

Gradline aims to inform and entertain members in the early stages of their career in microbiology. If you have any news or stories, or would like to see any topics featured, contact **Jane Westwell** (e [j.westwell@sgm.ac.uk](mailto:j.westwell@sgm.ac.uk)).

## Careers in medical microbiology



There are two well-defined career paths for medical microbiologists in the public sector, one via the Biomedical Scientist (BMS) route and the other via the Clinical Scientist route. Anyone wishing to work in either of these roles must be state-registered with the Health Professions Council (HPC).

### Biomedical Scientists

Biomedical Scientists usually work in NHS trust and Health Protection Agency (HPA) laboratories, investigating samples of body tissue and fluids to diagnose disease, monitor treatments or track disease outbreaks. They also find work in other organizations, including the National Blood Authority, pharmaceutical industry, university, MRC and forensic labs. Long-term career prospects include laboratory management, research and teaching. Entry is restricted to graduates, usually with degrees that have been validated by the Institute of Biomedical Science (IBMS). It is possible to enter the profession with a related bioscience degree, but the Institute assesses course content and it is sometimes necessary to undertake additional study. The IBMS awards a certificate of competence, following a period of in-service training in an approved laboratory, which is required for state registration.

### Clinical Scientists

Clinical Scientists generally work in diagnostic laboratories and pathology departments in large hospitals and medical schools. In addition to laboratory-based research, they give scientific and clinical advice that has a direct bearing on the management of patients. Training towards state registration is overseen by the Association of Clinical Microbiologists and can be via one of two pathways:

*a 4-year structured training which includes a Grade A Clinical Scientist course followed by one or two years experience in the laboratory whilst still under supervision. Recruitment to this scheme begins in November every year and the closing date for applications is in February. Competition is very stiff and there is only a handful of microbiology training placements each year.*

**If you are studying for a BSc, MSc or coming to the end of a PhD research project in medical microbiology, you may well be considering your career options in this field. Microbiologists are employed in a range of roles within the healthcare sector; here is a quick guide to help pick your way through the different career pathways.**

*a 6-year route which concentrates on achieving state registration by experience. Applicants must gather evidence to support their case for registration.*

The Health Protection Agency is also a major employer of clinical microbiologists, some of whom work in reference laboratories or as epidemiologists. Work focuses on disease diagnosis, treatment and surveillance; clinical scientists often collaborate closely with health care professionals. There is some opportunity to carry out research and development projects in the specialisms of bacteriology, virology, mycology and parasitology.

### Medical-related research

Work in clinical microbiology is not restricted to state-registered Biomedical or Clinical Scientists. There are opportunities for PhD and postdoctoral research posts in HPA, university, MRC and hospital laboratories. These are usually short-term contracts, but the experience can be used to work towards state registration as a Clinical Scientist by the 6-year route.

### Microbiology as a clinical specialty

All newly qualified doctors receive training in microbiology during their foundation training. There are also opportunities for further training in this specialty. The Royal College of Pathologists oversees this training. Day-to-day work of medical microbiologists ranges from individual case management in any of the clinical disciplines through to laboratory-based work with non-clinical staff and liaising with management.

### Further information

[www.abpi.org](http://www.abpi.org)  
Association of British Pharmaceutical Industry  
[www.aclinmicrobiol.org.uk](http://www.aclinmicrobiol.org.uk)  
Association of Clinical Microbiologists  
[www.careerscene.com](http://www.careerscene.com)  
Job vacancies in biomedical science  
[www.hpcuk.org](http://www.hpcuk.org)  
Health Professions Council  
[www.hpa.org.uk](http://www.hpa.org.uk)  
Health Protection Agency  
[www.ibms.org](http://www.ibms.org)  
Institute of Biomedical Science



## A job in... Medical microbiology

### Profile

**Name** Matt Scarborough  
**Present occupation** Specialist Registrar in Infectious Disease and Microbiology, John Radcliffe Hospital, Oxford  
**Education** Queen's University Belfast, BSc Hons, MBCh

**Q** *What attracted you to microbiology as a specialty?*

Microbiology offers the combination of interesting, interested people with fascinating and hugely satisfying medical practice. To tell the truth, microbiology was far from being one of my strengths at university and I don't remember considering it as a career option at that time. As part of an SHO (postgraduate training) rotation, I worked in genitourinary medicine for 6 months where I developed an interest in infection and particularly HIV.

**Q** *What was your next step?*

Since I was also keen to travel, I developed a research project that took me to Malawi for 3 years. Whilst there,

I worked with a whole load of folk, many of whom were a little unconventional, had often travelled a great deal and who had a tangible passion for their work. Similarly, the patients I met often had intriguing tales and, generally, presented with definable and often completely curable diseases.

**Q** *Can you describe a typical day?*

There isn't really a typical day. My current post rotates between clinical attachments and microbiology. This morning, I started in the lab discussing the identification of some bugs with the biomedical scientists and deciding on what further tests we might do to help the clinicians manage the patients. I then spent an hour looking through all the culture results from yesterday's samples. From these I 'cherry-picked' the cases where I thought our input might help the physicians. I spent most of the afternoon seeing these patients on the ward, as well as several more complex cases referred to us by the ward physicians. Later in the day, I helped set up a small part of



▲ Matt with two young patients in Malawi. *Matt Scarborough*

a research project on the control of hospital acquired infections (such as MRSA and *Clostridium difficile*). Today's work was diverse, enjoyable and hugely educational. Microbiology is very much a team specialty and what we learn is, in the main, by true apprenticeship.

Oh yes – and I happen to be on call tonight; I've just dealt with an enquiry about a possible rabies exposure in a patient returning from Myanmar. I wonder what'll be next?

**Q** *How do you see your future?*

In the longer term, I suspect that I'll travel again, maybe to the Far East, to combine clinical service and research in a developing country. I have no idea where it might lead but I know for sure that I'll meet some wonderful people, treat some fascinating diseases and have great fun in doing so.