

Academic Foundation Training Programmes

Health Education England Working across the West Midlands Job Pack for Applicants entering August 2021

**UNIVERSITY OF
BIRMINGHAM**



University of Birmingham College of Medicine and Medical and Dental Sciences

University Hospitals Birmingham Foundation NHS Trust
Birmingham Children's Hospital Foundation NHS Trust
Sandwell and West Birmingham Hospitals NHS Trust
Heart of England Foundation NHS Trust
Royal Orthopaedic Hospitals NHS Foundation Trust



University of Keele School of Medicine

University Hospital of North Midlands NHS Trust



University of Warwick, Warwick Medical School

University Hospitals Coventry and Warwickshire NHS Trust

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1. ACADEMIC FOUNDATION TRAINING PROGRAMMES IN HEALTH EDUCATION ENGLAND WORKING ACROSS THE WEST MIDLANDS

Health Education England working across the West Midlands the Universities of Birmingham, Warwick and Keele, NHS teaching trusts and GP practices has developed 10 two year integrated Academic Foundation programmes for trainees who are considering careers in clinical academic medicine.

The NHS has recognised that clinical academics, who undertake research and teaching, form a crucial part of the NHS. A pathway with a clear point of entry, career structure, and training programme has been developed for doctors who wish to pursue an academic career.

<http://www.nihr.ac.uk/funding/integrated-academic-training-programme.htm>

Programmes will engage trainees in rotations which value research and/or education and provide the individual with every opportunity to explore research and/or education interests. Clinical service and training will still comprise the majority of the trainee's timetable.

1.1 First Foundation Year

In the first foundation year, postholders must focus on achieving the requirements for full registration by the General Medical Council and will rotate through 3 clinical posts. At least one of the clinical posts will be within an academic unit in addition; post holders will receive coaching, support, mentoring and supervision by a skilled senior academic to prepare for the second foundation year and subsequent academic specialty career. The formal teaching programme and other related experiences will be the same as for any other foundation trainee.

1.2 Second Foundation Year

In the second foundation year, one post is designated for academic training and preparation for application for academic clinical fellowship programme.

The programmes will deliver training for postholders to achieve a range of academic competencies as well as clinical competencies as set out in the Compendium of Academic Competencies (<http://www.foundationprogramme.nhs.uk/pages/academic-programmes> - C16029 UKFPO ACADEMIC COMPENDIUM 2013 PRINT.pdf) as well as clinical competencies as stipulated by The Foundation Programme Curriculum (<http://www.foundationprogramme.nhs.uk/curriculum/>) .

1.3 Aims of academic programmes

Achievements in our academic foundation programmes would strengthen an application for clinical specialist training or an Academic Clinical Fellowship in any specialty.

The programmes are suitable for

- trainees who have made firm decisions to commit to an academic career
- Trainees who wish to explore their potential for a career in medical research and/ or education.

The specific aims of our foundation academic programmes are

- to achieve all competencies in the Foundation Programme in preparation for specialist training
- To provide experience of academic medicine, clinical science and evidence based clinical practice to provide a foundation for a career in academic medicine.

1.4 General information

The trainees will rotate through three 4 month modules in each foundation year. Contracts of employment will be held by Trusts and will be for a fixed term of 12 months.

The academic programme in each of the three universities is different, but all three programmes involve one full time academic placement during year two with mentoring, coaching and appraisal by an established senior clinical academic.

Please note that rotations and specialties are subject to change.

2. PARTICIPATING INSTITUTIONS

The following is an overview of the institutions participating in the Academic Foundation Year Programmes. The next section highlights facts with regards to the respective medical school facilities as well as general facts about the history and background of the areas Warwick, Birmingham and Keele.

WARWICK

2.1 The University of Warwick

Dean: Professor Sudhesh Kumar

Warwick is one of the UK's leading research universities. Warwick is consistently rated in the top ten of national rankings. Over 90% of staff have research ratings of 5 or 5* in the Research Assessment Exercise and the great majority of academic departments assessed by the Quality Assurance Agency had their teaching quality rated as "excellent".

The University is situated on a site of over 700 acres of pleasant land on the boundary between Coventry and Warwickshire. It has a turnover of over £210 million per annum and a total student population of 26,000. Of these, over 9,500 are postgraduates.

2.2 Warwick Medical Schools (WMS)

<http://www2.warwick.ac.uk/fac/med/>

The Medical School at Warwick was established in 2000 as part of an expansion in the number of Medical Schools nationally to deliver the additional capacity needed to support the Government's plan to increase the number of UK trained medical graduate's joining the NHS.

The undergraduate MB ChB course at Warwick is a four-year graduate entry programme which requires entrants to already have a first degree in biological sciences or a similar subject.

At University Hospitals of Coventry and Warwickshire (UHCW), a state of the art PFI hospital opened in June 2006. This provides an optimal environment to support both research and education at the Trust. The Clinical Sciences Building and the Clinical Sciences Research Institute provide a base for education and laboratory research for the Medical School.

The Medical School works closely with the West Midlands South Foundation School (Foundation School Director: Dr Emma Wales) in delivering training to foundation doctors. Each subspecialty has its own clinical teaching and education programme.

One of the strengths of the foundation year 2 rotations in Coventry is the very strong Generic Skills Programme that is offered on Thursday afternoons. It is generally located at the Clinical Science Building at the Walsgrave Hospital, and attendance is compulsory for all F2 trainees.

The Medical School's research is focused around three divisions: Health Sciences, Biomedical Sciences and Clinical Trials Unit. Collaboration within and outside School and University is encouraged and investigators are encouraged to work across traditional disciplinary boundaries in innovative ways.

The Warwick Medical School works closely with many departments across the University for both our Research and Education programmes; these include the Department of Life Sciences, the School of Health and Social Studies, the Department of Sociology, the Department of Statistics, Warwick Business School, Warwick Manufacturing Group and the Department of Mathematics.

Academic FYs receive additional training which is weekly in the CSB and covers a range of topics to help in research training.

2.3 Research at WMS

Warwick Medical School is established in a University that is undertaking international calibre research. Research conducted at WMS is centred around three Divisions:

Division of Biomedical Sciences

The Division of Biomedical Sciences is composed of clinically-minded academics (biologists, chemists, engineers, biophysicists and bio-informaticians) and academically-minded clinicians (hospital doctors) who work in collaborative teams across disciplines to understand the molecular basis of human disease and to design clinical treatments for, and effective point-of-care diagnostic tests for the early detection of, today's most pressing medical problems. For further information, please visit our website at <http://www2.warwick.ac.uk/fac/med/research/biomedical/>

There are three broad research programmes:

- Cell and Developmental Biology
- Microbiology and Infection
- Translational and Experimental Medicine

Division of Health Sciences

The Division of Health Sciences integrates work from societal, social, psychological, organisational and bio-medical perspectives in its research and teaching. It is comprised of five units:

- Academic Primary Care
- Mental Health and Wellbeing
- Populations Evidence and Technologies
- Social Science and Systems in Health
- Statistics and Epidemiology

The research focus of the Division is on the design and evaluation of interventions (behavioural, medical, technological and organisational), plus how the application of knowledge in these areas change clinical practice and ultimately health outcomes. Our research includes applied health services research, methodological development/application of health sciences, evidence synthesis as well as relevant theoretical enquiry. For further information, please visit our website at <http://www2.warwick.ac.uk/fac/med/research/hscience/>

Clinical Trials Unit

WCTU was established in 2005 and received full registration from the UKCRC Registered Clinical Trials Units Network shortly after. WCTU moved to a purpose built clinical trial facility in 2008 and our workforce and activity has continued to steadily grow, becoming a member of the NCRI Cancer Clinical Trials Group in 2015. It is the 2nd most successful CTU in the UK on the basis of funding received from the National Institute for Health Research.

Key to WCTU's success is its embedded mixture of clinicians alongside methodologists and trials administration staff. We believe this adds richness and unique perspectives to our work.

Over the last decade WCTU has grown organically to deliver a wide portfolio of clinical trials, covering a diverse range of clinical areas; Cancer, Emergency Medicine, Critical care, Dementia, Frailty, Global Health, Mental health, Musculoskeletal, Pain, Reproduction, Resuscitation, Trauma and Orthopaedics, Rehabilitation.

WCTU has influence across the clinical trial landscape with staff members on five NIHR panels, seven advisory boards such as NICE, NIHR HS &DR, PGfAR and EME boards, as well as NIHR clinical trials fellowship panel and CRUK clinical trials fellowship committee.

We have a strong track record of leading world class clinical trials leading to over 250 publications since January 2016 alone. Of these 10 were in NIHR Journal series, three in N Engl J Med, two each for Lancet, Lancet Oncol, BMJ, & Cancer. Plus one each in J Clin Oncol, Br J Cancer, Ann Oncol, J Nat Cancer Institute, and JAMA.

2.4 University Hospitals Coventry and Warwickshire NHS Trust

www.uhcv.nhs.uk

More than £395 million has been invested in a new hospital for the people of Coventry and Warwickshire. The New Hospital one of the biggest UK Hospital

complexes to be built includes state of the art medical technology coupled with modern, purpose built facilities for patients – all on a single site. It provides a long awaited replacement for both the Walsgrave and the Coventry and Warwickshire Hospitals and ensure that the local population continues to receive high quality services into the 21st century. The scheme has benefited from the views of local people, hundreds of whom responded to a written consultation exercise that took part in public debates hosted by BBC Radio Coventry and Warwickshire.

The Hospital complex has a state of the art Clinical Sciences Building which opened in November 2003 and houses the new Medical Education and Training Centre to include:

Library areas	2 syndicate rooms
Lecture Theatre	8 Skills training rooms
14 Seminar rooms	Research laboratories
3 IT training rooms	IT, catering and office infrastructure
Clinical Skills room	

There are also a number of close-to-patient teaching areas in the main hospital (average 1 per ward or outpatient clinic) where students can be given practical training in proximity to patients.

The general hospital building was completed in 2006 and brought together services previously provided by Walsgrave and Coventry & Warwickshire Hospitals and represents the latest hi tech investigation, diagnostic and treatment equipment. This will speed up the diagnosis and treatment for patients, giving a fast and effective service.

Facilities include

Equipment	Technical Specification
PET/CT	GE Discovery ST16 (16 slice CT)
High resolution MRI	GE 3T HDx MRI
fMRI	GE 3T HDx MRI
Ultra fast CT	GE 128 slice VCT

This new state-of-the-art building will ensure that our patients receive care that measures up against not just the best in this country but the best in Europe and North America.

The Trust occupies 75 acres in the North East of Coventry, some four miles from the city centre and one mile from junction 2 of the M6 motorway. The

catchment population is over 350,000 and in the sub-regional specialities the Trust serves a population of over 800,000.

The Trust occupies

- A superb location at the heart of the motorway network with direct motoring access to all regions of the UK.
- A city surrounded by many attractive towns and villages which offer pleasant places to live within commuting distance of Coventry.
- An Intercity rail line with excellent rail links throughout the country.
- An extensive network of bus services to all areas of the City and surrounding towns.
- Europe's fastest growing international airport, Birmingham International, within 15 miles and easy reach.

Working in Coventry you will find a wide choice of modern and older homes at affordable prices in city centre, suburban, small town or rural locations and excellent education provision including two local universities, colleges of further education, community colleges, a wide range of secondary, independent and primary schools and several nursery facilities.

2.5 Leisure facilities comprise

- The largest centre for the performing arts, outside of London, based within the Arts Centre at the University of Warwick.
- The Belgrade Theatre with productions throughout the year and seasons of drama, comedy and musicals.
- The Ricoh Arena is situated in the Foleshill area of Coventry; it is a 32,000 capacity sports stadium and is home to Coventry City football Club. Other leisure facilities include an exhibition/events hall capable of holding 8,000 people for concerts, the largest column-free conference and banqueting space in the Midlands, a Hotel and restaurant with 70 bedrooms. Also located on the site are a fitness and leisure club and a casino.
- Birmingham International Arena, at the National Exhibition Centre, within 15 miles and easy reach, a popular venue for numerous events including music concerts and sports events.
- A number of restaurants, informal and formal, catering for all tastes.
- Extensive visiting attractions, including 2 cathedrals, both within the city and the surrounding areas, offering a variety of scenery as well as providing historical interest.
- Four city museums, the Herbert Art Gallery & Museum, the Museum of British Road Transport, the Midland Air Museum and the Toy Museum.
- The National Agricultural Centre at Stoneleigh, within five miles, where the Royal Agricultural Show is held every year.

The Trust has Private Finance Initiative status (PFI). More than £350 million has been invested to re-develop the existing Walsgrave site and the new state

of the art hospital was commissioned in July 2006. The Trust is currently applying for Foundation Trust status. As one of the largest organisations of its type in the UK the Trust has 1,337 beds, around 6,500 staff with a budget of over £280 million a year.

The Trust is managerially divided into the four areas

- Medical, Women and Children's Division
- Surgical Division
- Combined specialities services
- Acute care, Critical care and theatre

The Trust operates from two sites

- Walsgrave Hospital, Coventry
- The Hospital of St. Cross, Rugby

University Hospitals Coventry and Warwickshire NHS Trust provides

<i>Sub-regional Services</i>	<i>District Services</i>	<i>Diagnostic Services</i>
Neurosurgery	General medicine	MRI and CT scanning
Neuroimaging	Haematology	Ultrasound
Neurology	Specialist rehabilitation	Endoscopy
Neurophysiology	Rheumatology	Neurophysiology
Assisted Conception	Dermatology	Respiratory function testing
Cardiology	Respiratory medicine	Echo-cardiography
Cardiothoracic	Gastroenterology	Haematology
Surgery	Infectious diseases	Biochemistry
Renal Medicine	Diabetes	Histopathology
Renal Transplantation	Endocrinology	Microbiology
Oncology Radiotherapy	Paediatrics	Vascular investigation
Neonatal Intensive Care	General surgery	Medical physics/nuclear medicine.
Clinical Physics	Vascular surgery	
Plastic surgery	ENT	
	Urology	
	Obstetrics	
	Gynaecology	
	Reproductive medicine	
	Intensive care	
	Ophthalmology	
	Trauma and orthopaedics	
	Maxillo Facial Surgery	

3. The University of Birmingham College of Medical and Dental Sciences
<http://www.birmingham.ac.uk/university/colleges/mds/index.aspx>

3.1 University of Birmingham College of Medical and Dental Sciences.

From 1900 to the present day, Birmingham has been leading the way in research and education, making ground-breaking progress in areas that span industries such as gene structure, medicine, space research and communications.

Clinical Medicine in Birmingham ranks top in the West Midlands for research impact; in the most recent Research Excellence Framework in 2014, 87% of the University's research had global impact. The Medical School of Medicine site is located just off the University campus adjacent to the Queen Elizabeth and Women's Hospitals. Some buildings, including Public Health and General Practice, are located on the University campus.

The College is headed by Professor David Adams, Dean of Medicine, and is the largest in the University with a turnover in excess of £87 million a year. The College of Medical and Dental Sciences is made up of eight institutes: Applied Health Research, Cancer and Genomic Sciences, Cardiovascular Sciences, Immunology and Immunotherapy, Inflammation and Ageing, Metabolism and Systems Research, Microbiology and Infection, and Clinical Sciences.

