

International research

Discover how to take part in research in another country

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In this article:

- [A blurred line](#)
- [Why do research abroad?](#)
- [Exchange programmes](#)
- [Postgraduate opportunities](#)
- [Consider a PhD](#)
- [Dawn of the doctor-scientist](#)

An increase in academic research posts and a greater emphasis on research in almost every discipline of medicine mean that medical students should consider research electives as well as clinical placements. A period of research abroad as an undergraduate could provide an insight into a career path that you had not previously thought about.

[Top](#)

A blurred line

The differentiation between a doctor and a researcher is blurring. Almost all aspects of medicine are governed by clinical or laboratory research. Guidelines and protocols are the result of years of research, and research projects abroad often encompass epidemiological and public health studies. Such studies can have an important effect on the local population.

[Top](#)

Why do research abroad?

Clinical electives allow students to visit other countries while using their clinical skills. Research projects, however, are rarely undertaken abroad even though carrying out clinical research often provides detailed insight into a country's public health problems.

Research in poor countries may investigate the epidemiology of public health problems specific to that region. It could identify management strategies or explain morbidity and mortality trends. The amount of funding varies widely, and

participating in an exchange programme can provide poor countries with international exposure and resources for research. Research expertise varies between laboratories within countries, let alone on an international level, so working abroad can provide you with new skills.

Research projects abroad can be daunting, but they are a more realistic option now than ever before. Many institutes are keen to create international relationships, travelling to remote areas is easier, and globalisation means language barriers are being broken—more so in research than in clinical medicine. But when should you take on such a project?

International exchanges for undergraduate students are limited (box 1). The United States has several well established programmes, such as Yale College Fellowships for International Research in Science^[1] and Biomedical Research Abroad: Vistas Open. In these programmes medical students may become part of research teams working on high profile projects.^[2]

[Top](#)

Box 1: Undergraduate and postgraduate international research programmes

- The International Federation of Medical Students Association (IFMSA)—Many bilateral exchanges throughout the world. The organisation has a database of clinical and non-clinical projects that vary in duration^[3]
- Doris Dukes Charitable Foundation, Clinical Research Fellowship for Medical Students—12 fellowships offered to US medical students to carry out research in developing countries^[4]
- The National Institute of Health-Oxford-Cambridge programme—Aimed at biomedical students wanting to undertake a PhD under the dual supervision of the NIH (US) and either Oxford or Cambridge University. This programme is open to European and US students because of collaborations with the Wellcome Trust^[5]

Taking part in research projects as an undergraduate is often a life changing experience academically and culturally. Being abroad can allow you to learn a new language, gain research skills, and even provide you with another career path.

In Europe such exchanges are in their infancy. At Imperial College London, students undertaking their intercalated BSc can take part in a laboratory based research project at the Tokyo Medical and Dental University in Japan. The exchange has been running for five years and has been extremely successful.

Carrying out research need not be limited to the intercalated BSc. The prospect of an elective is something many students relish, and most will opt for a clinically based elective abroad. Students considering a career in academic medicine may use their elective to obtain a greater understanding of international research and global epidemiology.

[Top](#)

Exchange programmes

Academic exchanges are a fantastic way of experiencing life abroad: the Erasmus Exchange programme is adopted by many UK universities, including medical schools (box 2). Undergraduates study at a European university for up to a year of their course, [\[6\]](#) and accounts from participating students have been favourable.[\[7\]](#) [\[8\]](#) Erasmus exchanges differ from electives in that they are university based, rather than clinical placements.[\[7\]](#) They may contain elements of research based academic medicine.

The International Federation of Medical Students Association (IFMSA) offers a plethora of international research exchanges to medical students—for example, a morbidity and mortality study of diabetes in Rwanda or work on genetics in childhood leukaemia in Spain.[\[3\]](#)

Flexibility in the medical school curriculum allows doctors to develop various clinical and research skills early in their careers. Arguably, this may nurture a new cohort of doctors who are likely to maintain an interest in research throughout their careers rather than midway through the career trajectory.[\[9\]](#)

[Top](#)

Box 2: UK medical schools offering Erasmus exchanges[\[6\]](#)

- University of Bristol
- University of Cardiff
- University College London
- University of Edinburgh
- University of Leeds
- University of Leicester
- University of Liverpool
- University of Nottingham
- Queen Mary, University of London
- Queen's University Belfast

[Top](#)

Postgraduate opportunities

Science graduates may undertake medical degrees while maintaining an interest in research. More UK medical schools offer an MBBS-PhD programme that allows undergraduates to obtain a PhD while taking a sabbatical from their medical degree. Similarly, the National University of Singapore has a programme with a medical portion based in Singapore and a research component that can be done in the UK or the US.[\[9\]](#)

The US system is very different from the European one. Some universities run an MD-PhD course that is similar to the MBBS-PhD programme, although it is not always possible to take the research and clinical components in different countries.

[Top](#)

Consider a PhD

Many doctors do a PhD after the bulk of their postgraduate training, when they have found an area of work they want to concentrate on. Various opportunities are available should you want to do this abroad.

The Japan Society for the Promotion of Science has an international training programme that funds postgraduate PhD projects. The goal of the programme is to foster research links with international laboratories.[\[10\]](#)

The NIH-Oxford-Cambridge programme in the US allows exceptional students in the field of biomedical sciences to take a PhD with the National Institutes of Health in the US and either Oxford or Cambridge. Many of the scholars have made an impact on their chosen research field, often leading to publications in prestigious journals. [\[11\]](#) To participate in either programme, the student has to identify mentors at their institute and the partner university and select an appropriate thesis.

The advantages of doing a PhD abroad include spending time in another country (usually at least three years), the chance to learn a new language, creating lifelong professional contacts, and gaining a more rounded research experience.

[Top](#)

Dawn of the doctor-scientist

Understanding the research and clinical aspects of medicine internationally as an undergraduate gives students a huge advantage. An increase in medical exchanges and more international research opportunities should be encouraged by medical schools.

[Top](#)

Box 3: Organising research projects abroad

- Plan and make decisions early—Find a laboratory that is interested in taking international students or graduates, and see if a project is feasible
- Entry requirements for exchanges can vary—Academic achievements, extracurricular activities, and interview performance can be important. Make sure you qualify
- Short exchange programmes can be organised using personal and professional contacts—International researchers at your institution may be willing to put you in touch with staff in laboratories that they have worked in. Longer

exchanges may need input from your dean or senior professors. Ask—an exchange may already be in place

- Do your research—Find a topic you are interested in and that has adequate scope for research. Often this can be country specific, especially it relates to tropical medicine or infectious diseases
- Contact supervisors early—Establish a good relationship with your supervisor. If your research counts as credit towards your degree, make this clear to your supervisor and check that they understand your objectives
- Find an additional supervisor or mentor in your home country—They can make sure you are staying on track and give you another point of view
- Think about your finances—Are there any bursaries or scholarships available? Do you know anyone who has done a similar project? If so, how did they finance it?
- Take time off—Remember to get a complete picture of the country you are visiting

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