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Biomedical science

Biomedical scientists conduct laboratory and scientific tests to support the diagnosis and treatment of disease.

You'll be critical to the running of healthcare science laboratories, A&E, operating theatres, many other hospital departments and NHS Blood and Transplant services [1].



Life as a biomedical scientist

Based in a laboratory, you'll investigate a wide range of clinical conditions from blood disorders and cancer to hepatitis and meningitis, providing results critical to patient care. In NHS Blood and Transplant, biomedical scientists ensure blood, tissue and organ safety for patients.

Biomedical scientists run, develop, validate and implement new tests, undertake research and service development, make essential reagents and components and manage the testing facilities needed to provide high quality healthcare to patients.

Your work will be extremely varied and demand both analytical and practical skills. You'll screen for diseases and be expected to identify diseases caused by bacteria and viruses, while monitoring the effects of

medication and other treatments.

Confidence with technology is important as you'll work with computers, automated equipment, microscopes and other laboratory instruments.

You will support the accreditation of the laboratory by assessing and validating new laboratory tests, developing, reviewing and contributing to the development of standard operating procedures and quality assurance [2] systems. You'll have the opportunity to specialise often in one of three areas, which can include molecular pathology and genomic testing:

- infection sciences
- blood sciences
- cellular sciences

Ines de Jesus

Biomedical scientist

I like liaising with the microbiology consultants to find out more about a patient's condition. Knowing that you have contributed to a patient's improvement is very rewarding.

Read Ines's story [3]

Your work will be extremely varied and demand both analytical and practical skills.

How much can I earn?

You'll be employed on a national pay and conditions system called Agenda for Change [4] (AfC [5]).

There are nine pay bands and below are examples of the pay band you'll be on, depending on your role within biomedical science:

- apprenticeship salaries vary according to employer. The minimum apprenticeship wage is currently £5.28 per hour
- trainee biomedical scientist (band 5)
- biomedical scientist (band 5/6)
- senior biomedical scientist (band 7)
- principal biomedical scientist or laboratory manager from (band 8a)
- consultant biomedical scientist – (band 8c-d)
- biomedical Scientific Director (band 9)

How about the benefits?

- make a difference
- flexible and part-time working
- high income early in your career
- work anywhere in the world
- excellent pension scheme
- good holiday entitlement

- NHS discounts in shops and restaurants

How to become a biomedical scientist

Becoming a biomedical scientist might be easier than you think. You could undertake study at university or find an apprenticeship that takes you straight into a job.

There are assistant or level 2 apprenticeships, associate practitioner roles, level 4 apprenticeships, and degree, Master's degree and Higher Specialist Scientist Training [6] for registered and experienced healthcare scientists. If you already have a biomedical science degree, you'll need the IBMS Certificate of Competence.

See our How to become a healthcare science professional page [7] for the details.

Must-have skills

- excellent communication skills
- emotional resilience, a calm temperament and the ability to work well under pressure?
- teamwork and the capacity to lead multidisciplinary teams?
- problem-solving and diagnostic skills?
- outstanding organisational ability and effective decision-making skills?
- first-class time and resource management for the benefit of patients

Entry requirements

There are several different ways to start your career in biomedical science, depending on your experience and qualifications. Once qualified you will be registered with the Health and Care Professions Council [8] (HCPC [9]).

Apprenticeship

You could look for an entry level job/level 2 apprenticeship – typically GCSEs 9-4/A-C in maths, English and a science. If an apprenticeship feels right for you, you'll need 5 GCSEs at 9-4/A-C (or equivalent) including maths, English and science or Level 2 Diploma in Healthcare Science to start a level 4 apprenticeship.

Associate practitioner

An associate practitioner role is another route to a career in biomedical science. You'll likely require foundation degree, or equivalent experience with training and experience to NVQ level 3.

Trainee biomedical scientist

As a trainee biomedical scientist, you will complete on-the-job training that will require you to complete a portfolio of competence (and already hold an accredited degree that meets the requirements of the HCPC [9] biomedical scientists):

- IBMS accredited honours degree
- IBMS accredited Sandwich honours degree
- IBMS accredited Integrated honours degree
- HCPC [9]-approved honours degree

If you have a non-accredited degree qualification and/or professional experience beyond the level for HCPC [9] registration as a biomedical scientist, you'll need to complete a portfolio of competency by equivalence. See the Institute of Biomedical Scientists (IBMS) website [10] for full details of the different entry routes and requirements.

It's important to note that both accredited and non-accredited degree programmes are available in different universities, but only accredited degrees enable entry to the HCPC [9] register after completion of a portfolio of work demonstrating the required competencies.

If you haven't completed an accredited degree programme, you could be encouraged to complete the required modules to enable full accreditation and entry onto the HCPC [9] register while in post, but this is specific to individuals' learning requirements.

What are my chances of starting a career in biomedical science?

There are many opportunities for a career in biomedical science in the NHS, there are currently more than 40,000 posts in England alone. As this is also a growing area in the NHS there are likely to be many opportunities in the future.

Where a career in biomedical science will take you

A career in biomedical science has excellent career and promotion opportunities including specialist laboratory work, expert and consultant roles, research, education and management.

Biomedical scientists work in many different NHS, government and private laboratories, including hospital, NHS Blood and Transplant and the UK Health Security Agency laboratories. Biomedical scientists can progress to other roles within healthcare science specialising in quality, safety, laboratory management, or in the wider pharmaceutical and healthcare science sector.

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Manchester Metropolitan University

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We'll send you advice and tips on starting your NHS career including how to get work experience and applying for training and jobs.

Sign-up [13]

Other roles that may interest you

- Blood sciences [14]

- Cellular sciences [15]
- Infection sciences [16]
- Virology (healthcare scientist) [17]

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- [1] <https://www.nhsbt.nhs.uk/> [2] https://www.healthcareers.nhs.uk/glossary#Quality_assurance
 [3] <https://www.healthcareers.nhs.uk/explore-roles/healthcare-science/roles-healthcare-science/life-sciences/biomedical-science/real-life-story-ines-de-jesus> [4] <https://www.healthcareers.nhs.uk/working-health/working-nhs/nhs-pay-and-benefits/agenda-change-pay-rates/agenda-change-pay-rates>
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