Mike Carter
Microbiology Services
Health Protection Agency Colindale

Clinical Careers
“Biomedical Science and Clinical Science Careers”

Birmingham Life Sciences Careers Conference

14th November 2012
A career in Biomedical Science

Science in the service of life
This presentation

- Mike’s background
- What is biomedical / clinical science?
- Entry & qualifications
- What you can do in biomedical or clinical science
- Disciplines within biomedical / clinical science
1 year old baby admitted to AE at 02:00 in the morning...

High fever

Vomiting

Stiff body with jerky movements

Irritable and crying

Refusal to feed
Want to save the baby’s life?
Gory picture alert!
25 year old admitted
to AE at 3:30 in the morning…

Motorbike RTA
Severe trauma to right leg including…
open fracture to neck of femur
severed artery
loss of 4 pints of blood
unconscious
Want to save the biker’s life?
Let me tell you how... you can save these lives by working in biomedical / clinical sciences
<table>
<thead>
<tr>
<th>Role</th>
<th>Healthcare Scientist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play an important part in modern medical care</td>
<td>✓</td>
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<td>Must be accurate and efficient as lives depend on their skills</td>
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Without Biomedical Scientists

Doctors

would not

be able to
diagnose diseases properly
or
treat patients effectively
“Without biomedical scientists, hospital departments such as accident & emergency and operating theatres could not function.”
Requirements for entry to Biomedical Scientist training

Register with Health & Care Professions Council

Institute of Biomedical Science Competence portfolio

Laboratory training

BSc Hons Biomedical Science

University

4 years
Register with Health & Care Professions Council

Institute of Biomedical Science Competence portfolio

Laboratory training

BSc hons microbiology biochemistry

Extra courses

University

4-6 years
University

BSc Hons Biomedical Science

Laboratory training

Institute of Biomedical Science Competence portfolio

Register with Health & Care Professions Council

BSc hons microbiology biochemistry

Extra courses

4 years

4-6 years
Requirements for entry to Clinical Scientist training

Register with Health and Care Professions Council

5-6 years

University

biomedical science
microbiology
biochemistry
genetics
immunology

Lab training

Portfolio

Register with Health and Care Professions Council
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<tr>
<td>Training in an IBMS-approved laboratory</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>Registration with the Health and Care Professions Council</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Continuing Professional Development (CPD)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Higher degree(s)</td>
<td>✓</td>
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Welcome to NHS Careers

The information service for careers in the NHS in England.

The National Health Service offers a huge range of exciting and challenging opportunities for people who are passionate about making a difference. With more than 350 different careers on offer, there is a job for you no matter what your interests, skills or qualifications.

Further information is available if you’re interested in working or studying elsewhere in the UK.

If you are a healthcare professional from outside of the UK, please see our information for international healthcare professionals.

Working in the NHS

Pay and benefits, flexible working and how to apply for a job.

Real life stories

To be a midwife, common sense, a good sense of humour, being a team player and communication skills are all important. Read Joy’s story.

Get your students thinking about careers in the NHS

Calling secondary school teachers. Our schools competition for students in years eight and nine is now open. There are some great prizes up for grabs!

World Diabetes Day

Wednesday 14 November is World Diabetes Day, which aims to make people aware of the seriousness of the disease and its impact. This month, NHS Careers is highlighting those NHS staff who help treat patients with both type 1 and type 2 diabetes.
Healthcare science

If you are passionate about technology or science, and about helping others, a career in healthcare science in the NHS offers a wide range of opportunities.

The healthcare science team play a vital role in the prevention, diagnosis and treatment of a huge number of medical conditions, as well as in rehabilitation. Along with doctors, nurses and other professions, healthcare science staff are essential members of today’s healthcare team. Whether it’s helping patients with hearing problems, analysing tissue samples, or researching how results from the human genome project can be translated into new treatments, these jobs are done by people whose expertise helps to save lives and improve care for millions of NHS users.