The College has the advantage of being the major provider of medical education in the West Midlands, an area with a 5.5 million population, a diverse urban and rural mix and a rich variety of medical and social conditions, which together constitute an ideal base for training the doctors of the future.

The College has a strong research base, which provides the intellectual leadership in the discipline across the region. It has a research income of over £60 million a year and ambitions to increase that figure dramatically. Research is funded by a range of organisations including Research Councils, Charities, Industry and International Sources (including the US National Institutes of Health and the European Commission).

The College has outstanding translational infrastructure, from a series of national Centres – including the NIHR Surgical Reconstruction & Microbiology Research Centre (co-funded with the Ministry of Defence), NIHR Experimental Cancer Medicine Centre, NIHR Healthcare Technology Cooperative in Trauma, the MRC-ARUK Centre for Musculoskeletal Ageing Research and our longstanding MRC Centre for Immune Regulation. Much of this infrastructure is joint with our NHS partners, such as the NIHR/Wellcome Trust Clinical Research Facility based across UoB, UHB and BCH which provides high-quality clinical environments for experimental and complex research studies, receiving the largest NIHR CRF award nationally in 2017 (£12.8M) to fund the running of the facility until 2022. We also have an Advanced Therapies Facility incorporating state-of-the-art cell and gene therapy capabilities, and one of the

largest clusters of clinical trials expertise in Europe through our three major trials units.

Continuing to build on this outstanding infrastructure, in 2015 we opened A new £24M Institute for Translational Medicine as the engine for our University-NHS partnership to translate laboratory discovery into improved patient care and commercial activity. The ITM incorporates clinics for a broad range of well-characterised patient cohorts including common and rare diseases, a portal for clinical trials and an early drug discovery unit, clinical bioinformatics and a floor of stratified medicine to include genomics and deep immunophenotyping. This includes an integrated training programme for clinicians, life scientists and allied health professionals to develop the translational researchers of the future. Analytical capacity is being used to exploit access to some of the world's most complete healthcare data through UHB's state of the art comprehensive Electronic Medical Records (EMR) system, recording data from 800,000 adult patients each year and soon to be extended to BCH.

There are outstanding research strengths within the Institutes of the College of Medical and Dental Sciences that provide important opportunities for collaborative interactions. The largest, and strategically most important, groupings are in the following areas:

- **Cancer Biology**

The Institute of Cancer and Genomic Sciences is internationally renowned and combines basic science and clinical research teams with common interests in tumour pathogenesis and in the design and testing of novel cancer therapies. The institute has an international reputation for work in tumour virology/immunology (Professors Martin Rowe and Ben Willcox), haematological malignancy (Professor Paul Moss) genetic susceptibility to cancer (Professor Malcolm Taylor) and clinical trials (Prof Pam Kearns).

- **Immunology** is extremely strong in Birmingham, with the University of Birmingham Centre for Immune Regulation established as an MRC Centre in 1999. Research interests include B cell development, B cell/T cell interactions and antibody responses (Profs. Peter Lane and Adam Cunningham) and T cell development (Profs. Eric Jenkinson, Graham Anderson). In addition a group with a common interest in adhesion molecules and chemokines addresses the pathogenesis of autoimmune and chronic inflammatory diseases (Prof. David Adams, Prof. Lorraine Harper, Prof Gerard Nash and Prof Chris Buckley).

- **Infection** is a potentially strong area with current interests in hepatitis virology (Prof Jane McKeating and Dr Peter Balfe) as outlined above; the host genetics and immunology of mycobacterial infection (Prof Del Besra); bacterial genomics (Prof Ian Henderson) and antimicrobial resistance (Prof Laura Piddock).

- **Endocrinology, Diabetes and Metabolism**

This is a strong research area under the Institute of Metabolism and Systems Research (IMSR). IMSR comprises a multi-disciplinary research environment focusing on highly innovative translational research in collaboration between clinician scientists, clinical trialists, molecular and cell biologists, biochemists, mass spectrometrists, exercise biologists and computational scientists. IMSR researchers explore pathophysiological mechanisms, as well as novel approaches to prognosis, diagnosis and treatment in metabolic, endocrine and reproductive diseases. Details on the 35 principal investigators and their work in the IMSR can be found in <http://www.birmingham.ac.uk/research/activity/metabolism-systems/staff/pis.aspx>

- **Neuroscience**

Research is multidisciplinary combining high level clinical trials of boron capture therapy for brain tumours (neurosurgery) with a strong theme of molecular and human genetics. Parkinson's disease and molecular psychiatry, involving studies of the genetics of mood disorders (Dr Lisa Jones).

- **Hepatology**

The liver research laboratories have long-standing interests in immunology and inflammation, expanding to molecular virology and mechanisms of liver injury (Profs Adams and Newsome). Large patient cohorts with chronic viral hepatitis, hepatocellular carcinoma and a major liver transplant programme provide further integrated research opportunities spanning, laboratory, translational and clinical research.

- **Renal Medicine**

The renal research laboratories have long standing interests in immunology and inflammation with a particular focus on ANCA-associated vasculitis (Prof Harper). Research within the group is geared to better understanding mechanisms of disease and developing strategies for prevention and treatment. Large patient cohorts with chronic kidney disease and a major transplant programme provide further integrated research opportunities spanning laboratory, translational and clinical research.

- **Rheumatology**

A characteristic feature of chronic inflammatory reactions is their persistence and predilection for certain sites. The rheumatology group investigates the role that tissue resident stromal cells (fibroblasts) play in determining both the switch to persistence as well as the site at which inflammation occurs. In chronic inflammation the resolution phase is prolonged and disordered leading to the persistent accumulation of the inflammatory infiltrate. Our work has allowed us to propose that a

stromal area post code, predominantly defined by fibroblasts, exists within tissues (Prof Buckley).

3.1.1 Birmingham University Academic Foundation Programmes

Academic foundation trainees at trusts affiliated to the University of Birmingham attend formal teaching programmes:

- Each of the 3 Birmingham teaching trusts (University Hospitals Birmingham, Heart of England and Sandwell and West Birmingham) has a separate clinical teaching programme for each foundation year.
- In the academic foundation year 2 posts, trainees attend a specific 4 month Tuesday afternoon academic training programme at the NIHR/ Wellcome Clinical Research Facility. The programme is illustrated below:

3.1.2 Taught programme for Academic F2 at the University of Birmingham

<u>Week 1</u>	Introduction Critical Appraisal	Dr Matthew Morgan Clinical Senior Lecturer in Renal Medicine University of Birmingham
<u>Week 2</u>	Clinical Research – The challenges How to design a RCT	Professor Caroline Gordon Professor of Rheumatology University of Birmingham
<u>Week 3</u>	Statistics for researchers	Dr Peter Nightingale Wolfson Computer Laboratories QEH
<u>Week 4</u>	Informatics as a Research Tool	Terence Read Health Informatics Wolfson Computer Laboratories QEH
<u>Week 5</u>	How to write an academic paper How to write a grant	Dr Parth Narendran Clinical Senior Lecturer University of Birmingham
<u>Week 6</u>	How do you collect, analyse and present experimental data? Journal club	Dr Patricia Lalor Senior Lecturer, Centre for Liver Research University of Birmingham
<u>Week 7</u>	Animal research – Is it still necessary Ethics of animal research	Professor Adam Cunningham MRC Centre for Immune Regulation University of Birmingham
<u>Week 8</u>	Researchers as Educators	Professor Jamie Coleman Professor of Clinical Pharmacology and Medical Education University Of Birmingham
<u>Week 9</u>	Ethics of research and clinical practice Research Governance	Professor Karim Raza Professor of Rheumatology University of Birmingham
<u>Week 10</u>	Obtaining grant funding Bioinformatics Journal Club	Dr Alex Sinclair University of Birmingham
<u>Week 11</u>	Designing genetics studies Journal Club	Dr Derek Lim Medical/Molecular Genetics University of Birmingham
<u>Week 12</u>	Statistics for researchers 2: A practical application	Dr Peter Nightingale Wolfson Computer Laboratories QEH
<u>Weeks 13-15</u>	Private Study – Project Development	
<u>Week 16</u>	Overview of module Presentation of project Aims and plans for future	Dr Matthew Morgan Clinical Senior Lecturer, Renal Medicine University of Birmingham

In short, the Medical School at the University of Birmingham is enjoying sustained growth in all of its core activities. It sees itself as among the top medical schools in the UK and aims to take advantage of its excellent position to grow further, to serve better the needs of the region through the provision of specialist patient care, its first class training of tomorrow's doctors and its internationally renowned research.

3.2 Queen Elizabeth Hospital Birmingham Foundation NHS Trust

<http://www.uhb.nhs.uk/>

University Hospital Birmingham NHS Foundation Trust has over 7,500 employees and provides traditional district general services for the adult population of South Birmingham and specialist tertiary treatments for the people of West Midlands and beyond.

The Trust is now housed in its purpose built hospital providing state of the art diagnostic and treatment facilities. The new hospital provides an excellent clinical environment for both patients and staff. More than 553,000 patients attend the hospitals for treatment every year – ranging from a simple outpatient appointment to a heart transplant.

The Trust has the largest renal kidney programme in the UK, is a major specialist centre for burns and plastic surgery, neuroscience and specialist cancer centre. The Trust is the largest solid organ transplant centre in Europe, with large liver, heart and lung and kidney programmes. It has the largest ICU facility in Europe with 100 beds. It is also a Major Trauma Centre for the Midlands

The Royal Centre for Defence Medicine (RCDM) provides secondary and specialist care for members of the armed forces dedicated training for defence personnel and is a focus for medical research. There is a military-run ward but defence personnel are fully integrated throughout the Trust. The military staff wears their own uniforms and have their own base. They treat both military and civilian patients.

Currently, the Trust hosts 57 foundation year 1 posts, in 19 rotations (of which the academic rotation is one) plus 25 military foundation year 1 posts. There are also 60 foundation year 2 posts in 20 rotations, including one academic rotation, plus 3 military foundation year 2 posts. The rotations include placements at the Queen Elizabeth Hospital, Birmingham Children's Hospital, Birmingham and Solihull Mental Health Trust, the Genitourinary Medicine Clinic in central Birmingham and teaching General Practices in the south Birmingham area. There is a Head of Medical Education dedicated to the support of Postgraduate trainees. The foundation programme is lead by two Clinical Tutors with extra support from an Academic Consultant for the Academic rotations.

The trust's approach to the foundation programme is best illustrated by our trainees who comment:

"The opportunity to work at an internationally renowned Hospital with a renowned academic, research and teaching profile."

"It offers a unique range of experience across both a Tertiary and DGH setting within the West Midlands."

"Great location, adjacent to the University and near to the City Centre with the opportunity to live close to the hospital and easy access to all the facilities a large city has to offer within a small radius."

"The prospect of being involved in the development of a New Hospital with one of the largest solid organ transplantation units and eventually Europe's largest Critical Care provisions."

"It's busy, exciting and yes hard work but the support, teaching and experience you get is excellent"

3.3 Birmingham Children's Hospital Foundation NHS Trust **www.bch.nhs.uk**

Birmingham Children's Hospital Foundation NHS Trust provides a wide range of general and specialist health services to children and adolescents within the West Midlands and beyond. As Birmingham's lead provider of health services for children, the hospital NHS Trust enjoys a national and international reputation in specialist areas including liver transplantation, cardiac surgery and neonatal surgery. The liver unit is the designated centre for small bowel transplantation, whilst the heart unit leads the field in congenital heart disease. The Trust also manages city-wide Child and Adolescent Mental Health Services (CAMHS).

The state-of-the-art radiology department houses CT and MRI scanners whilst a 22-bed Intensive Treatment Unit is the single largest paediatric facility in the UK, alongside the country's largest oncology unit for children.

Pioneering developments include the first ever successful paediatric triple transplant, the world's smallest successful pacemaker in a three day old baby and a neuro-navigation system which provides image-guided surgery for children with brain tumours and other neurosurgical conditions. Recent developments include the designation of the Eye Department as a national centre for treatment of cancer of the eye (Retinoblastoma) and funding for the Dermatology service to provide a national service (jointly with Great Ormond Street) for the care of patients with Epidermylosis Bullosa (EB). A dedicated unit to care for patients with sickle cell anaemia and thalassaemia opened in 2003, whilst the first Acute Admissions Unit outside London, for children and adolescents with mental health conditions will open at Parkview Clinic.

Our Academic Foundation Year 2 post is based in the Department of General Paediatric Medicine which provides secondary level paediatric services for the children, young people and families of South Birmingham in an integrated GP Referral Unit and short stay Observation Ward, a large Outpatient Department and three inpatient wards. The department works closely with the Department of Emergency Medicine. Approximately 4500 general paediatric patients are admitted to the three wards annually. These admissions are generated by referral both from general practitioners (approximately 6,000 referrals per year) and patients admitted after self referral to the Emergency Department (ED). Patients referred by their GPs are seen in the GP Referral Unit within ED and there is a large observation ward allowing for a shorter term assessment of children who may not need hospital admission.

All the laboratory, radiological and support services are available. A large and expanding Medical Day Unit provides an excellent facility for children from all medical specialities including general paediatric medicine enabling both investigations to be performed and treatment to be given.

As well as the University of Birmingham based academic departments, most Clinical Departments have research-active clinicians supporting a wide range of clinical trials. There is support from the Medicines for Children Research Network (MCRN) and the Wellcome Foundation who fund and support the Wellcome Clinical Research Facility which provides the most modern of locations for clinical research.

On site is an excellent library and Education Centre. The Trust hosts the education programmes of the regional specialty training programme in paediatrics. Medical educators in the trust have major interests in methods of mentoring, teaching and learning and assessment of clinical competence and are involved in research and development at national, regional and local level.

3.4 Sandwell and West Birmingham Hospitals NHS Trust www.swbh.nhs.uk

3.4.1 City Hospital

The academic rotations are an exciting part of the City Hospital foundation programme which is always extremely popular. The City Hospital is widely regarded as providing a friendly working environment within which junior doctors are exposed to busy acute admissions and a wealth of pathology. The hospital has a reputation for very supportive Educational Supervisors who facilitate an excellent learning environment. In addition, clinical research forms an important part of the Trust's portfolio and the City hospital hosts several academic departments including ophthalmology, cardiology and rheumatology.

City Hospital is part of Sandwell and West Birmingham Hospitals NHS Trust. The Trust is an integrated care organisation. We are dedicated to improving

the lives of local people, to maintaining an outstanding reputation for teaching and education, and to embedding innovation and research. The Trust is one of the largest teaching Trusts in the United Kingdom. We employ around 7,500 people and spend around £430m of public money, largely drawn from our local Clinical Commissioning Group. Together we are responsible for the care of 530,000 local people from across North-West Birmingham and all the towns within Sandwell.

The Trust currently has two acute sites at City Hospital and Sandwell Hospital providing many specialist services and a broad range of emergency services, including Accident & Emergency and Acute Medical and Ambulatory Care units on both sites.

The Trust includes the Birmingham and Midland Eye Centre (a supra-regional eye hospital), the Pan-Birmingham Gynae-Cancer Centre, our Sickle Cell and Thalassaemia Centre, Birmingham skin centre and the National Poisons Information Service and the West Midlands Poisons Unit – all based at City Hospital.

