Clinical bioinformatics (genomics)

You'll be helping to inform the best treatment for a patient based on their unique genetic make-up.

Overview

Genomics [1] is one of the fastest growing areas of research and development. In the UK, a prime focus is the 100,000 Genome Project.

Vast amounts of data are generated in genomics [1] and a range of bioinformatics resources are used. The NHS is utilising advances in this area for diagnostic testing and management to provide the highest quality patient care.

If you work in bioinformatics (genomics [1]), you'll be in a role that connects computing, biology and medicine; those working in this area generally come from a variety of backgrounds including biology, computer science, statistics and informatics [2].

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> A genome is the whole of a person's DNA - their complete set of genes

Working life

You'll apply bioinformatics resources, such as databases and online tools, to problems in genetics [5] and genomics [1], using skills in programming and data analysis. You'll provide support to ensure data received and generated by the laboratory is used in an efficient, standardised, secure and accurate manner using leading edge technologies and adhering to information governance standards.

You will be involved in service development which may include designing databases, generating programs to automate analysis, or creating next generation sequencing pipelines.

You'll work as part of a multidisciplinary team that includes clinical scientists, doctors specialising in genetics [6], specialist nurses [7], genetic counsellors [8], IT teams [9] and external providers of software or databases.

'What I love most about my role is that every day is different; because bioinformatics covers a lot of areas, my job is very varied.' Kelly Eggleton, trainee clinical scientist (clinical bioinformatics-genomics [1])

Read Kelly's story [10]

Want to learn more?

- Find out more about the entry requirements, skills and interests required to enter a career in bioinformatics (genomics) [11]
- Find out more about the training you'll receive for a career in bioinformatics (genomics) [12]
- Read Kelly's story [10]

Pay and conditions

Most jobs in the NHS are covered by the Agenda for Change (AfC) [13] pay scales. This pay system covers all staff except doctors, dentists and the most senior managers. Trainee clinical scientists train at band 6 level, and qualified clinical scientists are generally appointed at band 7. With experience and further qualifications, including Higher Specialist Scientist Training [14], you could apply for posts up to band 9.

Staff will usually work a standard 37.5 hours per week. They may work a shift pattern. Terms and conditions of service can vary for employers outside the NHS.

Where the role can lead

With further training and/or experience, you may be able to develop your career further and apply for vacancies in areas such as further specialisation, management, research, or teaching.

Job market and vacancies

Labour market

In November 2018, there were 6,123 clinical scientists registered with the Health and Care Professions Council [15].

The NHS Scientist Training Programme [16] and Higher Specialist Scientist Training [14] attract many more applicants than there are places and so there is considerable competition for places.

Finding and applying for jobs

When you're looking for vacancies, check carefully to be sure you can meet the requirements of the person specification before applying and to find out what the application process is. You may need to apply online or send a CV for example.

For the NHS Scientist Training Programme (STP [17]) there is an annual recruitment cycle. Applications usually open in early January for the intake in the following autumn.

Applications for the STP [17] should be made through the National School of Healthcare Science's website [18], where you can also find information about the programmes and the recruitment process.

Key sources relevant to vacancies in the health sector:

- Vacancies in organisations delivering NHS healthcare can be found on the NHS Jobs website [19]
- Opportunities in the Civil Service can be found on the Civil Service Jobs website [20]
- Vacancies in local government can be found on the Local Government Jobs website [21] and the Jobs Go Public website [22]

As well as these sources, you may find suitable vacancies in the health sector by contacting local employers directly.

Find out more about applications and interviews [23].

Volunteering is an excellent way of gaining experience (especially if you don't have enough for a specific paid job you're interested in) and also seeing whether you're suited to a particular type of work. It's also a great way to boost your confidence and you can give something back to the community.

Find out more about volunteering and gaining experience [24].

- **Further information**

  - Academy for Healthcare Science (AHCS) [25]
  - Health and Care Professions Council [26]
  - National School of Healthcare Science [18]

Other roles that may interest you

- Clinical bioinformatics (health informatics) [27]
- Clinical informatics [28]
- Genomics [29]
- Histocompatibility and immunogenetics [30]

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science/clinical-bioinformatics/clinical-bioinformatics-genomics

Links
[1] https://www.healthcareers.nhs.uk/glossary#Genomics
[2] https://www.healthcareers.nhs.uk/glossary#Informatics
[3] https://www.healthcareers.nhs.uk/privacy-and-cookies/#CookieDeclarationChangeConsentChange
[4] https://www.youtube.com/NHSCareers [5] https://www.healthcareers.nhs.uk/glossary#Genetics
[6] https://www.healthcareers.nhs.uk/explore-roles/medicine/clinical-genetics
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[11] https://www.healthcareers.nhs.uk/explore-roles/informatics/bioinformatics-genomics/entry-requirements-skills-and-interests [12] https://www.healthcareers.nhs.uk/explore-roles/informatics/bioinformatics-genomics/training-development-and-registration
[13] https://www.healthcareers.nhs.uk/about/careers-nhs/nhs-pay-and-benefits/agenda-change-pay-rates
[14] https://www.healthcareers.nhs.uk/i-am/working-health/nhs-higher-specialist-scientific-training
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