A variety of skills are needed to work in the healthcare science team including great communication and interpersonal skills. Modernising Scientific Careers also means there are now a number of different training routes you can take to become part of the healthcare science team.

Rapid advances in technology mean this is now one of the most exciting, challenging and rewarding areas of the NHS.
Welcome to the NHS Healthcare Scientist Training Programme

Applications for the 2012 intake to the NHS Healthcare Scientist Training Programme have now closed. However, the full list of posts is still available for shortlisted applicants.

The NHS Healthcare Scientist Training Programme is a comprehensive, work based training programme, introduced as part of the UK Modernising Scientific Careers programme. The programme equips healthcare scientists with the right up-to-date knowledge and skills to care for patients in the 21st century.

As part of the modernised national training scheme, NHS trusts are funded to offer salaried training posts in life sciences, physical sciences and biomedical engineering or physiological sciences throughout England.

The healthcare science workforce is one of the most exciting and dynamic in the NHS. Healthcare scientists play a vital role in the prevention, diagnosis and treatment of disease and the rehabilitation of patients. Their innovation and expertise help save lives and improve care and is crucial in helping the NHS to respond to the challenges of public and patient needs in the 21st century.

If you are committed to improving the health of others by applying your science, a career as a healthcare scientist in the NHS could not be a more rewarding choice. It also offers plenty of scope for personal development, great career prospects and a wide range of opportunities to use specialist scientific skills and interests for the benefit of patients.

Successful candidates will be employed as a 'Trainee Healthcare Scientist' by an NHS trust. They will join a three year, fixed term, training programme of work-based and academic learning, undertaking a university accredited master's degree.

These training posts offer excellent broad based clinical scientific training across a range of rotations in different themed pathways before specialisation in the latter part of the training.

Successful trainees will be in a position to apply for NHS posts as healthcare scientists.
About Modernising Scientific Careers
Modernising Scientific Careers

Careers and training in healthcare science have been revitalised by the Modernising Scientific Careers (MSC) programme. Training is more consistent and patient focused, allowing trainees at all levels to gain practical and engaging workplace experience as soon as they start, coupled with academic learning.

Training and education programmes

MSC introduces training programmes at four main career levels for the healthcare science workforce.

- associate/assistant - NVQs and foundation degrees (or equivalent) underpinned by an awards and qualifications framework
- Practitioner Training Programme (PTP) - undergraduate level
- Scientist Training Programme (STP) - postgraduate level, pre-registration training
- higher specialist scientific training (HSST) - doctoral level.

These are supported by workplace-based assessment tools, assessment of equivalent learning and development of academic careers.

NHS Practitioner Training Programme

Undergraduate training for the NHS Practitioner Training Programme (PTP) will lead to an approved and accredited BSc honours degree in one of five themes of healthcare science:

- cardiovascular, respiratory and sleep sciences (cardiac physiology, respiratory and sleep physiology)
- neurosensory sciences (audiology, neurophysiology, ophthalmic and vision science)
- life sciences (blood sciences, infection sciences, tissue and cellular diagnostics, genetics)
- medical physics technology (radiotherapy physics, radiation physics, nuclear medicine)
- clinical engineering (medical engineering, radiation engineering, renal technology, rehabilitation engineering).

Learning will be delivered through approved and accredited BSc honours degrees that integrate academic learning and workplace-based training. These degrees will include 50 weeks of workplace-based training over three years with a broad scientific training in the first two years, followed by specialisation in year 2 or 3.

NHS Scientist Training Programme

Postgraduate training for the NHS Scientist Training Programme (STP) will lead to a specifically commissioned and accredited master's degree and certification of...
Search results
There were 27 matches for your search criteria: to include biomedical AND scientist in the title.
Click on a job title for more details and to apply for that job.