Inpatient paediatrics, most general surgery, Trauma and orthopaedics and our stroke specialist centre are currently located at Sandwell Hospital.

The Midland Metropolitan Hospital

On the 14th July 2014 the Trust received the go-ahead to build the 670-bed Midland Metropolitan Hospital and secured funding of £360 million pounds to do so. Work commenced in 2016 to build a modern tertiary care hub with state of the art facilities.

The new Midland Metropolitan Hospital will bring together acute services on to one site, promoting better patient safety and a patient experience while ensuring the best value for money for the taxpayer.

The single-site Acute Hospital will benefit from co-locating specialist services which will support the new Emergency Department with dedicated imaging facility and Assessment Units. It will provide state-of-the-art treatment and care for patients from Sandwell and across the region and will become the civic heart of the area and a point of pride for the community.

It will house a purpose built simulation suite consisting of two simulation areas, control room and debrief room.

In addition, the Trust provides comprehensive community services to the Sandwell area, including from Rowley Regis Community Hospital, Leasowes Intermediate Care Centre and the Lyng Centre for Health and Social Care.

The Trust is a key partner along with the local Clinical Commissioning Group, PCTs and local authorities in the “Right Care Right Here” programme which seeks to deliver an ambitious redevelopment of local health services. Following a very successful public consultation, implementation of the programme is underway with a wide range of secondary care services now being provided via new models of care in community locations. The programme includes one of the largest investments in the UK in new facilities in both the acute and community sectors. Included within this is a new Midland Metropolitan hospital.

The Trust is a pioneer in developing new and more effective approaches to staff engagement through its “Listening into Action” programme which harnesses the energy and ideas of front line staff to improve services. This is the largest programme of its kind in the NHS and has received widespread national recognition. These techniques are also increasingly used to obtain the view of patients and carers.

The £18m Emergency Services Centre on the Sandwell site incorporates a comprehensive Emergency Medicine Department, Acute Medical Unit and Cardiac Care Unit.

The £35m Birmingham Treatment Centre on the City Hospital site provides state of the art facilities for one-stop diagnosis and treatment. It includes an Ambulatory Surgical Unit with six theatres, extensive imaging facilities, an integrated breast care centre and teaching accommodation.

Aside from being one of the largest providers of patient services in the Midlands, the Trust also has a substantial teaching and research agenda with several academic departments including rheumatology, ophthalmology, cardiology, gynaecological oncology and neurology.

In August 2015, cardiology services were reconfigured in the Trust moving inpatient services and the catheter laboratories to the City Hospital site. The junior medical staff also moved to the City site although one junior and one middle grade still support the daily Sandwell Hospital Acute Medical Unit and referrals round each morning. Once the jobs created by the ward round (discharge letter, investigation bookings etc.) have been completed, the junior medical staff return to the City site.

3.5 University Hospital Birmingham Foundation Trust

University Hospital Birmingham Foundation Trust is one of the largest in England and includes Birmingham Heartlands Hospital, Solihull Hospital, Good Hope Hospital and Birmingham Chest Clinic.

Heart of England's commitment as part of the wider health community is to re-examine, re-evaluate and explore new ways of working: with our partners in health services, social care, and the city; with each other as colleagues; and with patients and the public. The agenda for modernisation drives this commitment; modernisation is not perceived as a separate issue, but rather as something that informs the whole structure, thinking and culture of the Trust.

The Trust has a turnover in excess of £500m, and is one of the top five employers in the area. It has a total of over 1,400 beds and it serves a population of over a million people throughout north and east Birmingham, Solihull, Sutton Coldfield, Tamworth, Burntwood and the surrounding areas.

Our hospitals have national and regional clinical services, as well as secondary care, emergency and elective practice. Our regional and supra-regional portfolio is growing and includes bariatric, upper GI cancer, renal, thoracic

surgery and medicine, immunology, communicable disease, virology and public health.

We have a well established teaching commitment to the University of Birmingham with a large proportion of Birmingham Medical Students being taught at our hospitals. All medical firms have both Junior and Senior Medical Students attached to them.

The Trust has an excellent teaching record and always scores highly in inspection visits. Education is based at the two state-of-the-art Education Centres. For the Foundation Programme the Trust has one of the best e-portfolio systems for monitoring trainees in the country. The Clinical Tutor; Dr Phil Bright (Consultant Physician) is Head of Core Medical Training Health Education West Midlands.

Research at HEFT

<http://www.heartofengland.nhs.uk/research/>

HEFT has a long history of clinical research and is a substantial contributor to NHS and commercial clinical trial activity. This is highlighted by the wide range of commercial partners who actively seek University Hospital, Birmingham involvement in their research - in particular in critical care, diabetes, respiratory medicine, ophthalmology, sexual health and oncology - based on our reputation for high quality research.

In addition to participation in clinical trials led from other centres, the Trust hosts academic appointments in partnership with three local Universities; these are mostly with the Universities of Birmingham and Warwick but posts are also shared with Aston University. The main areas of research activity are **Anaesthetics and Critical Care** (Profs Perkins and Gao and Drs Yeung and Couper) **Emergency Medicine** (Dr Sue Dorian), **Diabetes** (Dr Bellary), **Vascular Surgery** (Prof Bradbury, Mr Scriven and Adam), **Microbiology and Infection** (Profs Palen and Hawkey and Col Bailey), **Thoracic Surgery** (Mr Naidu) **Respiratory Medicine** (Drs Turner, Mansur and Nash) and **Psychiatry** (Prof Tadros).

Tutors are supported by an experienced postgraduate staff and work hard at ensuring trainees gain a rewarding experience from their time at the Trust.

Academic Foundation Programme

<http://www.heartofengland.nhs.uk/research/introduction/>

The academic foundation programme is led by Professor Gavin Perkins (Professor of Critical Care Medicine at University Hospital Birmingham. Research at UHB is led by Dr Alice Turner (Director Research and Development). The Trust have recently invested in a state of the art research facility called MIDRU (<http://www.midru.com/>) which provides a focal point for clinical academics to work together.

The academic programme at HEFT provides trainees with a protected day a month, throughout their two year posts, for a morning teaching programme followed by self-directed academic study time. This is further supplemented by 4 months of weekly regional teaching which is provided during the academic block.

The academic trainees are given scope to explore their academic pursuits in any area they choose with oversight provided by a self-selected academic supervisor. Current areas of research and interest range from critical care medicine, orthopaedics, obstetrics and gynaecology through to psychiatry.

3.5.1 Heartlands Hospital

The Birmingham Heartlands Hospital has over 800 beds and provides the full range of acute hospital services. Regional specialities include nephrology, cardiology, vascular surgery, thoracic surgery, clinical haematology and infectious diseases. The regional cytogenetics, virology and immunology departments are all on site together with the Birmingham Public Health Laboratory. Other specialised units include a large department of thoracic medicine with a supra-regional cystic fibrosis unit. There has been considerable capital investment in the Trust over recent years and most of the older buildings have been replaced within the last 10 years.

The X-ray department provides a full range of services, including ultrasound, angiography and isotope imaging. New equipment for MRI scanning and digitalised angiography has recently been installed and two of the radiologists take a special interest in renal and vascular access angiography and angioplasty.

The Hospital has a full spectrum of clinical services and a very active postgraduate centre with regular clinical meetings and audit. The Trust works with academic partners the University of Birmingham, Warwick and Aston.

There are modern multidisciplinary education centres on all three sites with lecture theatres, break out seminar rooms and dining facilities with excellent library, medical illustration and IT facilities.

3.6 Royal Wolverhampton Hospitals NHS Trust

<http://www.royalwolverhampton.nhs.uk/>

Refer to Rotation 14 for further information

4 KEELE

4.1 The University of Keele

[http:// www.keele.ac.uk/depts/ms/index.htm](http://www.keele.ac.uk/depts/ms/index.htm)

Keele was the first higher education institution established after the Second World War in the United Kingdom, gaining degree-giving powers in 1949 as the University College of North Staffordshire. University status, as the University of

Keele, followed in 1962. Its founders espoused radical educational principles and the University was founded to promote interdisciplinary and multi-disciplinary scholarship.

Building on its founding tradition, Keele's distinctive mission is to provide a high quality educational experience for students, shaped by outstanding research, contributing positively to social, environmental and economic agendas locally, nationally and internationally.

With 7,500 FTE students, Keele is a relatively small University, but it has growth potential and ambitions, and continues to make a unique contribution to higher education by emphasizing the strength of broad education and innovative learning environments.

Keele is a residential university, and is the UK's largest integrated campus occupying an attractive 617acre estate, of which a hundred acre area adjacent to the 19th century Keele Hall has designated conservation status, confirmed by Newcastle Borough Council. Many architectural and landscape features dating from the 19th century are of regional significance.

Almost three quarters of full time students live on campus, along with a number of postgraduate students. Some 720 study bedrooms have been built since 1992 in award winning residential centres. Uniquely, Keele also has a significant proportion of staff living on campus, with a total of 172 houses and apartments.

Located centrally within the UK, in North Staffordshire, Keele is a major contributor to its local economy. With a turnover in excess of £85m, and a total staff of around 1,700, the University generates around £40m of business in the region.

4.1.1 Research at Keele

Keele is a research-based university and has significantly increased its research profile in the last five years. Research grant and contract income was £12million in 2010-11, having grown from £8million 2006-07. To enhance its research position, Keele is focusing its research profile further, building on areas of recognised national and international strength across its three faculties: Health, Natural Sciences, and Humanities & Social Sciences. The REF 2014 found that 97% of the University's research is now classified as world leading and of international importance with the health research institutes achieving the highest results within the university.

Within the Faculty of Health, teaching is within the School of Medicine whilst research is undertaken in 3 institutes:

Institute of Primary Care and Health Sciences

The Institute hosts the Arthritis Research UK Primary Care Centre, which delivers a world-leading research programme through:

- I. Highlighting the importance of musculoskeletal conditions by demonstrating the extent, frequency and impact of pain and disability on individuals, and their increasing health and social care burden and costs on society.
- II. Researching ways of preventing musculoskeletal conditions from starting, getting worse or limiting people in their daily lives and activity.
- III. Researching the provision of effective assessment, self-management and treatment of these conditions, in the community and in primary care.
- IV. Shifting the perception that musculoskeletal conditions are an inevitable consequence of growing old, to take a more positive approach where the symptoms of pain and disability can be addressed more directly.

In REF 2014, over 90% of its research was judged to be of international quality, and was rated 3rd nationally out of primary care centres.

In 2009, the Centre was proud to be awarded the Queen's Anniversary Prize for Further and Higher Education, for Pioneering early intervention and primary care in the management of chronic pain.

The Centre is one of only eight members of the National School of Primary Care Research.

Institute of Science and Technology in Medicine

The Institute for Science and Technology in Medicine has evolved from Keele's internationally respected strength in biomedical engineering and expanded rapidly over the last ten years. In the REF 2014 report, ISTM's submissions in applied biomedical research achieved a 42% score in world-leading 4* rating, and ISTM's biomedical engineering research doubled its' world leading 4* score. Both units achieved ~90% across the top two ratings 4* and 3*. The Institute bridges the interface between new advances in basic science and medicine, with an excellent integration of the skills and knowledge of engineers, mathematicians, biologists, physicists and clinicians.

Clinically there are strong areas in orthopaedics, renal and respiratory medicine, cancer, pathology, neonatal medicine and obstetrics and gynaecology which exist across hospitals in North Staffordshire and Shropshire that include the University Hospitals of North Midlands, RJA Orthopaedic Hospital, Oswestry and the Heywood Hospital, Burslem. The Institute's "bench to bedside" approach also fosters excellent working relationships with worldwide medical and biotechnology industries.

Research in the Institute is grouped into six major themes, totaling over 110 academic and clinical staff:

- Bioengineering and Regenerative Medicine
- Biomagnetics and Nanomedicine
- Cell & Molecular Medicine
- Diagnostics, Engineering and Proteomics
- Applied Entomology & Parasitology
- Sustainable Pharmacy

The Institute has laboratories at the University's Hartshill campus where Keele and the NHS have invested £3million in The Guy Hilton Research Centre to provide a patient treatment facility alongside state-of-the-art equipment for translational research, which includes cell therapy suites, genomic facilities, and advanced laser and diagnostic laboratories.

The Institute attracts major research grant funding of almost £4million per year from the UK Research Councils, the European Union, National Institutes for Health USA, Department of Health, the Royal Society, and many major UK funding charities. It currently has in training around 100 doctoral students and supports four successful Masters courses. The Institute has developed an international profile for its recent work at the cutting edge of stem cell therapies, and is a Centre of Excellence in Tissue Engineering at national and European level. Institute members have active collaborations with universities throughout the UK, and over 35 countries in Europe, USA and the developing world.

Institute for Applied Clinical Sciences

Recently established, the Research Institute for Applied Clinical Sciences provides the focus and infrastructure for secondary care research at Keele. To achieve this it works closely with its key partners, which include not only the Faculty's Schools and RIs but also the local NHS Hospital Trusts in the development and delivery of their investigator led research portfolios. The Institute is underpinned by the strong performance by Keele in the REF 2014 submission to Unit 3 (Allied Health Professions), notable for its exemplary approach to research impact.

The Institutes' research encompasses a wide range of applied methodologies, including clinical trials and observational cohort studies, analysis of big data sets, data linkage and systematic reviews as well as epidemiology and health services research. Although the focus is on research that translates innovative approaches to treatment into clinical practice in secondary care settings, research that crosses the primary/secondary care and bench to bedside interfaces by working collaboratively with our sister Institutes is strongly encouraged. Equally important is the emphasis on developing multidisciplinary research teams.

Examples of the Institute's most developed research programmes are with our longest standing partner, the University Hospitals of North Midlands NHS Trust. One of the largest acute hospital Trusts in the UK it hosts a national Trauma Centre and leading cardiac and stroke intervention services to which the

Institutes' research strategy is closely aligned. This includes research groups in cardiovascular epidemiology, early stroke interventions, kidney dialysis, multimorbidity, respiratory medicine and rehabilitation. Through collaboration and co-investment, it has been possible to develop a clinical research career pathway along with NIHR funded lectureships and fellowships across the health disciplines.

Our research is directly relevant to the local health economy and the wider NHS as well as having international impact. Key to this success is the involvement of patients in the design, conduct and dissemination of our research and the support we receive from the Keele hub of the West Midlands Research Design Service and the Faculty based, NIHR accredited, Clinical Trials Unit.

Located at the Guy Hilton Research Centre the Institute is within a few minutes walking distance of the Royal Stoke Site of the University Hospital of North Midlands. Co-location with the Institute for Science and Technology in Medicine affords opportunities to develop the translational pipeline into applied clinical studies. Our research is supported by the NIHR, including national trials in Stroke and Dialysis Medicine, funded by the Health Technology Assessment Programme, the American National Institute for Health and the European Union Framework 7 programme.

