

# Consultant Clinical Scientists in NHS Wales

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Information and guidance on the role, recruitment, training  
and development of Consultant Clinical Scientists in Wales

Draft for consultation only

October 2021

## Executive Summary

This paper was produced by the National Healthcare Science Network as an activity identified within the [Healthcare Science – Looking Forward Framework](#)<sup>1</sup>. The paper is for those responsible for developing and appointing to leadership positions in healthcare science disciplines, service planners, and workforce and organisational development colleagues at NHS Wales Health Boards and Trusts. It describes the role, recruitment and education, training and attainment requirements for the role of a Consultant Clinical Scientist in NHS Wales. The paper is intended to support the development of health science services where Consultant Clinical Scientists can play a key leadership role in multi-professional service provision and transformation. The [Well-Being of Future Generations Act \(2015\)](#)<sup>2</sup> is a world leading statutory framework designed to improve the wellbeing of people living in Wales; this paper will also support the implementation of the Act and the delivery of the well-being goals so that long-lasting, positive change to current and future generations are realised for healthcare science and NHS Wales<sup>3</sup>. In addition, this will also contribute to [A Healthier Wales: Our Workforce Strategy for Health and Social Care](#)<sup>4</sup>.

### Summary Recommendations for Action by Employing Organisations:

- Follow advice from NHS Employers on appointment of Consultant Clinical Scientist
- By 31.12.2022, individuals seeking first appointment to Consultant Clinical Scientist in Wales should be required to be on the Higher Specialist Scientific Register (HSSR)
- Perform succession planning for healthcare science services, promoting the routes to the Higher Specialist Scientific Register (HSSR); Higher Specialist Scientific Equivalence (HSSE) and Higher Specialist Scientific Training (HSST). Identified individuals should be supported in their professional development
- When developing senior healthcare science leadership posts at head of service level, routinely appoint Consultant Clinical Scientists
- Consider new clinical roles for the Consultant Clinical Scientist in the future plans and re-design of the NHS clinical workforce
- Attend to the development of appointed Consultant Clinical Scientists to take on further responsibilities to potentially progress into roles at executive level.

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<sup>1</sup><https://gov.wales/sites/default/files/publications/2019-03/healthcare-science-in-nhs-wales.pdf>

<sup>2</sup><https://gov.wales/well-being-future-generations-wales-act-2015-guidance>

<sup>3</sup><https://gov.wales/sites/default/files/publications/2019-10/a-healthier-wales-action-plan.pdf>

<sup>4</sup><https://heiw.nhs.wales/files/health-and-social-care-workforce-strategy/workforce-strategy-for-health-and-social-care/>

## 1. Introduction

Consultant Clinical Scientists have been employed in the NHS for over 40 years to provide valuable scientific clinical advice and care alongside medical consultants and other health care professionals from across the healthcare system. Consultant Clinical Scientist status confirms the same level of professional competency as that achieved by medical staff.

Within their specialism, Consultant Clinical Scientists are responsible for the integrity of the clinical scientific and technical knowledge base within their service; they undertake in-depth, highly complex roles, requiring high-level clinical judgement, advanced scientific expertise, strategic leadership, and they deal with uncertainty in direct patient care<sup>5</sup>. Consultant Clinical Scientists deliver a key clinical managerial and strategic leadership role in the modern multi-professional NHS workforce environment. A recent review of Consultant Clinical Scientist NHS appointments in England and Wales identified more than 600 in the role<sup>6</sup> across many clinical specialties.

The purpose of this guidance document is to provide clarity and direction on the role, training, development and recruitment of Consultant Clinical Scientists within NHS Wales.

Within NHS Wales healthcare science workforce, there are different forms of professional registration; through the Health and Care Professions Council (HCPC), Academy of Healthcare Science (AHCS) and others e.g. Registration Council for Clinical Physiologists (RCCP). However, for individuals registered with the HCPC as Clinical Scientists, there is the assurance provided by nationally recognised training and development through to consultant level. The key point for employers is that competency at consultant grade for Clinical Scientists is assured through their registration on a national Higher Specialist Scientific Register (HSSR).