Chief Biomedical Scientist - Blood Transfusion
Clinical Support Services
East & North Hertfordshire NHS Trust
Location: Lister and Queen Elizabeth II Hospitals. Applications are invited from experienced and enthusiastic individuals for the above post. You must be HPC registered and have broad experience at either a BMS 2 or BMS 3 level working in a Blood Transfusion Laboratory within an acute hospital setting. You should have a good working knowledge of blood group serology and be...
Band: 8A £38,851 £46,621pa
Stevanage
Permanent
Closing date: 27/11/2012

Biomedical Scientist
Blood Sciences
Luton & Dunstable Hospital NHS Trust
Department of Blood Sciences Haematology and Blood Transfusion sections. BIOMEDICAL SCIENTIST 12 month fixed term contract - Full-Time 37.5 hours. We are looking for an enthusiastic HPC State Registered Biomedical Scientist to join our busy, friendly Laboratory, which has full CPA accreditation and HPC training status. The successful applicant will be expected to participate in the 24/7 shift pattern operating...
£21,176 to £27,625 pa
Luton
Fixed Term Temporary
Closing date: 26/11/2012
Professional Requirements

- professional skills and competence
- flexibility and adaptability
- multi-professional team worker
- reflective practitioner (learn from successes and mistakes)
- continuing professional development
Healthcare Scientist career progression

- Band 5
  - Healthcare scientist practitioner
  - Biomedical scientist

- Band 6
  - Healthcare scientist specialist
  - Biomedical scientist team leader
  - Trainee Clinical scientist

- Band 7
  - Biomedical scientist advanced
  - Clinical scientist

- Band 8
  - Healthcare scientist professional manager
  - Principal clinical scientist

- Consultant
Healthcare Scientist salary

£21,176 - £97,478

www.nhsemployers.org/Aboutus/Publications/PayCirculars/Documents/Pay_circular_AfC_2-2010.pdf
Where can you find Healthcare Scientists?

- Armed Forces
- Forensics
- Health Protection Agency
- Higher Education Institutions
- Medical Research Council
- National Blood Service
- NHS pathology laboratories
- Pharmaceutical Industry
- Veterinary
Careers in Healthcare Science

- Environmental
- Epidemiology
- IT
- Management
- Patient care / Diagnostics
- Research
- Safety
- Sales
- Surveillance
- Teaching & training
- Quality
Various bio-medical sciences
Clinical Chemistry

- analyse blood & other biological materials
- diagnosis of disease eg diabetes
- toxicological studies
- test kidney and liver functions
- help monitor therapies
- detect drug abuse
Haematology

- formation, composition, function & diseases of the blood
- diagnose leukaemia, malaria, anaemia, genetic disease & clotting disorders etc
Transfusion Science

• identify blood groups for blood donation
• ensure correct blood group is matched to the patient receiving the donation
• structure of red cell antigens, preparation and storage of blood components, transfusion reactions, transplantation
Histology

- study tissue samples microscopically to establish the cause of illness
- diagnose diseases such as cancer by looking for abnormal features in tissue cells
Immunology

- deal with the body’s immune system
- its role in infectious diseases, allergies, tumour growth, tissue grafts and organ transplantation
- work is important in the monitoring and treatment of AIDS
Virology

- study viruses and the disease caused by them eg German measles, HIV, mumps, chickenpox, smallpox, rabies, Lassa fever and Marburg virus
- also monitor the effects of vaccines
Medical Microbiology

- study micro-organisms such as bacteria, fungi and parasites
- isolate & identify these pathogenic micro-organisms
- establish the antibiotic treatment required to treat the disease
- epidemiology of infectious diseases
- environmental microbiology
Word of warning........
Before

After
Summary

An overview of the Healthcare Scientist in biomedical / clinical science

Routes you can take to gain entry, salary and opportunities available
Acknowledgments

Anne Carter (NCRI)
Peter Borriello (CfI)
Haematology image bank (haematology.org)
Institute of Biomedical Science
NHS Careers (www.nhscareers.nhs.uk/index.shtml)
Sarah May (IBMS)
World wide web
Success is a science, if you have the conditions you get the result

Oscar Wilde