament.
Qualification	*Generic definition:* An official record showing that you have finished a training course or have the necessary skills.
Register	*Generic definition:* A register is a book or record containing a list of names. *From the PSA:* Each statutory health and care **regulator** maintains a register, that is, a list of the people it regulates and have met its criteria for registration. A register is more than a list. It shows that the professionals on it are properly trained and qualified and meet the **regulator**'s standards. It is a criminal offence for anyone not on these registers to work in these regulated occupations. *PSA accredited voluntary register:* Accredited Registers help people get better care by ensuring that the health practitioners they register are competent and trustworthy. They set standards for people working in unregulated health and care occupations, encourage them to meet them and take action to protect the public when necessary.
Registration (professional registration)	*Generic definitions:* The act of recording a name or information on an official list. Independent recognition of **qualification**s, competencies and achievements. It demonstrates the registrant has reached an internationally recognised standard of **competence** and acknowledges their commitment to maintaining that competence in the future.
Regulator	*Generic definition:* A person or organisation whose job is to control an activity or process and make certain that it operates as it should.

	The PSA oversees the 10 statutory health and care regulators that govern 'registered' health and care professionals working in occupations that Parliament has said must be regulated. These include: • General Medical Council (GMC) • General Pharmaceutical Council (GPhC) • Social Work England • General Optical Council • General Dental Council • Nursing & Midwifery Council (NMC) • Pharmaceutical Society of Northern Ireland • General Osteopathic Council • Health & Care Professions Council (HCPC) • General Chiropractic Council
Registration	*Generic definition:* The act of being placed on a **register**.
Regulation	*Generic definition:* The rules or systems that are used by a person or organisation to control an activity or process, or the action of controlling the activity or process.
Responsible Officer	The Responsible Officer is the person in each NHS organisation, which is a designated body, with legal responsibility for the system of revalidation of doctors – i.e. all doctors who have a 'connection' to that designated body. See Guidance on the role of the responsible officer for further details.
Revalidation	*For doctors:* Medical revalidation is the process by which the General Medical Council (GMC) confirms the continuation of a doctor's **licence to practise** in the UK. All doctors who wish to retain their licence to practise need to participate in revalidation. *For nurses:* Revalidation is the process that all nurses and midwives in the UK and nursing associates in England need to follow to maintain their registration with the Nursing and Midwifery Council (NMC). *For pharmacists:* Revalidation is a process which helps to show that the trust members of the public have in pharmacy professionals is well placed.

Syllabus	*Generic definition:* The summary of topics to be covered in a course. It can include learning objectives and outcomes, teaching methods, a timetable of lessons and assessments, requirements to pass the course, marking frameworks and learner responsibilities.
Undergraduate training	*Generic definitions:* Training undertaken to achieve a first degree in a subject. Undergraduate education is education conducted after secondary education and before **postgraduate education**. All health and care professions are required to have an undergraduate degree or basic entry qualification acceptable to their statutory **regulator**.