4.1.2 School of Medicine, Keele University

The School of Medicine was created in September 2001 as a further development of the School of Postgraduate Medicine, which had been established in 1978. The School is part of the Faculty of Health which includes the School of Health and Rehabilitation, the School of Pharmacy and the School of Nursing & Midwifery. Other health-related academic units in the University include the Centre for Health Planning & Management, the Centre for Medical Statistics, the School of Life Sciences, Social Gerontology located in the School of Criminology, Education Sociology and Social Work, and the Centre for Professional Ethics.

Undergraduate medical education commenced in September 2002 (see below). Postgraduate medical education includes the organisation and delivery of professional, postgraduate award-bearing courses and continuing medical education. University award bearing courses have been established as the Master of Medical Science Degree, Diploma and Masters Degree in General Psychiatry and Masters Degrees in Geriatric Medicine, Biomedical Engineering, Cellular Engineering, Rheumatology Nursing and Adolescent Addiction.

4.1.3 The development of the undergraduate school of medicine

The Keele undergraduate school of medicine started as a satellite of Manchester medical schools, receiving its first 50 students who moved to Keele for their three clinical years in September 2002.

Following the successful first bid, it was announced on 30th March 2001 that the second bid from Keele and Manchester Universities to establish a free-standing School of Medicine at Keele had been successful.

The University built a new, state of the art Medical School building on the University Campus which was ready for September 2003 and where the students spend their first two years. The University Hospital of North Midlands Trust has built a new Medical School building and a Clinical Education Centre on the City General Hospital site to enhance its £200m rebuilding programme.

The Keele mission statement is to “graduate excellent clinicians”. The first students receiving a Keele MBChB graduated in July 2012. The School now trains 130 students per in a five-year course on the Keele campus and in local Trusts. The course is a spiral, highly integrated course, utilising blended learning methods. Students develop clinical skills and meet patients from the first year of the course. They complete over 100 weeks of clinical placements over the five years of the course. The School is committed to fostering the development of skilled, globally aware, socially responsible graduates. Since first implementation of the Keele MBChB the course has scored well in the National Student Survey (joint third in 2012) and in national league tables (currently 4th in the Guardian League Table for Medical Schools).

Hand in hand with the development of the Keele course has been the development of an academic pathway for medical students, including research based student selected components, student summer internships and a portfolio of intercalated options, with emphasis on intercalated Masters Degrees after year 4 of the curriculum. With respect to intercalated degrees, we have moved from 1% students intercalating from the Manchester-validated programme to >20% in 2013/14.

4.1.4 Keele University Academic Foundation Programmes

These academic posts are designed to encourage the best and most motivated medical graduates to consider clinical academic careers from an early stage. They will provide excellent clinical experience and supervision, together with protected time and high level support to learn about different aspects of research and medical education. Applications for subsequent Academic Clinical Fellow posts are strongly encouraged and supported.

All aspects of training in Research methodology including consent, ethics, protocol design and development and being part of a multi disciplinary research team will be taught during this time. Robust methodological support is also provided by the Health Services Research Unit for project planning.

The academic trainees will have a mentor whilst based in the academic department, and will be given the opportunity to undertake their own project within a friendly multi-disciplinary academic environment. Core training in research methods will be provided and a range of project options can be offered, depending on the individual's interests and career aspirations.

Whilst configured to provide all the required experiences to achieve the clinical competencies, these academic programmes will ensure protected time to participate in specific research and/or educational programmes and personal supervision and support associated with this component.

"The Academic Foundation training programme provides an opportunity to allow doctors to undertake further study and acquire a higher level postgraduate qualification than previously awarded in this type of programme. All academic trainees on Keele University rotations will obtain core skills in research methods by attending a 5 day Masters level course that attracts 15 M level credits. This course is highly valued by previous trainees and covers pertinent aspects of study design, research ethics and statistical analysis.

Doctors will be able to undertake more modules from within the Master of Medical Science course to focus on the three core elements of the foundation programme i.e. leadership, research and education. Modules are available in all these speciality areas to extend the learning of the doctor. This can then be extended to a full Masters if suitable. The modules are available on the Keele website under "Postgraduate Taught courses" in the medicine section. This scheme is the first step to a higher level qualification leading to greater job opportunities and career development.

4.2 University Hospitals of North Midlands NHS Trust

www.uhns.nhs.uk

The Trust comprises two main hospital sites, the Royal Stoke University Hospital (RSUH) and County Hospital, with RSUH being one of the largest and busiest acute hospitals in the country, an annual budget exceeding £290 million. The Trust serves 700,000 people in Staffordshire and provides a range of speciality services for some 3 million people, including neighbouring counties and Wales. It employs over 7,400 staff and has over 1,300 beds. During the last year it saw over 116,000 outpatients for the first time and more than 289,000 for follow up appointments. It treated over 17,000 planned inpatients and 42,000 day cases. More than 58,500 emergency inpatients were admitted and 121,489 attended its A & E, Medical and Surgical Assessment Units.

The specialities delivered by the Trust include all the usual local services plus several regional and sub regional services including Cardiothoracic Surgery, Ophthalmology, Renal Medicine, Neurosciences and Stroke, Cardiac Surgery, Critical Care, Radiotherapy, neonatal intensive care and paediatric intensive care. The Trust is also a designated Cancer Centre working in partnership with a network of West Midlands Cancer Units, and is an Adult Major Trauma Centre covering the local area extending out into North Wales. It is also recognised for particular expertise in respiratory conditions, spinal surgery, upper gastrointestinal surgery, complex orthopaedic surgery, laparoscopic surgery and the management of liver conditions.

4.2.1 Royal Stoke University Hospital campus in Stoke on Trent

The University Hospital campus completed its rationalisation into one site in 2012, with clinical services moving into state-of-the-art buildings, whilst preserving some of the historic buildings for office accommodation. The core of the specialised clinical services in the Trust are provided here in £370 million pound new buildings.

The Clinical Education Centre, opened in 2004. As well as the usual teaching rooms, the hospital campus provides a multi-professional Health Library and superb clinical skills laboratory facilities which have recently been extended. The Health Library supports staff and students throughout North Staffordshire. There are also separate hubs for the undergraduate Keele School of Medicine and a patient-centred clinical research facility providing state-of-the-art facilities at the Guy Harvey Research Centre.

4.2.2 County Hospital campus

The new integrated trust with County has enabled the development of a wider set of opportunities for local people and the County site will be developed as a campus facility. This will define itself as a modern, local hospital offering world class local emergency care, networked with Stoke-on-Trent. It will do this along with outstanding local elective and long-term condition, care integrated with community and primary care, to improve clinical and patient outcomes.

County Hospital is located a short distance from Stafford town centre. It is a General Hospital, with a very pleasant modern infrastructure which was opened in 1983 and extended in 1996. It contains ~300 beds and houses the main outpatient department and the A & E department. There is a large x-ray department on site with state of the art CT scanning, a mobile MRI Scanner and a modern well equipped critical care unit with HDU.

5. THE PROGRAMMES (Rotations 1 to 15)

ROTATION 1

University of Warwick & University Hospitals of Coventry (UHCW) and Warwickshire NHS Trust

The new Medical School at Warwick takes graduates from a science background and hopes to foster a generation of doctors with the potential and enthusiasm to develop as Clinical Academics. These rotations are particularly suited to trainees who wish to gain some insight into academic medicine, while gaining a sound base of clinical experience. An academic teaching programme and system of mentoring runs throughout the 2 years in addition to the taught element of F1 and F2. Trainees are encouraged to take further modules in the Masters Programme relevant to academic training.

FOUNDATION YEAR ONE

1. General Psychiatry (Academic Unit)

Dr A Thompson

Trainees will work in an acute psychiatric day unit, delivering structured therapeutic day care for patients with acute episodes of severe mental illness. There will also be opportunities for education and training through the Health Services Research Institute at Warwick University. Dr S Marwaha will remain as academic mentor for the trainee throughout their F1 year.

2. General Surgery and Upper Gastrointestinal Surgery (UHCW)

Mr S Khan

Duties

This post is based within the Department of Surgery at UHCW. The trainee will participate in the surgical on-call rota and be looking after general surgical patients, particularly with upper GI conditions. The firm is supported by 2 more senior trainees. There are opportunities for attending outpatients and theatre sessions.

Education

All F1 doctors participate in the teaching programme. In addition there is a Friday afternoon surgical teaching programme and a specialist MDM for upper GI surgery.

Research opportunities

Trainees will be encouraged to participate in ongoing research topics within the Department of Surgery, according to individual interests.

3. Anaesthetics (UHCW)

Dr B Dudkowsky

Duties

The F1 trainee will get exposure to anaesthetics and ITU along with the anaesthetic trainees. The F1 trainee will be supernumery on-call. Duties include theatre sessions, pre-operative visits and ITU ward rounds.

Education

The F1 trainee will participate in the anaesthetic teaching programme, as well as attending the generic F1 teaching programme.

FOUNDATION YEAR TWO

For the Academic Medicine rotation trainees will gain clinical experience working in 3 medical specialities and pursue a research project/training in an area of their choice under academic supervision with protected time throughout the three rotations. Opportunities exist to engage in both basic science and clinical research.

1. Endocrinology & Diabetes Mellitus (academic–research)

Consultants: Educational Supervisors will be:

Dr Tom Barber, Associate Professor - Endocrinology

Dr Paul O'Hare, Reader in Clinical Medicine

Dr Harpal Radneva, Associate Clinical Professor

Clinical Supervisor will be:

Dr Murthy, Consultant Physician and Diabetologist

Dr Sailesh Sankar, Consultant – Endocrinology

Dr Martin Weickert – Consultant Diabetes and Endocrinology

The posts will operate from the newly built and equipped state of the art research laboratories at the Clinical Sciences Building at the University Hospitals Coventry and Warwickshire NHS Trust on the Walsgrave site.

Research and Academic Experience

This 4 month period is for research/academic training and relevant outpatient experience will take up no more than 2 sessions with 8 for research.

Trainees would be expected to work as part of a research team on existing projects or a selection of new projects, according to the particular interests of the trainee. Areas currently under investigation include molecular links between diabetes and obesity, adipocyte and subclinical inflammation and vitamin D metabolism, Diabetes and its complications (retinopathy, nephropathy, cardiovascular disease) and ethnic health. New chairs in metabolism, the biochemistry of diabetic complications (Prof Thornally) and the effects of post prandial hyperglycaemia on vascular function (Prof

Cereillo) are creating a vibrant research environment with many opportunities.

It is envisaged that the trainee will undertake work that will lead to publication and/or presentation. Where appropriate, trainees will be encouraged to attend research training/education modules on the Warwick Diabetes Masters Programme.

Education

There are three research meetings per week, and a number of research seminars in the Department of Biological Sciences, Warwick University.

There is a weekly academic training seminar for academic Foundation and ACF's. There is a monthly academic endocrine/metabolism meeting on Friday afternoon. All Foundation SHOs will have a protected half day on Thursday afternoon to attend the Generic Skills teaching programme

2. Respiratory Medicine

Consultant: Clinical and Educational Supervisor will be Dr David Parr

Duties

The trainee will be part of the Medical SHO workforce, and participate in the on-call rota. Duties will include the inpatient care of acute medical patients, particularly those with respiratory disease.

Education

There is a formal programme of clinical teaching for medical SHOs which the post holder will be encouraged to attend. All Foundation SHOs have a protected half-day on Thursday to participate in the Generic Skills Education Programme. Foundation SHOs will be released for this programme apart from the **occasional** day when the rota makes this impossible. Academic F2's will be encouraged to have an additional protected half-day worked flexibly to continue/prepare for research project/publications.

There is an active research programme within the Department which the F2 trainee will be encouraged to participate in.

3. Gastroenterology

Consultant: Clinical and Educational Supervisor will be Professor C Nwokolo

Duties

The trainee will be part of the medical SHO workforce, and participate in the medical on-call. Duties will include the care of acute medical inpatients, and patients with a variety of gastroenterological pathology.

Education

There is a formal programme of clinical teaching for medical SHOs which the post holder will be encouraged to attend. All Foundation SHOs have a

protected half-day on Thursday to participate in the Generic Skills Education Programme. Foundation SHOs will be released for this programme apart from the **occasional** day when the rota makes this impossible and need to demonstrate achieved competences and have the opportunities to join Postgraduate Award in Professional Skills. Academic F2's will be encouraged to have an additional half-day worked flexibly to continue or prepare for their research project/publications.

ROTATION 2

University of Warwick & University Hospitals of Coventry and Warwickshire NHS Trust (UHCW)

FOUNDATION YEAR ONE

1. General “Internal” Medicine and Endocrinology & Diabetes Mellitus (Academic Unit) (UHCW)

Dr Tom Barber/Dr Harpal Radneva

This post is based on the Academic Medicine clinical firm. Duties will include acute medical admissions, and management of patients with general medical and diabetic problems. The trainee will also be expected to participate in the academic activity of the Department; Dr Barber will remain as academic mentor for the trainee throughout their F1 year.

2. Respiratory Medicine (UHCW)

Consultant: Dr Parr

Duties

The trainee will be part of the acute medical rota and look after patients primarily with cardiac disease. In addition to ward duties, there will be opportunities to attend outpatient clinics.

Education

All F1 trainees attend the F1 teaching programme on Wednesday. In addition there is a medical Grand Round on Thursday

Research Opportunities

The F1 trainee will be encouraged to continue or prepare research activity within the orthopaedic department.

3. Upper GI Surgery/ Renal Transplantation (UHCW)

Consultant: Mr L Tan

Duties

Care of general surgical and transplant patients. The F1 trainee will be part of the general surgical on-call rota. There will be opportunity to attend outpatient clinics and theatre sessions.

Education

All F1 doctors participate in the teaching programme. In addition there is a Friday afternoon surgical teaching programme and a specialist MDM for transplant surgery.

Research Opportunities

The department of surgery has an active audit programme and opportunities for research and publications within transplant surgery.

FOUNDATION YEAR TWO

1. Trauma and Orthopaedic Surgery (Academic Unit) (UHCW)

Consultant: Educational Supervisor will be:

Assoc Clin Professor Metcalfe, Professor of Trauma and Orthopaedics

Duties

Joining a team of 12 Foundation Doctors, the trainee will cover the wards, attend regular clinics (elective and fracture), and have the opportunity to attend theatre at UHCW.

Training

The acute and elective management of trauma and orthopaedics. Experience in the rehabilitation of orthopaedic patients by interaction with physiotherapists and OT's in a multidisciplinary environment.

Education

The Foundation Academic Training Programme takes place at the CSRI every Wednesday between 12-13h. On alternate Wednesday pm this meeting is followed by the Multidisciplinary Orthopaedic Professional Development Session between 14-17h.

All Foundation Doctors have a protected half-day on Thursday to participate in the Generic Skills Education Programme, and Trainees in orthopaedics will be expected to attend all sessions except in the rare circumstance when the on-call rota makes this impossible.

2. Public Health Medicine (Warwickshire County Council) – Prof Noel McCarthy

3. Research Post (Warwick Medical School) Trauma and Orthopaedic Surgery

Consultant: The Educational Supervisor will be Assoc Clin Professor Metcalfe

Trainees would be expected to work as part of a research team on existing projects or a selection of new projects, according to the particular interests of the trainee within the field of orthopaedics. It is envisaged that the trainee will undertake work that will lead to publication and presentations.