The recommendation of this paper is that appointment to all healthcare science posts that include responsibility for delivering autonomous professional leadership of a healthcare science service should be to Consultant Clinical Scientist. Furthermore, the breadth of clinical and managerial responsibilities associated with this role and skillset indicates that these appointments will be at a minimum Agenda for Change Band 8C, commensurate with NHS Employers generic job profiles for healthcare scientists<sup>7</sup>. Note, the appointment of a Consultant Clinical Scientist may be indicated by a range of factors other than clinical and professional leadership roles.

Routes now exist for individuals on registers other than the Health and Care Professions Council register to attain registration as Clinical Scientists through equivalence, providing a development route for the wider healthcare science workforce through to the HSSR.

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<sup>5</sup><https://www.nhsemployers.org/-/media/Employers/Publications/Healthcare-Science-CCS/CCS-OCT/Illustrative-examples.pdf> – Currently unavailable, please email [HEIW.HCS@wales.nhs.uk](mailto:HEIW.HCS@wales.nhs.uk) for details

<sup>6</sup><https://nshcs.hee.nhs.uk/wp-content/uploads/2019/08/Scaling-the-Heights-final.pdf>

<sup>7</sup><https://www.nhsemployers.org/sites/default/files/2021-06/healthcare-science-profiles.pdf>

## 2. The Role of Consultant Clinical Scientists

Consultant Clinical Scientists currently contribute to the NHS workforce and clinical service delivery by:

- Providing advanced clinical scientific expertise and interpretation of clinical data to other NHS professionals, and directly to patients. Consultant Clinical Scientists work as an integral member of the clinical team, contributing directly to the development and delivery of patient management pathways
- Assuming clinical scientific responsibilities at a level of accountability equivalent to that of consultant medical staff; providing high value clinical scientific services that require a significant and breadth of clinical, technical and scientific knowledge and expertise
- Being accountable for clinical scientific advice and in some cases, delivering treatment directly to patients to improve patient management and outcomes
- Providing local, regional and national strategic leadership of clinical scientific services, e.g. genomics, and leadership more broadly across scientific, diagnostic and clinical areas/specialisms<sup>8</sup>
- Responsibility for individual patient care, including that delivered by others within the team that they lead
- Delivery of high-level clinical advice and expert care in the management of complex clinical cases
- Providing advice to organisations to assure the safe and effective use of health technologies, including compliance with statutory obligations
- Promoting and delivering evidence-based practise through evaluation of existing knowledge but, where sufficient evidence does not exist, understanding the significance of this in deciding best management on an individual patient basis
- Acting as an influential patient advocate
- Leading the translation of cutting-edge scientific research and education, bringing strategic direction and innovation into clinical practice
- Teaching, training and professional leadership at local/regional/national/international level within the NHS and in partnership with academia, e.g. through honorary academic positions
- Supporting workforce modernisation through the development of balanced multi-professional working for clinical scientific service development
- Contributing to strategic service redesign, leading the introduction of new technologies, diagnostics and innovations (either technological or non-technological) in a safe and measured manner through research, innovation and quality service improvement
- Promoting and leading on clinical governance, quality and safety, advocating and implementing accreditation and professional regulation
- Providing essential links between the NHS, academia and industry, facilitating and leading on opportunities for NHS service transformation.

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<sup>8</sup><https://www.rcpath.org/discover-pathology/careers-in-pathology/become-a-consultant-clinical-scientist.html>

As a result of workforce re-design, the opportunities and need for Consultant Clinical Scientists are increasing. For instance, helping to address workforce pressures in Cellular Pathology diagnostics, and by undertaking metabolic clinics e.g. lipid, and accommodating new service delivery models for infectious diseases. Therefore, NHS employers have the opportunity to appoint expert Consultant Clinical Scientists to work alongside medical doctors and within clinical teams, enabling the optimal development and use of scientific advances and technology to further benefit patient care and services<sup>9</sup>. Consultant titles for Clinical Scientists are agreed in conjunction with scientific professional bodies and Medical Royal Colleges, within the context of the Career Framework for healthcare science. Further guidance is available to support employers develop a quality assured appointment process for those eligible to apply for Consultant Clinical Scientist posts.

### **3. The Route to Registration of Consultant Clinical Scientists**

HCPC registered Clinical Scientists who successfully complete the HSST programme or demonstrate attainment of the relevant professional standards and capabilities through the HSSE (equivalence) process, can enter onto the Academy for Healthcare Science (AHCS) Higher Specialist Scientist Register (HSSR)<sup>10</sup> and are considered as suitable to apply for Consultant Clinical Scientist posts in Wales.

