

Microbiology and virology

Join the team and make a difference

Microbiologists study bacterial, viral, fungal and parasitic organisms that cause infections. They are often involved in helping to prevent and manage epidemics. Virology is a specialist area of microbiology that specifically studies viruses.

What will you do?

As a **microbiologist**, you will spend much of your time examining tissue samples and bodily fluids from patients, and identifying micro-organisms under electron microscopes and other powerful laboratory equipment. You'll report on your findings to help clinicians manage different conditions and decide on the most effective treatment.

There are so many different types of micro-organism, each affecting the body in a different way, that most microbiologists usually specialise in a particular one. For example, you might focus on how bacteria affect human beings, or epidemiology, which is concerned with finding out what's responsible for outbreaks of disease.

As a microbiologist in the NHS, you would work in diagnostic laboratories and pathology departments in large hospitals. You will have daily contact with your colleagues in the laboratory, but you will be constantly communicating with other clinicians as they seek your advice.

Virology is the area of microbiology that studies viruses and the effect they have on cells. Scientists working in this area have been instrumental in increasing our understanding of some of the highest-profile conditions of the last few decades – including HIV and sudden acute respiratory syndrome (SARS).

The work virologists do is also vital for helping to develop vaccination programmes for common conditions such as measles. When not in the laboratory, you will spend much of your time researching and discussing findings with your colleagues. You might also visit wards and liaise with other healthcare professionals.

Where will you work?	What skills and qualities will you need?
<p>You will work primarily in diagnostic laboratories and pathology departments in large hospitals and medical schools.</p>	<ul style="list-style-type: none"> • attention to detail – you will need to identify any non-standard patterns in the samples you study
<p>Depending on where you specialise, you may also have the opportunity to work away from a laboratory, collecting samples of new micro-organisms to study, or teaching new students.</p>	<ul style="list-style-type: none"> • good communication skills – you must be able to clearly interpret and report on the results of your tests • flexibility – it won't always be a standard working day. You must be prepared to put in the extra hours when needed • excellent concentration – you will spend long periods examining samples, and it's vital you don't miss anything

What entry routes are available?

To work as a biomedical scientist in microbiology or virology, you will need to be registered with the Health Professions Council (HPC). The HPC has approved programmes that, upon successful completion, lead to eligibility to apply for registration.

If you have a first-class or upper second-class degree in a relevant subject, you may be eligible to join the NHS Clinical Scientists Training Scheme. This is a four-year programme of in-depth training in a specialist area, usually leading to an MSc or specialist postgraduate diploma and registration with the Health Professions Council. For more information, visit www.nhsclinicalscientists.info

With GCSEs or an equivalent NVQ and/or previous work experience it is often possible to start work as a trainee or assistant in healthcare science, combining on-the-job training with study so that you learn as you earn. For more information, see the *Clinical support worker* factsheet.

Some employers also offer apprenticeships, which involve a two-year training programme that gives you experience of different jobs within healthcare science.

For more information on the range of opportunities available in healthcare science, please visit www.nhs Careers.nhs.uk/list/qualifications. This gives more specific details about what qualifications are necessary for each role. You can search for current vacancies and download job descriptions at www.jobs.nhs.uk

How can you develop your career?

There are excellent career prospects, including openings for research, management and education. You will be encouraged to continually expand your knowledge as advances are made. With training, responsibility and experience, you could reach the highest level in the profession, attaining consultant status.

Find out more about what training is open to you and how you can develop your career, at www.nhs Careers.nhs.uk/list/training

As well as moving to more senior and specialised roles within this area, you will also have the chance to take on additional responsibilities and progress within the organisation as part of the Career Framework. For more information about this initiative, please see the *Careers in healthcare science* booklet.

Pay

The national pay system in the NHS is called Agenda for Change (AfC). This applies to all staff except doctors, dentists and very senior managers. These are examples of roles and the AfC bands at which they may be paid: healthcare science support worker (Band 2); healthcare science assistant (Band 4); healthcare science practitioner (Band 5); healthcare science specialist (Band 6); healthcare science advanced (Band 7); healthcare science consultant (Band 8a-c). For more information, visit www.nhs Careers.nhs.uk/list/payandbenefits

To find out more about this area of healthcare science, please visit www.nhs Careers.nhs.uk/list/working

For more information on the professional bodies relevant to healthcare science, please visit www.nhs Careers.nhs.uk/list/contacts