Projects (example)

All of the projects in the Trauma and Orthopaedic research post involve investigations which directly affect patient care. For example, a current Foundation Academic Doctor has devised and gained approvals for a

randomised controlled pilot trial of retransfusion drains versus 'standard care' for patients undergoing knee replacement surgery. These drains are designed to allow any blood that drains from the knee after the surgery to be given back to the patient via a drip. This will hopefully reduce the need for blood transfusions in this important group of patients.

Education

In addition to the Academic Training Programme on Wednesday lunchtimes, there are a number of research seminars in the Department of Biological Sciences, Warwick University.

The trainee will be expected to register and work for a Post Graduate Award in '*research methodology and critical appraisal*' at Warwick University. This is part of the MSc course in Evidence-Based Musculo-skeletal Care. Selected trainees will be encouraged to complete the whole MSc.

All Foundation SHOs will have a protected half day on Thursday afternoon to attend the Generic Skills teaching programme.

ROTATION 3

FOUNDATION YEAR ONE

(University Hospitals of Coventry and Warwickshire & University of Warwick)

1. Trauma and Orthopaedic Surgery (Academic Unit) (UHCW)

Professor D Griffin

This post is based on the Academic Orthopaedics clinical firm at Rugby Hospital. Duties will include elective admissions, and management of patients with hip and knee problems. The trainee will also be expected to participate in the academic activity of the Department and to attend the Academic Training Programme at the CSRI on Wednesday at 12.00h; Professor Griffin or will remain as academic mentor for the trainee throughout their F1 year.

2. General “Internal” Medicine and Endocrinology & Diabetes Mellitus – UHCW

Consultant: Dr H Radneva and Dr Barber

Duties

The trainee will be part of the F1 medical workforce and participate in the acute medical on-call rota. There will be ward responsibilities for acute medical and diabetic / endocrine patients.

Education

All F1 trainees attend the F1 teaching programme on Wednesday. In addition there is a medical grand round on Thursday

3. General Surgery and Colorectal Surgery - UHCW

Consultant: Mr P Baragwaneth

Duties

The ward care of general surgical patients, particularly those with colorectal disease. The F1 doctor will participate in the on-call rota for general surgery.

Education

All F1 doctors participate in the teaching programme. In addition there is a Friday afternoon surgical teaching programme and a specialist MDM for transplant surgery.

FOUNDATION YEAR TWO

(Heart of England Foundation NHS Trust and University of Warwick)

1. Public Health Medicine (University of Warwick)- Prof Noel McCarthy

The aim of this post is to build on FY1 and to help trainees discover the exciting prospects of understanding research better and the importance of academic population- based medicine and the wider public health.

Academic Competencies

In this four month rotation we ensure that each trainee is able to:

- Undertake critical appraisal and literature review
- Become involved in practical population-based research
- Understand research study design and planning
- Understand data interpretation and presentation of results
- Understand the importance of research governance, good research practice and ethics

Training to achieve academic competencies

In posts in the University of Warwick academic public health trainees will:

- Attend one of a number of Master in Public Health course leading to a Postgraduate Diploma including: Understanding Research and Critical Appraisal, Epidemiology and Statistics, Issues in Public Health, Practise of Public Health
- Attend the local Health Protection Unit for a practical two weeks of “Epidemiology and Communicable Disease Control in action”
- Attend the local Primary Care Trust to understand practical public health and the role of research in informing this.
- Participate in a systematic review
- Participate in one or more additional research projects depending on interest. All senior members of the Health Sciences Research Institute have excellent publication records allowing provision of high quality supervision and the opportunity to achieve this aim.
- Improve and practice presentation skills
- Attend Wednesday afternoon postgraduate generic skills sessions provided by University of Birmingham Postgraduate School

Academic Supervision

During the academic module, trainees will receive academic and clinical mentorship through:

- A single senior clinical/educational supervisor who will also act as an academic tutor and mentor (consistent throughout the placement) who will guide the trainee’s programme.
- Professor Aileen Clarke is the senior clinical academic and experienced postgraduate teacher in charge of the programme. Aileen is a fellow of the Faculty of Public Health and also of the Higher Education Academy. She has more than 10 years of experience in teaching postgraduate public health and in public health research. Her main interests are in health services research particularly in decision making, e-health and decision support, and in the use of evidence in health policy.

Projects (examples)

- How effective are referral guidelines?
- Does the “Slimming World” programme work for young people?
- What proportion of published research is public health research?

- What are the issues involved in well-being for elderly people attending day hospitals?
- How can self-care be best supported in diabetes?
- Designing decision support for clinicians involved in head and neck cancer treatment.
- Developing referral guidelines: is there a role for patient preference
- How effective are parenting programmes and what are the issues in scaling up programmes?
- Early discharge in COPD care - what are the best outcomes measures?
- Can we measure the contribution of research to policy making in Europe?

Management and Mentoring

Each trainee will work closely with the clinical academic mentor. The Health Sciences Research Institute includes people training in academic public health at all levels including Clinical and non-clinical training fellows, Clinician Scientists and Senior Clinical Research Fellows. There are currently two lecturer posts and a number of senior lecturer posts. There is a clear structure for peer support, collaboration and liaison across the Institute.

Milestones Quality Assessment and Governance of the Programme

Milestones and assessment and appraisal are conducted in the normal way using the standard Health Education West Midlands electronic system. We believe in an empathetic, supportive and enabling environment in which self management of time in the achievement of competencies is encouraged. The programme is reviewed internally annually, and adapted in relation to feedback given after each set of placements.

Support Location and Infrastructure

The posts will be based at The Medical School in the University of Warwick. The infrastructure (offices and environment) and library and computing support facilities are excellent, friendly and welcoming.

2. General Practice – Heartlands area, Birmingham. Location allocated following appointment

3. Emergency Medicine

Prof Gavin Perkins and Dr Joyce Young– Heartlands, Birmingham

Consultant Educational Supervisors will be:

- Professor Matthew Cooke, Professor of Emergency Medicine
- Dr Ellen Jones, Consultant/ Senior Lecturer in Emergency Medicine

The posts will operate from the Emergency Department of Heartlands Hospital as well as from the Health Services Research Institute of Warwick Medical School on the Gibbett Hill Campus of Warwick University.

Duties

BHH has a purpose-built Emergency Department and sees approximately 90,000 patients per annum. The department has resuscitation facility of 5 beds, one of which is a paediatric facility. The department is separated into 2 areas, one for major injury and illness and the other for walking wounded and children, with 18 cubicles in total. There are trained Emergency Nurse Practitioners in the Department who can see, treat and discharge their own case load. The Department also benefits from Cardiac Triage nurses and a team of qualified children's nurses. In addition we have an 8 bedded clinical decision unit. There are 10 Emergency Medicine consultants in the department and a large middle grade tier including 5 registrars.

As an F2 in the emergency department you will work on a full shift system with the rest of the Emergency team to provide high quality care to patients arriving at our department. We see patients with a wide variety of clinical conditions including major and minor injury and illness, paediatrics and psychiatry. Most acute specialties are available on site and we work closely with them. You will work in all areas of the department, including the resuscitation room. Each day will bring different challenges and there will be ample opportunity to achieve competencies required for F2.

Your clinical learning will be supported by your educational supervisor. 24 hour middle grade cover on the shop floor and extended hours consultant presence provide excellent shop floor supervision, direct observation and case discussion. Your post will begin with clinical induction and continue with a programme of Emergency

Medicine teaching to help you provide good patient care and maximise learning from the job. You will also attend the local foundation programme teaching.

Research Opportunities

Trainees would be expected to work as part of a research team on existing projects or a selection of new projects, according to the particular interests of the trainee. It is envisaged that the trainee will undertake work that will lead to publication and presentations. There is a wide range of research being undertaken and the candidate could access the areas most applicable to their interests. These include pre-hospital emergency care, emergency critical care, resuscitation, soft tissue injury, organisation of emergency care and serious gaming in healthcare. The research is linked to both the Warwick clinical trials unit and the Centre for clinical systems improvement (a joint initiative of the NHS institute for Innovation and Improvement and Warwick University).

Education

The trainees will have tailored education in emergency care research as well as having access to relevant modules of the Masters in Applied Health sciences. The trainee will be expected to register and work for a Post

Graduate Award in 'research methodology and critical appraisal' at Warwick University. Research meetings at the hospital are held regularly in both critical care and emergency medicine.

All Foundation trainees will have a protected half day on Thursday afternoon to attend the Generic Skills teaching programme.

ROTATION 4

FOUNDATION YEAR ONE

(Heart of England Foundation NHS Trust)

1. Intensive Care Medicine

(Birmingham Heartlands Hospital)

You will work within an established and productive research group led by Professors Gavin Perkins, Fang Gao and Drs Yeung and Couper. The Academic Department of Anaesthesia, Critical Care, Pain and Resuscitation has a strong track record in translational science and health services research. Based within the MIDRU building at Heart of England NHS Foundation Trust the group have supported over 20 trainees to obtain higher degrees. The group have strong links with the Emergency Medicine Group led by Professor Matthew Cooke. Alongside your clinical training you will work with other senior members of the department for mentoring and support. The group support a range of clinical and translational studies into critical illness, peri-operative care.

Teaching

There are a range of tutorials covering a wide range of topics including airway management, blood transfusion, care of the critically ill, sepsis, ARDS, organ support, ethics and organ donation, thus ensuring that the students' learning needs are met during their attachment. The new Simulator Centre provides state-of-the-art peri-operative care, critical care and resuscitation training.

Clinical

You will join the multi-professional team comprising of consultants, advanced critical care practitioners, speciality trainees (two tiers), critical care outreach, nursing staff, dieticians, pharmacists and physiotherapists who deliver care to patients that develop a critical illness. You will play a full part in the assessment, resuscitation and on-going care of these patients with direct supervision / support from senior staff. You will be assigned a clinical supervisor from the consultant pool to support your clinical training during this post.

2. Vascular Surgery

Consultants: Mr Scriven/Mr Adam

The University Department of Vascular Surgery is at the vanguard of endovascular surgery in the region. The post holder will be provided with the opportunity to undertake one of a number of novel as well as on-going audit projects addressing topical issues in vascular and endovascular surgery. The post-holder will be given guidance in the preparation and writing of case reports, original articles and review articles.

3. General psychiatry

Consultant: Prof George Tadros

Working with Professor George Tadros you will join the liaison psychiatry team at Heartlands. The attachment will include the opportunity to work with the award winning Rapid Assessment, Interface and Discharge (RAID) unit and provide exposure to the full range of psychiatric presentations, their initial assessment review and discussion of cases, referral to appropriate services. The typical daily work involved a multi-disciplinary team meeting in morning, assessments, ward rounds and other clinical work for rest of morning and afternoon.

<http://www.rcpsych.ac.uk/pdf/The%20journey%20of%20RAID%20George%20Tadros.pdf>

FOUNDATION YEAR TWO

(Heart of England NHS Foundation Trust and University of Birmingham)

1. Academic Post

Academic Respiratory Medicine

Consultant: Dr Alice Turner

Join the largest respiratory department in the country which includes a specialist cystic fibrosis unit; sleep related conditions, occupational lung disease service, tertiary specialised severe and brittle asthma referral centre, respiratory physiology, bronchoscopy, specialist TB services.

Under the supervision of Dr Alice Turner (Senior Lecturer and Director of Research) you will be provided with opportunities to undertake a range of projects (laboratory and clinical) in any one of the varied departments. This includes possible projects with thoracic surgery.

2. Emergency Medicine (Birmingham Heartlands Hospital)

Consultant: Dr E Jones

BHH has a purpose-built Emergency Department and sees approximately 90,000 patients per annum. The department has resuscitation facility of 5 beds, one of which is a paediatric facility. The department is separated into 2 areas, one for major injury and illness and the other for walking wounded and children, with 18 cubicles in total. There are trained Emergency Nurse Practitioners in the Department who can see, treat and discharge their own case load. The Department also benefits from Cardiac Triage nurses and a team of qualified children's nurses. In addition we have an 8 bedded clinical decision unit. There are 10 Emergency Medicine consultants in the department and a large middle grade tier including 5 registrars.

As an F2 in the emergency department you will work on a full shift system with the rest of the Emergency team to provide high quality care to patients arriving at our department. We see patients with a wide variety of clinical

conditions including major and minor injury and illness, paediatrics and psychiatry. Most acute specialties are available on site and we work closely with them. You will work in all areas of the department, including the resuscitation room. Each day will bring different challenges and there will be ample opportunity to achieve competencies required for F2.

Your clinical learning will be supported by your educational supervisor. 24 hour middle grade cover on the shop floor and extended hours consultant presence provide excellent shop floor supervision, direct observation and case discussion. Your post will begin with clinical induction and continue with a programme of Emergency Medicine teaching to help you provide good patient care and maximise learning from the job. You will also attend the local foundation programme teaching. See the ED junior doctor handbook at <http://zxspooky.wix.com/ed-junior-handbook>

3. Acute Medicine (Birmingham Heartlands Hospital)
(<http://www.acutemedicinebhh.com>)
Consultants: Dr Chandrappa and Dr Chakravorty

On-calls for acute/general medicine are often some of the busiest shifts on a junior doctor's rotation; there is an average medical 'take' of 60-70 referrals per day at the Birmingham Heartlands site. Despite this intensity, on-calls can be a very rewarding and enjoyable clinical experience with exposure to a wide range of acutely unwell medical patients, high levels of Consultant supervision (during the day/evening) and ample opportunity for training and education.

The hub for general/acute medical on-calls at Birmingham Heartlands Hospital (BHH) is our Acute Medical Unit (AMU) on Ward 20. AMU is divided into 4 zones with 34 medical assessment beds (Zones 1, 2 and 4) and a 10-bedded chest pain assessment unit (CPAU in Zone 3). There is a central on-call doctor's office on AMU (between Zones 1 and 4). The Foundation Doctor will join the acute medicine team and be responsible (under supervision) for the initial assessment and clerking of acute admissions and on-going care of patients in the acute medical unit. All trainees at HEFT are provided with ALS training and opportunities to attend courses about the assessment of the deteriorating patient.

ROTATION 5

FOUNDATION YEAR ONE

(Sandwell and West Birmingham Hospitals NHS Trust at Sandwell and City Hospital)

This rotation will consist of:

1. 4 months Geriatric Medicine (Sandwell Hospital)
2. 4 months General Surgery (Sandwell Hospital)
3. 4 months Cardiology (City Hospital)

1. Geriatric Medicine – Sandwell

Duties

Normal working day 8-4 with 1:15 on call.

You will undertake general medical duties on the geriatric wards at Sandwell. There will be a close working relationship with social services and carers to manage social problems and enable safe discharge of patients. You will partake on the medical on call duties at Sandwell General Hospital.

Experience/Training

You will be attending weekly FY1 teaching and Grand Rounds. In addition there is a geriatric medicine team meeting once a week and twice weekly teaching ward rounds. You will gain experience in all aspects of medical care but in particular managing patients presenting with Stroke and TIA's along their pathway including thrombolysis/neuro-radiology and multidisciplinary input into complex cases. You will also gain experience in common geriatric conditions such as confusion (including assessing mental capacity), falls, orthogeriatrics and Parkinson's disease. You will become experienced in rehabilitation care and discharge planning. Due to the catchment area of SWBH you will learn how to deal with multicultural issues.