Clearly, it is important that there is a sufficient pool of suitable candidates to apply for new posts and vacancies as they arise across Wales. It is therefore imperative that through succession planning, individuals are encouraged to develop and secure registration on the HSSR through the two routes to achieve this. Responsible individuals at organisational level should secure and promote access to national funding to support both routes.

#### **3.1 Higher Specialist Scientific Training (HSST) Scheme**

HSST is a fully funded five-year training programme that has been developed as a formal route to educate and train Consultant Clinical Scientists. NHS Trusts and Health Boards wishing to make an application to request these training positions should do so via the Integrated Medium-Term Planning process (IMTP). HEIW provides training grants for each training position up to a value of £13,000 per annum and provides funding for university fees to support the programme.

The programme consists of work-based training, with an integrated professional doctorate (DClinSci). For some specialties, successful completion of the Fellowship of the Royal College of Pathologist examination (FRCPath) is a programme requirement that confers eligibility to apply for the HSSR. The work-based competencies are aligned to the AHCS HSS Standards of Proficiency<sup>11</sup>, with the professional doctorate additionally covering three core areas: leadership and management; specialist scientific knowledge; and research, development and innovation.

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<sup>9</sup><https://www.rcpath.org/discover-pathology/careers-in-pathology/become-a-consultant-clinical-scientist.html>

<sup>10</sup><https://www.nhsemployers.org/your-workforce/recruit/employer-led-recruitment/consultant-clinical-scientist-guidance-project#5> – Currently unavailable, please email [HEIW.HCS@wales.nhs.uk](mailto:HEIW.HCS@wales.nhs.uk) for details

<sup>11</sup><https://www.ahcs.ac.uk/download/268/guidance-equivalence/5265/ahcs-hss-standards-of-proficiency-2.pdf>

Individuals participating in HSST are allocated 0.2 FTE of protected time across the five years, with funding for backfill provided to the trainee's employer via the £13,000 training grant. Those who already hold relevant PhDs awarded in the last ten years can achieve HSST within three years via an accelerated route. There are a number of HSST positions across all specialisms within Wales.

HSST is an ambitious and rewarding scheme, with a wide range of benefits. The leadership and management training is comprehensive and provides individuals with a firm foundation to effectively lead services and deliver change. There is a strong focus on continuous quality improvement, health economics and the application of innovation which are key in delivering world class, value-based healthcare. Doctoral research projects are generally translationally focussed, and it is anticipated that the outcomes of these will directly impact local clinical practice and patient care. In addition, trainees form strong relationships and networks with HSST colleagues across the UK, both within their own specialism and across the breadth of healthcare sciences. Good practice is shared, challenges are discussed, and collaborative partnerships are formed.

HSST is a comprehensive scheme requiring substantial commitment from both the participant and the supporting organisation. To successfully complete the training programme, there is an expectation/requirement for individuals to work over and above the 0.2 FTE allocation. In terms of the organisation, acquiring suitable backfill for the protected day is a key challenge and in addition, for some disciplines either no HSST curricular exists, or local departments may feel unable to meet the training requirements.

### **3.2 Higher Specialist Scientist Equivalence (HSSE) Scheme**

The structured HSST scheme will yield suitable successors, however there is a wide group of talented scientists who would make excellent future leaders, but for whom the HSST programme is either not available or not appropriate. HSSE enables experienced healthcare scientists to demonstrate parity between their pre-existing knowledge, skills and experience, and the outcomes of the HSST programme such that they are eligible for HSS registration. The process of equivalence is available at all career stages of the Modernising Scientific Careers Framework and is governed by the AHCS<sup>12</sup>.

As with HSST, applicants for HSSE are assessed against the AHCS HSS Standards of Proficiency and the outcomes of the HSST curriculum. To be eligible, HSSE applicants must be a HCPC registered Clinical Scientist and demonstrate a wealth of professional experience, practised at an appropriate level in a healthcare and/or another relevant scientific setting, usually for at least five years. Examples of such levels would include working at director level, leading in education, achievement in research and development, acting as head of department or in a lead scientist role. In order to demonstrate alignment with the HSST programme outcomes, candidates are required to submit a range of supporting evidence for assessment. Further details can be accessed in the 'HSSE Applicants Guide'<sup>13</sup>.