Partake in the medical on-call rota.

2. General Surgery - Sandwell

Duties

Normal working day 8-5 based at Sandwell General Hospital.

Ward covers duties with the opportunity to attend theatres and outpatient clinics.

Daily business ward rounds.

Partake in surgical on call rota at Sandwell.

Experience/Training:

You will have exposure to all aspects of general surgery including managing inflammatory bowel disease, bowel cancer, gallstone disease, diverticular disease, gastro-oesophageal reflux disease in addition to managing acute general surgical emergencies.

You will be attending the mandatory FY1 teaching sessions and Grand rounds. In addition there is regular weekly surgical teaching. You will be encouraged to attend weekly MDT meetings.

Partake in the surgery on-call rota.

3. Cardiology - City

The Cardiology Departments at City and Sandwell Hospitals are fully integrated and serve a 500,000 population - an area with a high SMR for cardiovascular disease, in which uptake of health care is less than optimal.

We perform a large range of outpatient cardiac investigations as well as providing a full range of elective and emergency cardiac care, although both cath labs and all inpatients are on the City site (with the exception of cardiac surgery and advanced electrophysiology).

This post is based on the City Hospital site where there are 12 consultant cardiologists, three Cardiology Higher specialist trainees, four clinical fellows, four F2/CT's and two F1s.

For acute medicine exposure you will be placed on either a 6 week or a 5 week placement block for acute medicine. This will ensure you have a wide range of exposure to all acute medical emergencies, get proficient in acute medical procedures, provide continuity of care and become part of the acute medicine team who will be responsible for teaching, training and supervision during that period.

There is a general medical commitment details of which are given below.

F1 Work Patterns:

You will work with us for four months in two blocks of 2 months. You will do a 2 month period on D5 (female) and 2 months on D7 (male). Each ward has both acute and less acute inpatients, some of whom will be in high level monitored beds. During this time, you will be allocated to Acute Medicine Duties in the Medical Admissions Unit, and will also be allocated some general medical ward cover. There will be opportunities to experience cardiac care in its widest sense by allocations to our specialist services (echo, pacing, angiography) including our heart failure and rehabilitation services.

All duties will be Monday to Friday, rostered at times between 7am and 7pm. Total hours to be worked as per national guidelines.

Job 1 and 2 - Duties D7/D5:

There is a consultant CCU ward round every morning at 8.30am. You will be responsible for the day to day care of all Cardiology patients on D7 in conjunction with the Cardiology F2 or ST1-2. And cardiology middle grade.

There is a 24 hour Primary Angioplasty service for patients with acute myocardial infarction – and you may be called to A&E to assist in processing these patients. You will also be called to A&E to see high risk coronary patients

with dynamic ECG changes. You should take an active interest in cardiac patients in the Critical Care Unit. You should take any opportunity you can to attend Cardiology Outpatients where you will be supernumerary – each patient you see should be discussed with the consultant – i.e. this is the Teaching Clinic for you.

Partake in the medical on-call rota.

Teaching

There will be a one hour consultant-lead teaching session each week for F1/F2/ST1-2 in addition to the Trust F1 programme.

FOUNDATION YEAR 2

(Sandwell and West Birmingham Hospitals NHS Trust at Sandwell and City Hospital)

This rotation will consist of:

1. 4 months academic education (Sandwell Hospital)
2. 4 months general practice
3. 4 months emergency medicine (Sandwell Hospital)

1. Academic Education - Sandwell

You will be working in conjunction with the Trusts CTF's (Clinical Teaching Fellows) and be supervised by the Head of Academy.

Duties

To work alongside the Clinical Teaching Fellows (CTFs) in preparing and delivering the Undergraduate Education Programme to 3rd and 5th year medical students. It will comprise a mixture of working with small groups, bedside teaching and working in simulated clinical teaching sessions. In addition you will be providing mentorship of year 5 group on AIP.

There is no on call during this placement.

Experience/Training

You will receive formal feedback on teaching methods and gain valuable experience in delivery of all formats of medical education. You will also have protected time to attend the FY2 teaching programme.

2. General Practice

Inner City GP practice demonstrating multiple pathologies and challenges to healthcare management in an ethnically diverse population. Location allocated following appointment.

Duties

General duties are as set in the foundation guidance from HEWM (See website).

Experience/Training

The Trainee will gain experience in identifying emergencies and responding appropriately; health promotion and notifiable diseases; ethical and medico-legal issues; Sexual health; palliative care; mental health and principle of new models of care. You will gain experience in minor surgical procedures and be exposed to specialist clinics such as diabetes and asthma.

You will be given protected time to attend FY2 teaching in addition to regular practice tutorials, video consultations and debrief, exposure to other health care providers, audit etc.

3. Emergency Medicine - Sandwell

You will be supervised by one of the ED consultants

Duties

You will be working on a shift pattern and allocated to one of the following areas:

Minors (walking wounded), Majors (Significantly unwell patients requiring more immediate attention), Resus (life threatening conditions) or Paediatrics.

You will be working under the immediate supervision of a consultant or experienced middle grade.

Experience/Training

You will become experienced in the immediate management of all types of medical emergencies – Trauma (level 2 trauma unit); cardiac; respiratory; abdominal; surgical and mental health in adults and paediatrics.

In addition you will get experience in practical procedures such as suturing; chest drains; field blocks; fracture manipulation and US use. You will have protected time to attend the FY2 teaching. In addition there is weekly departmental teaching.

ROTATION 6

FOUNDATION YEAR ONE

(Sandwell and West Birmingham Hospitals NHS Trust at Sandwell and City Hospital)

This rotation will consist of:

1. 4 months Anaesthetics (City Hospital)
2. 4 months Respiratory Medicine (City Hospital)
3. 4 months Trauma and Orthopaedics (Sandwell Hospital)

1. Anaesthetics - City

Duties

You will partake in the anaesthetic and ITU rotas at City and Sandwell Hospitals.

The post will be split to do 2 month in anaesthetics and 2 months in ICM. During this time you will be working under the immediate supervision of a consultant anaesthetist.

FY1's will be expected to provide Case presentations and management plans on wards, Intensive Care and Pain Management placement. The trainee will be proficient in history taking and preoperative preparation of patients for elective surgical lists. You will take part in the medical on call rota.

Experience/Training

You will gain experience in preoperative assessment and delivery of anaesthetics in anaesthesia for elective General Surgery, Plastics Surgery, Gynaecology, Orthopaedics, ENT, Urology, Vascular Surgery and Day case surgery.

You will partake in acute rounds and chronic pain clinics.

You will gain experience in practical procedure such as delivery of anaesthesia; regional nerve blocks; invasive monitoring techniques such as 'A' lines and CVP lines; airway management techniques; methods of ventilations and pain management techniques.

In addition you will have protected time to attend the FY2 teaching, weekly anaesthetic and ICM teaching; pain study day and QIHD meetings.

Partake in the medical on-call rota.

2. Respiratory Medicine - City

Duties

You will undertake general medical duties on the respiratory wards at City Hospital. There will be a close working relationship with social services and carers to manage social problems and enable safe discharge of patients. You will partake on the medical on call duties at City Hospital.

Experience/Training

You will be attending weekly FY1 teaching and Grand rounds. In addition there is a respiratory team meeting once a week, twice weekly teaching ward rounds and weekly respiratory radiological meetings. You will gain experience in all aspects of medical care but in particular managing patients presenting with Pneumonia; Asthma; COPD; Pleural disease; Respiratory failure; NIV / CPAP; Pulmonary fibrosis; TB; Sleep Apnoea and lung cancer.

You will gain experience in practical procedure such as Pleural taps; Chest drains; Mantoux testing and pneumothorax aspiration.

Due to the catchment area of SWBH you will learn how to deal with multicultural issues.

Partake in the medical on-call rota.

3. Trauma and Orthopaedic Surgery - Sandwell**Duties**

You will be part of the T&O team based at Sandwell General Hospital looking after both elective inpatients and emergency trauma patients. You will provide pre and post-operative care for the T&O patients including preoperative assessments.

You will partake on the T&O and general surgical on call rota.

Experience/Training

You will attend the weekly FY1 teaching at Sandwell Hospital
In addition there are daily trauma meetings and a weekly T&O tutorial. You will gain experience in managing acute polytrauma; Common fractures; Fracture neck of femur patients and their comorbidities and paediatric fractures. You will gain experience in practical procedures such as joint aspiration; fracture manipulation and plastering techniques. You will have the opportunity to attend clinic and theatre.

FOUNDATION YEAR 2

(Sandwell and West Birmingham Hospitals NHS Trust at Sandwell and City Hospital)

This rotation will consist of:

1. 4 months General Practice (Academic Leadership)
2. 4 months General Surgery – City and Sandwell
3. 4 months Ophthalmology – City

1. General Practice (Academic Leadership) – Location allocated following appointment.

You will be allocated to a GP practice with a specific interest in leadership training.

Effective management and leadership skills are essential to the future development of healthcare. They are of great value in the delivery of effective health care. This innovative post will provide a rare opportunity for doctors interested in the possibility of following a career in medicine with a strong management role to develop management and leadership skills at an early stage. It is intended to give both an insight into and experience of the generic qualities and skills required for effective leadership and changing practice. The leadership skill development will be supported by the [Health Services Management Centre](#) at the University of Birmingham, alongside one of the primary care physicians interested in leadership. 50% of the time spent in the GP organisation will be dedicated to leading a project to implement change, this will be part of a larger project that all academic foundation doctors rotating through the GP organisation will be involved with.

Experience/Training

You will have protected time for the FY2 teaching programme.

You will have regular meetings with the academic assigned to your project from the Health Services Management School who will provide formal feedback on your leadership skills

Duties

You will participate in a leadership project identified by the practice to improve clinical care. You will be expected to work with the foundation doctor before and after your attachment to effectively manage this project alongside your supervisory team.

2. General Surgery – City and Sandwell

This is a very practical placement to enable the trainee to get experience in basic surgery procedures.

Duties

Normal working day 8-4 based at Sandwell General Hospital.

Ward cover duties with the opportunity to attend theatres and outpatient clinics.

Daily business ward rounds.

Partake in Pre admission clinics.

Partake in surgical on call rota at Sandwell.

Experience/Training

You will have exposure to all aspects of general surgery including managing inflammatory bowel disease, bowel cancer, gallstone disease, diverticular

disease, gastro-oesophageal reflux disease in addition to managing acute general surgical emergencies.

You will be attending the mandatory FY2 teaching sessions and Grand rounds. In addition there is regular weekly surgical teaching. You will be encouraged to attend weekly MDT meetings.

Partake in the surgical on-call rota.

3. Ophthalmology

Duties

General ward duties covering Ophthalmic in patients.
Attendance at Clinics; Theatres and casualty.

Experience/Training

Attendance at weekly FY2 teaching and Ophthalmic teaching. Gain experience in treating Gradual / Chronic painless loss of vision; sudden visual loss; Red Eye; Ocular trauma; Paediatric eye care. Gain experience in procedures such as slit lamp biomicroscopy; dilated fundoscopy; surgical treatment of lid cysts; Visual assessment; orthoptic assessment and Fluorescein Angiography.

Not on Medical rota

ROTATION 7

FOUNDATION YEAR ONE

(University Hospitals Birmingham Foundation NHS Trust)

This rotation will consist of:

1. 4 months **endocrinology and diabetes mellitus** under the supervision of Dr Niki Karavitaki and Prof Wiebke Arlt.
2. 4 months **general “internal” medicine/ respiratory medicine** under the supervision of Dr Gompertz,
3. 4 months **academic general surgery** under the supervision of Professor Derek Alderson.

Endocrinology and Diabetes Mellitus

Aims and Competencies

The aim of this post is to introduce the candidate to academic medicine to help them decide if this is a suitable longer-term career choice.

Opportunities to support and expand research and clinical interests will be offered through:

- involvement in a project (clinical or laboratory based) in the field of endocrinology, diabetes and metabolism supervised by IMSR researchers - the usual arrangement is for 1 academic day, no ward duty, once a week
- development of research skills (critical review of literature, data analysis, writing and presentation skills, undertaking Good Clinical Practice training)
- opportunities to write up a review or a challenging case report
- support to attend and present in national endocrine and diabetes meetings
- active involvement in teaching of medical students
- further educational and training opportunities (IMSR Friday seminars, weekly Diabetes clinical meetings, weekly Endocrine clinical cases meetings, Endocrine and Diabetes – general and specialty – clinics, Pituitary and Adrenal MDT meetings)

Academic environment

This is based at the Institute of Metabolism and Systems Research (IMSR) in the University of Birmingham

(<http://www.birmingham.ac.uk/research/activity/metabolism-systems/index.aspx>) IMSR comprises a multi-disciplinary research environment focusing on highly innovative translational research in collaboration between clinician scientists, clinical trialists, molecular and cell biologists, biochemists, mass spectrometrists, exercise biologists and computational scientists. IMSR researchers explore pathophysiological mechanisms, as well as novel approaches to prognosis, diagnosis and treatment in metabolic, endocrine and reproductive diseases. There are four major research areas:

- Metabolism and metabolic disease (cell metabolism, steroid metabolism, energy metabolism, exercise, nutrition, obesity and diabetes and their systemic consequences)
- Hormones and Reproduction (fertility, the developing fetus, early miscarriage and other complications of pregnancy, maternal health, newborn health)
- Hormones, Immunity and Inflammation (steroid hormone metabolism and action in antibacterial response, immunomodulation, and inflammatory diseases)
- Hormones, Metabolism and Cancer (hormonal regulation of tumorigenesis, cancer metabolism, hormone-producing and hormone-dependent cancers)

Details on the 35 principal investigators and their work in the IMSR can be found in <http://www.birmingham.ac.uk/research/activity/metabolism-systems/staff/pis.aspx> has not only an internationally leading track record in research, but also an impressive track record in training young academics. It offers clinical academic training at all levels including Academic Foundation Year Programme, Academic Clinical Fellowships and Academic Clinical Lecturers, which ensures an integrated, uninterrupted career progression for young academics. It is amongst the top scoring groups nationally in achieving success in obtaining Research Council and Charity funded Clinical Research Training Fellowships, Clinician Scientist Fellowships and Senior Clinical Fellowships.

It is envisaged that the post holder will divide the 4-month block so as to optimise their clinical training and research exposure. The post holder will be allocated a mentor over their time in this rotation to ensure they gain maximum benefit from their time with us.

Acute and general medicine

The Foundation Year 1 trainee will:

- Provide care to general medical inpatients as part of a comprehensive medical team. Regular SpR/ST and consultant led ward rounds will be held.
- Learn how to assess and manage adults with undifferentiated illness presenting to the Clinical Decision Unit.
- Be encouraged to attend general medical outpatient clinics.
- Have opportunities to teach final year medical students.

Academic Surgery

In the academic surgery post, the post holder will gain an insight into academic surgery in a unit with a major interest in oesophageal and gastric disease as well as a commitment to emergency general surgery. In parallel with the programme offered in diabetes and endocrinology, the post holder will receive first specific instruction in:

- Critical appraisal of the surgical literature.
- The development of writing skills.
- Participation in an ongoing audit project using the above skills

The general medicine and surgery components of this rotation will cover the GMC requirements for F1 training and the foundation programme curriculum.