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<sup>12</sup><https://www.ahcs.ac.uk/download/268/guidance-equivalence/5217/ahcs-hssr-coequivalence-programme-handbook.pdf>

<sup>13</sup><http://www.ahcs.ac.uk/download/268/guidance-equivalence/5220/ahcs-applicant-guide-for-hsse.pdf>

The purpose of HSSE is not only to enable HSS registration of experienced Clinical Scientists, but also to provide an alternative route to registration for talented staff where HSST is not an available or suitable option. By performing a gap analysis of the prospective registrant's knowledge, skills and experience against the requirements of HSSE, strategic training plans can be developed to support high calibre individuals towards consultant registration. HSSE is therefore an important tool in the healthcare science workforce development strategy and for 2020-21, there is a budget that funds equivalence for all levels of the healthcare science workforce.

It is noted that other healthcare scientist roles, such as the proposed Consultant Biomedical Scientist within certain life science disciplines, are currently being reviewed by professional bodies and the National School of Healthcare Science in conjunction with the requirements of the Modernising Scientific Careers national programme. This is with a view of seeking a consistent approach and requirements within the life science healthcare workforce, to achieve consultant level positions. Flexible pathways (e.g. equivalence, HSST access) have been developed to enable healthcare scientists to demonstrate the necessary Modernising Scientific Careers criteria and gain access to the breadth and level of education and training required to achieve registration on the HSSR and fulfil the role of a consultant healthcare scientist. Once a national position has been agreed for the life science disciplines currently under review, further guidance will follow. Additional work is underway within Wales to address consultant level positions for other professions. Further guidance will also follow on the Practitioner Training Programme (PTP), Scientist Training Programme (STP), Higher Specialist Scientific Training (HSST), and education for healthcare science associates (Band 2-4).

#### **4. Profile of Consultant Clinical Scientists in NHS Wales**

As of 2020-21, there are over 30 Consultant Clinical Scientist posts within Wales, each playing a key role in service transformation and improved patient care. An important challenge to maximising the impact made by Consultant Clinical Scientists is to ensure that there are substantive consultant posts across the entire healthcare science spectrum, and that these are fully supported by accessible training mechanisms within all specialisms.

In the coming years, a significant number of new consultants will be required due to the creation of new posts, or due to staff retirement. The structured HSST scheme will yield suitable successors, however there is a wide group of talented scientists who would make excellent future leaders, but for whom the HSST programme is either not available or not appropriate. A key challenge therefore is in the identification and training of future leaders to fill this void (see 5, below) and to deliver the strategic vision of the A Healthier Wales<sup>4</sup> and the Healthcare Science – Looking Forward Framework<sup>1</sup>.

The following specialisms have access to HSST opportunities (2020)<sup>14</sup>:

#### **Clinical Bioinformatics**

- Clinical Bioinformatics (Genomics)
- Clinical Bioinformatics (Health Informatics)
- Clinical Bioinformatics (Physical Sciences)

**Life Sciences** (completion of the HSST will also include the Fellowship Examination from the Royal College of Pathologists)

- Clinical Biochemistry
- Genetics
- Haematology
- Histocompatibility and Immunogenetics
- Microbiology
- Molecular Pathology of Acquired Disease
- Molecular Pathology of Infection
- Reproductive Science
- Virology
- Analytical Toxicology
- Clinical and Laboratory Transfusion Science

#### **Physical Sciences**

- Clinical Biomedical Engineering
- Medical Physics (Imaging Physics or Radiotherapy Physics)
- Reconstructive Science

#### **Physiological Sciences**

- Audiological Science
- Cardiac Science
- Gastrointestinal Physiology
- Neurophysiological Science
- Ophthalmic and Vision Science
- Respiratory and Sleep Sciences

Work is currently being undertaken by the Healthcare Science Network and Health Education Improvement Wales (HEIW) to build on the existing Scientific Training Programme (STP) and establish HSST opportunities in clinical scientific specialisms that do not currently have HSST progression routes. Examples of these specialisms include histopathology and epidemiology.