FOUNDATION YEAR 2

(Sandwell and West Birmingham Hospitals NHS Trust at City Hospital and University of Birmingham)

This rotation will consist of:

1. 4 months Academic Rheumatology (Prof Chris Buckley/ Prof Caroline Gordon /Prof Karim Raza)
2. 4 months general practice (Location allocated following appointment)
3. 4 months general medicine/Cardiology (Dr Derek Connolly)

1. Academic Rheumatology

The aim of this post is to build on the developments and strengths in the Y1 post and help trainees make a firm decision to commit to a career in a clinical academic field.

Academic Competencies

Formal assessment of the well-defined competencies has been one of the fundamental developments of the Foundation Programme. Four key academic competencies are taught in all Birmingham academic F2 rotations.

- Critical appraisal and literature review
- Research governance, good clinical practice and ethics
- Research study design and planning
- Data interpretation and presentation of results

Training to achieve academic competencies

In posts in Birmingham trainees will have the opportunity

- Attend postgraduate research generic skills training provided by University of Birmingham Postgraduate School
- Attend Evidence Based Medicine training within Wellcome Trust Clinical Research Facility (CRF) at University Hospital Birmingham Foundation Trust
- Complete a clinical audit
- Either [1] develop a research project: either clinical or laboratory or [2] complete a written review article
- Improve their presentation skills

Clinical Competencies

The expectation is that most of the main F2 clinical competencies would be achieved in the two “non-academic” placements. However, there is ample opportunity to gain competencies in this 4 month rotation with both out-patient and in-patient work in Rheumatology.

Academic Supervision

During the academic module, trainees will receive academic and clinical mentorship from one of the academic team (Professor Buckley, Professor Gordon, and Professor Raza).

The People

- Chris Buckley: Professor of Translational Rheumatology
- Caroline Gordon: Professor in Rheumatology
- Karim Raza: Arthritis Research UK Professor of Rheumatology
- Francesca Barone, Reader in Rheumatology & Arthritis Research UK Senior Fellow
- Catherine McGrath: Clinical Lecturer
- Deva Situnayake: Consultant Rheumatologist
- David Carruthers: Consultant Rheumatologist
- Rao Elamanchi: Consultant Rheumatologist
- Karl Grindulis: Consultant Rheumatologist
- Fazal Kattak: Consultant Rheumatologist
- Sofia Tosounidou: Consultant Rheumatologist
- Athiveeraramapandian Prabu: Consultant Rheumatologist
- Priyanka Chandratre: Consultant Rheumatologist
- Sangeetha Baskar: Consultant Rheumatologist

Background

Academic environment

Academic Rheumatology in Birmingham is ideally placed to act as a focus for translational clinical research, where a clear understanding of how immune cells behave in inflamed microenvironments is likely to be of critical importance for future translational medicine.

The academic Department of Rheumatology has focused on collaborative interactions along lines of common interests. This has provided a clear focus on important biological questions that cross traditional disciplines and often require long-term commitment and investment. We have a longstanding commitment to designing clinically relevant questions that can be addressed scientifically and then applied therapeutically. This academic programme is only one of a very few fully integrated academic training programmes in the West Midlands and offers the potential for seamless transition between academic Foundation Y1 and Y2 posts, an academic clinical training fellowship (ACF) in Rheumatology (based at UHB and SWBH Trust) and two Clinical

Lecturerships in Rheumatology, one based at SWBH NHS Trust and one at UHB NHS Trust

Academic environment

We run a substantial research group comprising over 30 research scientists and clinicians. Our research focuses on why inflammation persists and this model has become an internationally accepted paradigm for rheumatoid pathology. Our basic science studies have proved critically important in driving the clinical models that we investigate. Our clinical research is focussed on SLE, very early rheumatoid arthritis. This research portfolio has both independent and interdependent strands allowing for focussed and consistent research output that is central to a strong and vibrant academic environment. We have a good track record of industrial collaborations addressing key clinical scientific questions. A key attraction of Birmingham is its co-ordinated approach to studying how cells behave within stromal microenvironments and a clear link from science to well validated clinically relevant targets.

Clinical environment

Rheumatologists in Birmingham have an outstanding opportunity to develop a unique platform for clinical research. A tradition and culture of collaboration exists, sharing both clinical experiences and participating in ongoing audit and education within the West Midlands (see Rheumatology (2002) 41:1021 and 2003 42:856). There are excellent links between the West Midlands Rheumatology Services and Training Committee (WMRSTC), Post Graduate Health Education, and the University. The patient base in the West Midlands provides enormous opportunity, but requires a co-ordinated academic forum to achieve its potential. The Academic Clinical Unit is based at Sandwell and West Birmingham Hospital Trust but Dr Andrew Filer and Ben Fisher have been appointed as Senior Lecturers in Rheumatology at UHB NHS Foundation Trust. The main portfolio of Clinical Research at City Hospital is in early Inflammatory arthritis, SLE and vasculitis.

Management and Mentoring

Each trainee will be assigned an academic mentor (from among Buckley, Gordon, Raza). The Educational Supervisor will either be the Rheumatology academic mentor or a clinical supervisor from Cardiology/General practice (depending on which placement the trainee starts in). The academic department of Rheumatology has consistently attracted **Arthritis Research UK**, MRC, BHF and Wellcome trust funding for Clinical Training, Clinician Scientist and Senior Clinical Fellows in the last decade. The posts will join two other posts (standard SpR and ST1 post) (and an academic F1 post) based at City Hospital so there will be peer support and critical mass. There is explicit support from NHS, University and Post Graduate Health Education for this post and its future development. We have successfully used this approach to guide and develop SpRs who rotate through our unit to obtain training fellowships leading to PhDs or MDs. We are very keen to encourage trainees to develop an understanding of the bottlenecks in translational medicine (see "Lost in Translation" J Exp Med Nov 2005).

Support, Location and Infrastructure

The Y1 and Y2 posts will be based at City Hospital (SWBH Trust) and the trainee employed by the Trust. There is an excellent teaching programme (Gordon and Carruthers run programmes in Undergraduate and post graduate teaching) and innovative approaches to NHS/academic partnerships through strong links with GPs and PCTs for research in our early arthritis and SLE. Trainees will therefore be exposed to a wide variety of international quality basic science, clinical and educational environments.

We have a very strong track record in academic FY1 and FY2 trainees producing work which has been presented at local, national and international meetings and which has resulted in publications in high quality peer reviewed journals.

Timetable

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	MDT meeting (M8) and Ward Round	Early Arthritis clinic Dr Raza	Research	SLE Clinic Prof Gordon	Research
	Lunchtime weekly grand round (City)				
PM	Alternate weeks X-Ray meeting	Generic Y2 Academic Teaching WTCRF	Guest Speaker meeting, Lectures, Audit, Governance, F2 Teaching	Research	Research

ACADEMIC F2 GENERAL MEDICAL ON CALL ROTA

Whilst in Rheumatology, you will spend 3 weeks doing 4 hours a day in AMU. You will also work on the Medical Infusion Suiw (MIS)/ see in patient referrals and have an option to attend outpatient clinics as well as undertake academic work.

2. General Practice - Location allocated following appointment

Inner City General Practice is a distinct speciality within the sphere of Family Practice as a whole. Many inner city practices have one or two areas that can be defined as almost suburban, for example, parts of Handsworth Wood, but generally speaking the problems encountered are quite specific. For example, relatively fewer 'nuclear families' exist, the unmarried or single parent being more commonly found.

A wide variety of ethnicities and religious beliefs exist in relative harmony, but bring their own problems too. Many patients from the Indian subcontinent speak little or no English, and require interpreter services. More recently, large numbers of political asylum seekers from Eastern Europe, Asia and Africa have placed additional demands on the typical inner city practitioner. Our practice currently reflects a population of approximately 30% Indo-Asian, 30% Afro-Caribbean, 30% Caucasian, and 10% other, including 5% constituting asylum seekers of various nationalities.

The inner city sees more drug-associated problems, and the demands on Social Services are also higher. Large numbers of patients with Afro-Caribbean and Asian backgrounds lead to a greater incidence of diabetes and associated complications such as ischaemic heart disease, stroke, blindness and kidney problems.

The four months spent in General Practice as an F2 as part of the academic rotation will expose you to the variety of medicine and our aim is to give you a solid grounding in all aspects of medicine, in order to complement the academic speciality of the rotation. In addition you will take part in our community Rheumatology clinic as part of the Vitality Practice attending clinics run by Professor Buckley and Dr Chandratre on Tuesday afternoons. Through the daily practice of seeing patients in consultations, home visits and the variety of clinics offered in the practice educational opportunities will occur.

You will be part of a team of a large inner city teaching practice that is involved in training of medical students, GP registrars, nurses and other healthcare workers. A daily supervision schedule is used so that F2 doctors can learn on the job.

Educational Opportunities
<ul style="list-style-type: none"> • F2 teaching • Consultations • Sitting in with practice nurse, pharmacist, practice manager, admin staff • Case discussion with other clinicians at Practice • Video consultation and discussion • Time management of patient consultations • Practice-based audit
Additional Specific Conditions
<ul style="list-style-type: none"> • Identifying emergencies and responding appropriately after discussion with trainer • Health promotional issues and notifiable diseases • Meningitis pack and protocols • Ethical and medico-legal issues including consent, under 16 contraception, child protection issues etc. • Prescribing issues in Practice
Additional Procedures
<ul style="list-style-type: none"> • Minor surgical procedures- observing and assisting • Diabetic clinics • Emergency drugs and instrument handling • Infection control including understanding of autoclave of instruments • Prof Buckley and Dr Chandratre run a community based Rheumatology clinic at HWMC on Tuesday afternoon. The Academic F2 doctor based in General Practice will attend that clinic whenever possible.
Notes
<ul style="list-style-type: none"> • Importance of team working and probity

There is no on call during this placement

3. General “Internal” Medicine and Cardiology

The Cardiology Departments at City and Sandwell Hospitals are fully integrated and serve a 500,000 population - an area with a high SMR for cardiovascular disease, in which uptake of health care is less than optimal.

We perform a large range of outpatient cardiac investigations as well as providing a full range of elective and emergency cardiac care, although both cath labs and all inpatients are on the city site (with the exception of cardiac surgery and advanced electrophysiology).

This post is based on the City Hospital site where there are 12 consultant cardiologists, three Cardiology SpRs, four clinical fellows, four F2/CT's and two F1s.

F2 Work Patterns

You will work with us for four calendar month blocks. The General Medical Rota commitments of your four ST1-2 colleagues mean that one of them may be absent for all or part of at least one day a week doing general medical 'on-take' duties etc. As the F2 you will have two weeks of 11-7 shifts on MAU, for your acute medicine experience. There are four 'jobs' – three split and one job as cardiology Cover junior see below (NB the F1 post is supernumerary). There is no outpatient commitment although you are encouraged to attend when possible for educational purposes. You will spend approximately one month doing each job, but this depends on annual leave and on call commitments of your other team members.

ST1-2 and F2 Work Patterns

You will work with us for four months in four calendar month blocks. The General Medical Rota commitments of your three ST1-2 colleagues mean that one of them may be absent for all or part of at least one day a week doing general medical 'on-take' duties etc. There are four 'jobs' - three split geographically and one job as cardiology Cover SHO – see below (NB a new F1 post is supernumary). There is no outpatient commitment although you are encouraged to attend when possible for educational purposes.

Job 1 and 2 ACS Female (ward D5) and ACS Male (Ward D7)

Start Time: 08:30am. This post is responsible for the day to day care of all patients on ACS Female or ACS Male. An important part of your job is to ensure rapid patient turnover, as there is great pressure on these beds.

A consultant ward round occurs every morning starting at 8.30am on ACS D5 (starting with a board round of all cardiology inpatients) – we run a 'consultant of the week' (COW) system. The consultant will see all patients although they may start on ward D5 and the middle grade start on ward D7. Elective admissions for procedures will be reviewed by the operating consultant and are admitted to the Medical Day Case Unit or the single sex wards, depending on bed availability. That consultant will be available 8.30 – 5pm if you have any problems during the day and a registrar is also available for advice. You will lead the 8.30am round and should handover to the 11-7 junior before 4.30pm (if on duty).

There are no outpatient commitments.

You should leave the hospital by 4.30pm each day.

Job 3 – Post 11am – 7pm

Start time 11.00 am. This post is to ensure adequate cover for the patients going to the cath lab later in the day, and to provide an opportunity for relative consultation during evening visiting. This post will also be responsible for the paperwork on the day case unit in the afternoon. Handover of the relevant patients/jobs on ACS should occur at 4pm allowing the early team to go on time.

There are no outpatient commitments.
You should leave the hospital by 7pm each day.

Job 4- Duties COVER this post is the first cover for anyone who is – be it on leave, or on general medical take, pre and post nights etc. Start and finish times will then be as for that post. If you take annual leave during this part of the job it is your responsibility to work out the F2/CT's timetable for the period of your leave and discuss it with Dr Millane in advance.

When you are in the hospital and there are 3 F2/CT's you should help your colleagues on ACS starting at 8.30am. You should take any opportunity you can to attend Cardiology Outpatients where you will be supernumerary – each patient you see should be discussed with the consultant – i.e. this is Teaching Clinic for you. You should leave the hospital by 4.30pm each day.

PROTECTED TIME TO ATTEND F2 TEACHING

The F2 will be expected to attend the F2 teaching afternoon at either Sandwell and West Birmingham Hospitals or Queen Elizabeth Hospital.

MENTORING – CLINICAL SUPERVISORS

The F2 post is mentored by Dr Connolly whilst in Cardiology.

DAY	TIME	MEETING	VENUE
Monday	13.00 – 14.00	Grand Round	Post Grad Centre
Tuesday	13.00 -13.45	Arrhythmia MDT	Cath lab Conference room
Wednesday (except 1 st Wed – closed academic meeting)	13.00 – 14.00	Department Meeting Clinical and Research <i>Lunch provided</i>	Conference Room, Ascot Building
1 st Wednesday	13.00 – 14.00	Clinical Meeting for juniors (Dr Varma)	Post graduate Centre
Thursday	12.30 – 13.15	Imaging MDT	Cath lab Conference Room
	14.00-16.00	Junior doctor teaching Dr Khan	Ward D5
Friday	12.30-14.00	Angioplasty/Surgical MDT meeting	Cath lab Conference Room

You will partake in the medical on-call rota.

ROTATION 8

FOUNDATION YEAR ONE

(Sandwell and West Birmingham Hospitals NHS Trust at City Hospital)

This rotation will consist of:

1. 4 months academic rheumatology (Prof Buckley/Prof C Gordon/Prof Raza)
2. 4 months acute medicine and cardiology (Dr J Khan)
3. 4 months General surgery

1. Rheumatology

The aim is to give the post holder a taste for academic rheumatology to see if academic medicine and/or rheumatology would be a career possibility for the future. The rheumatology unit has a long track record and interest in successfully training medical students and junior doctors at all levels. In addition, the academic team includes a Lecturer, Senior Clinical Lecturers, Clinical Professor and Arthritis Research UK Professor. The academic unit is recognised nationally and internationally for its clinical and laboratory based research interests in inflammatory arthritis, lupus and vasculitis.