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<sup>14</sup><https://nshcs.hee.nhs.uk/programmes/hsst/>



## 5. Development and Organisational Contribution of Consultant Clinical Scientists

While entry to the Consultant Clinical Scientist grade will typically be at Band 8C, more senior Consultant Clinical Scientists will have additional responsibilities with posts banded at 8D or 9, that may involve performing higher level clinical leadership (for scientific and medical staff), and contributing beyond their own service towards the corporate and wider clinical and strategic agenda within organisations. In addition to increased management responsibilities, individuals can make a leading and strategic contribution beyond their own clinical service towards clinical effectiveness, value-based services, research and development, system/equipment safety, regional and national clinical networks. Consultant Clinical Scientists can also provide expert advice to Welsh Government on clinical, professional, strategic and policy issues in support of the national agenda. Health boards can benefit through exploiting and developing Consultant Clinical Scientists through to more senior positions, including Clinical Director and Assistant Director of Therapies and Health Science (ADoTH), to executive level as Director of Therapies and Health Science – see Appendix 1. The specific development needs of Consultant Clinical Scientists should be reviewed annually and supported following their appointment, based upon agreed job plans.

## 6. Recruitment of Consultant Clinical Scientists

It is important that there is consistency in understanding of the role and capability of Consultant Clinical Scientists, as well as providing assurance to employers that they are recruiting and developing expertise in a way that reflects the vision for the future healthcare system. NHS Employers have provided detailed guidance on the appointment process for Consultant Clinical Scientists<sup>15</sup>. This guidance should be followed by NHS Wales organisations when recruiting to these posts. The guidance describes the necessary planning and preparation of job descriptions and plans, advertising, selection of candidates, assessment and interview processes. In addition, there are set recommendations and guidance provided by professional bodies such as the Royal College of Pathologists on the appointment of Consultant Clinical Scientists<sup>16</sup>. In particular, attention is drawn to the advice on banding of Consultant Clinical Scientist posts and routine use of healthcare science generic profiles (see introduction).

## 7. Conclusions

The strategic vision for healthcare science will demand a versatile and empowered workforce capable of leading change and working in new and innovative ways. As experts in systems thinking and natural innovators, Consultant Clinical Scientists have a significant role to play in introducing bold new models of seamless care, harnessing innovation using evidence to drive redesign and increasing value for patients and the wider system. They play an important strategic role in managing highly complex clinical cases, and key scientific and clinical services within NHS Wales.

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<sup>15</sup><https://www.nhsemployers.org/-/media/Employers/Publications/Healthcare-Science-CCS/CCS-OCT/Appointment-Process.pdf> – Currently unavailable, please email [HEIW.HCS@wales.nhs.uk](mailto:HEIW.HCS@wales.nhs.uk) for details

<sup>16</sup><https://www.rcpath.org/profession/employing-pathologists/employing-consultant-clinical-scientists.html>

Developing the leadership capability and capacity of our consultant clinical workforce is key to enabling the transformation of scientific and diagnostic services. Consultant Clinical Scientists are crucial to assist in the development of more prudent, clinically effective patient care pathways and models of care. In order to achieve this, NHS Wales needs the best and brightest minds to create the science driven step changes in the system both critical to the delivery of the strategic goals set out in the Well-Being of Future Generations Act (2015)<sup>17</sup>, and to address the future challenges we face.

As expert practitioners, Consultant Clinical Scientists contribute to the education and training of other healthcare professionals, adding to the knowledge base and understanding of the NHS workforce facilitating improved care and better outcomes for patients.

Through the development of and support for Consultant Clinical Scientist roles, there is an exciting opportunity to build on the current Clinical Scientist workforce and NHS workforce re-design agenda, to maximise the skills of these expert healthcare professionals for the delivery of high quality, patient centred clinical services. In turn, this would serve to address some of the workforce pressures being experienced by the NHS today.

The opportunities provided by Consultant Clinical Scientist roles should be considered at the earliest stages of integrated workforce planning, as these can be a key service modernisation enabler in any organisational development workforce design programme. Aside from the recommendations made in this document, guidance is available to support recruitment to these posts and should be followed by NHS Wales' employers. Funded training opportunities exist for many scientific specialisms for HSST, and an equivalence process is available for NHS staff who are able to demonstrate professional competencies and standards to achieve consultant status.

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<sup>17</sup> <https://gov.wales/well-being-future-generations-wales-act-2015-guidance>