A key focus of the Rheumatology Research Group is to define those factors involved in the triggering and perpetuation of chronic inflammatory rheumatic diseases such as rheumatoid arthritis. The aim is to understand the aetiopathogenesis of these diseases with the goal of identifying targets for more effective therapy. There is also considerable interest in the related systemic connective tissue diseases, particularly systemic lupus erythematosus, where particular strengths are in epidemiology and the management of complex disease. The research in Rheumatology combines clinical and non clinical scientists in an integrated programme. We particularly encourage clinicians in training to pursue research in depth leading to a PhD, taking advantage of the extensive links with the basic sciences departments within the Medical School and the wider University.

A holistic approach to patient management and training doctors in rheumatology and medicine is taken, as patients with inflammatory arthritis often present with, and are at risk of developing, co-morbid conditions, often related to their underlying inflammatory disease. In particular, the post-holder will be encouraged to assess the evidence base for medical practice, taught how to critically evaluate papers and introduced to the concepts involved in designing good clinical studies (outcome studies and trials). The trainee will develop a research project/ audit or review article and presentation skills. They will also be involved in clinical work including in-patients and out-patients, with particular emphasis on patients with inflammatory rheumatic diseases and the research into these diseases that the unit undertakes.

The general medicine and surgery components of this rotation will cover the GMC requirements for F1 training and the foundation programme curriculum.

All F1s at City Hospital take part in the management of acute medical and surgical admissions. Please see details in Rotation 7 for more information on the Academic Department of Rheumatology.

There will be a 6 week AMU block doing acute medicine. You will also work on the Medical Intensive Suite (MIS)/ see inpatient referrals and have an option to attend outpatient clinics as well as undertake academic work.

Timetable

	Monday	Tuesday	Wednesday	Thursday	Friday
AM	MDT meeting (M8) and Ward Round	Ward work or <u>cover for Y2</u> Early Arthritis clinic Prof Raza	Ward work or <u>cover for Y2</u>	Ward Round with Registrar <u>cover for Y2</u> in SLE clinic Prof Gordon	Ward work or Research
	Lunchtime weekly grand round (City)	Generic Y1 Teaching			
PM	Ward work Alternate weeks X-Ray meeting	Ward work	Guest Speaker meeting, Lectures, Audit, Governance: University/City/ Selly Oak	Ward work or Research	Ward work or Research

You will partake in the medical on-call rota.

2. Cardiology and Acute Medicine

The Cardiology Departments at City and Sandwell Hospitals are fully integrated and serve a 500,000 population - an area with a high SMR for cardiovascular disease, in which uptake of health care is less than optimal.

We perform a large range of outpatient cardiac investigations as well as providing a full range of elective and emergency cardiac care, although both cath labs and all inpatients are on the city site (with the exception of cardiac surgery and advanced electrophysiology).

This post is based on the City Hospital site where there are 12 consultant cardiologists, three Cardiology SpRs, four clinical fellows, four F2/CT's and two F1s.

There is a general medical commitment details of which are given below.

F1 Work Patterns

You will work with us for four months in two blocks of 2 months. You will do a 2 month period on D5 (female) and 2 months on D7 (male). Each ward has both acute and less acute inpatients, some of whom will be in high level monitored beds. During this time, you will be allocated to Acute Medicine Duties in the Medical Admissions Unit, and will also be allocated some general medical ward

cover. There will be opportunities to experience cardiac care in its widest sense by allocations to our specialist services (echo, pacing, angiography) including our heart failure and rehabilitation services.

All duties will be Monday to Friday, rostered at times between 7am and 7pm. Total hours to be worked as per national guidelines.

Job 1 and 2 - Duties D7/D5

There is a consultant CCU ward round every morning at 8.30am. You will be responsible for the day to day care of all Cardiology patients on D7 in conjunction with the Cardiology F2 or ST1-2. And cardiology middle grade.

There is a 24 hour Primary Angioplasty service for patients with acute myocardial infarction – and you may be called to A&E to assist in processing these patients. You will also be called to A&E to see high risk coronary patients with dynamic ECG changes. You should take an active interest in cardiac patients in the Critical Care Unit. You should take any opportunity you can to attend Cardiology Outpatients where you will be supernumerary – each patient you see should be discussed with the consultant – i.e. this is the Teaching Clinic for you.

Duties in Acute Medicine

You will be allocated to the Medical Admissions Unit (Dr Clare/ Dr Lee – Acute medicine physicians) for approximately one day a week to experience the care of unselected acute medical admissions. Additionally, general medical conditions are very common in cardiac patients, and you will learn to appreciate the particular challenges involved in managing these complex patients. You will be required from time to time, to provide ward cover to other general medical wards under supervision.

You will partake in the medical on-call rota.

Teaching

There will be a one hour consultant-lead teaching session each week for F1/F2/ST1-2 in addition to the Trust F1 programme.

Mentoring – Clinical Supervisor

The F1 post is mentored by Dr Jawad Khan whilst in Cardiology.

DAY	TIME	MEETING	VENUE
Monday	13.00 – 14.00	Grand Round	Post Grad Centre
Tuesday	13.00 -13.45	Arrhythmia MDT	Cath lab Conference room
Wednesday (except 1 st Wed – closed academic meeting)	13.00 – 14.00	Department Meeting Clinical and Research <i>Lunch provided</i>	Conference Room, Ascot Building
1 st Wednesday	13.00 – 14.00	Clinical Meeting for juniors (Dr Varma)	Post graduate Centre
Thursday	12.30 – 13.15	Imaging MDT	Cath lab Conference Room

	14.00-16.00	Junior doctor teaching Dr Khan	Ward D5
Friday	12.30-14.00	Angioplasty/Surgical MDT meeting	Cath lab Conference Room

3. General Surgery

Duties

Normal working day 8-5 based at Sandwell General Hospital.

Ward covers duties with the opportunity to attend theatres and outpatient clinics.

Daily business ward rounds.

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Partake in surgical on call rota.

Experience/Training:

You will have exposure to all aspects of general surgery including managing inflammatory bowel disease, bowel cancer, gallstone disease, diverticular disease, gastro-oesophageal reflux disease in addition to managing acute general surgical emergencies.

You will be attending the mandatory FY1 teaching sessions and Grand rounds. In addition there is regular weekly surgical teaching. You will be encouraged to attend weekly MDT meetings.

You will partake on the SWBH surgical on call rota.

FOUNDATION YEAR TWO

(University Hospitals Birmingham Foundation NHS Trust & Birmingham Children's Hospital Foundation NHS Trust)

This rotation will consist of:

1. 4 months academic post with renal medicine (Dr Morgan)
2. 4 months paediatrics (Dr I Wacogne)
3. 4 months general practice (GP practice allocated prior to start of post)

1. Academic Post Consultant: Dr Morgan

Duties

It is envisaged that most clinical competencies will be obtained on the two "non-academic" posts. However, trainees will spend approximately 1 of the 4 months undertaking clinical duties on the renal ward. The approach to this is flexible and will be adapted to the research project(s) being undertaken. Trainees will have the opportunity to play an integral part in the research vasculitis clinic at the NIHR/Wellcome Trust CRF.

Education

Academic Competencies

Formal assessment of the well-defined competencies has been one of the fundamental developments of the Foundation Programme. Four key academic competencies are taught in all Birmingham academic F2 rotations.

- Critical appraisal and literature review
- Research governance, good clinical practice and ethics
- Research study design and planning
- Data interpretation and presentation of results

Training to achieve academic competencies

In posts in Birmingham trainees will have the opportunity to

- Attend postgraduate research generic skills lectures provided by University of Birmingham Postgraduate School
- Attend Evidence Based Medicine training within Wellcome Trust Clinical Research Facility (CRF) at University Hospital Birmingham Foundation Trust
- Complete a clinical audit
- Develop a clinical or laboratory based research project. All three academic units have excellent publication records allowing provision of high quality supervision and opportunity to achieve this aim.
- Complete a written review article
- Improve their presentation skills

Research Opportunities

Nephrology is considered among the most academic of medical specialties and the academic renal unit at UHB/University of Birmingham engages in a wide range of clinical and laboratory-based research interests. The emphasis is on direct translation of scientific discoveries from laboratory to the clinic:

- Prof **Lorraine Harper** leads a laboratory that has international prestige in the arena of ANCA-associated vasculitis. Work in this laboratory ranges from *in vitro* studies examining the effect of ANCA on neutrophils, through flow chamber studies mimicking the state of physiological flow experienced in blood vessels, to *in vivo* studies investigating the role of ANCA in animal models of vasculitis. The latter make use of the powerful technique of intravital microscopy, which enable visualisation of microvascular events in real time. The laboratory is based in the 5* Division of Immunity and Infection and is part of the MRC centre for immune regulation based at the Institute of Biomedical Research. It has explicit translational medicine links with the Wellcome Trust CRF, where a number of interventional therapeutic studies are being undertaken.
- The work in Prof Harper's laboratory complements that in the laboratories of Dr **Paul Cockwell** and Dr **Simon Ball** in the School of Immunity and Infection at University of Birmingham. Trainees would

thus have the opportunity to become involved in innovative work investigating:

- The role of immunoglobulin light chains in chronic kidney disease
 - The therapeutic benefit of light chain removal in myeloma renal disease
 - The impact of macrophage infiltration on progression of chronic kidney disease
 - The role of Natural Killer cell KIR-ligand receptors in renal transplantation and vasculitis
 - The impact of anti-HLA antibodies in renal transplantation
- All of the consultants in the renal unit are involved in co-ordinating clinical studies in patients with various renal diseases. These are either investigator-driven local studies or part of multi-centre industry-led studies, and most take place under the auspices of the Wellcome Trust CRF. Trainees will thus have the opportunity to become involved with one or more of the following studies:
- Tolvaptan to slow progression of renal disease in adult polycystic kidney disease
 - Anti-TGF β antibody therapy in focal segmental glomerulosclerosis
 - IV versus Oral Ganciclovir in treatment of CMV disease post renal Transplantation
 - Spironolactone in chronic kidney disease
 - Mycophenolate mofetil and Abatacept therapy in ANCA-associated vasculitis
 - Calcineurin inhibitor minimisation in renal transplantation
 - Myfortic therapy in proteinuric renal disease

The 4-month attachment is designed to give the trainee the chance to begin a research project with a view to developing this into a full fellowship. In addition to this primary research project, the explicit aim of this attachment is to involve the trainee in a range of clinical research projects designed to provide direct exposure to ethics applications, database design and execution and raw data interpretation and presentation. At the beginning of the rotation, the trainee will engage in a “training needs analysis” with Prof Harper to ensure that the 4 months are employed as flexibly and usefully as possible.

2. Paediatrics (Birmingham Children's Hospital)

Consultant: Dr Ian Wacogne

Consultants

Dr Geoff Debelle, Community Paediatrics/General Paediatrics/ Child Protection

Dr Amanda Goldstein, General Paediatrics/Regional Advisor

Dr Neil McLellan, General Paediatrics

Dr Robert Sunderland, General Paediatrics/Epidemiology

Dr Ian Wacogne, General Paediatrics/ Head of Department

Dr Phil Debenham, General Paediatrics/ Allergy and Immunology

Dr Deepthi Jhyothish, General Paediatrics / Child Protection

Sister Gaynor Pettit, Advanced Nurse Practitioner

Specialist Registrars

One Specialist Registrar in Paediatrics and Medical Education

One Year 5 Specialist Registrar in Paediatrics

Two Year 3 Specialist Registrar in Paediatrics

Trainees

Seven (three GP trainees, two paediatric trainees, one Foundation Two trainee, two Foundation One trainees)

Duties

The Foundation Year 2 trainee will:

- Provide care to general paediatric inpatients alongside general practice and paediatric ST1 and 2 trainees and the other foundation doctors under the supervision of ST4-8 trainees and consultants
- Learn how to assess and manage children with undifferentiated illness presenting to the GP referral unit or referred from the emergency management
- Have opportunities to teach final year medical students under the supervision of the SpR in Medical Education and the Clinical Teaching Fellow
- Contribute to the Hospital at Night roster for the assessment of acute admissions to General Paediatrics at The Children's Hospital

Training

Experience in assessment and management of children with undifferentiated illness and management of chronic multisystem disease.

Education

There is a formal clinical teaching programme for all General Paediatric doctors on 4 out of 5 weekdays. All our foundation doctors are funded to undertake the one day Paediatric Life Support (PLS) course at the start of their post. All Foundation SHOs have a protected half-day on Tuesdays to participate in the Generic Skills Education Programme.

3. General Practice

The specific GP practice will be allocated prior to the start of post. The trainee will take part in general practice surgeries, seeing patients and managing/treating them independently but under supervision (this will include home visits on the duty day). There will be opportunities to sit in to observe the management of chronic disease e.g. hypertension, diabetes, COPD, asthma, CKD, observe midwife antenatal checks, Health Visitor developmental checks, baby check; observe minor surgery, fitting of coils and insertion/removal of contraceptive implant; learn to do joint injections; opportunity to be involved in teaching medical students during term time.

ROTATION 9

FOUNDATION YEAR ONE

(Heart of England Foundation NHS Trust)

1. Academic General Surgery (Vascular) Consultant: Mr Donald Adam

The University Department of Vascular Surgery is at the vanguard of endovascular surgery in the region. The post holder will be provided with the opportunity to undertake one of a number of novel as well as on-going audit projects addressing topical issues in vascular and endovascular surgery. The post-holder will be given guidance in the preparation and writing of case reports, original articles and review articles.

2. General Medicine/ Gastroenterology

Consultant: Dr Wilson

A busy general medicine / gastroenterology placement. The trainee will join this vibrant team of experienced gastroenterologists and will experience the full spectrum GI medicine (upper GI bleeds, pancreatic and liver disease). Ward based responsibilities will include the clerking and review of in-patients under the supervision and direction of senior trainees and consultants. The post also provides the opportunity to participate in the busy acute medical take providing exposure to the full spectrum of acute general medicine.

3. Paediatrics

Consultant: Dr Helen Roper

The post offers experience in a broad range of paediatric problems. There are approximately 5,000 inpatient admissions and 11,000 outpatient attendances per year. More than 40,000 children attend the Accident & Emergency Department at the hospital annually. The Foundation doctor will be based primarily on the paediatric wards and will be provided with good exposure to acute paediatrics under the close supervision of the paediatric consultant team. There is a robust local teaching programme which consists of neonatal meetings, paediatric grand rounds, resuscitation scenarios, radiology meetings etc. he ST1-8 posts

FOUNDATION YEAR TWO

(Heart of England Foundation NHS Trust)

1. Intensive Care Medicine

(Birmingham Heartlands Hospital) <http://goo.gl/nCbnOG>

You will work within an established and productive research group led by Professors Gavin Perkins, Fang Gao and Drs Yeung and Couper. The Academic Department of Anaesthesia, Critical Care, Pain and Resuscitation have a strong track record in translational science and health services research. The vibrant team of researchers (consultants, clinical research fellows, PhD students, academic clinical fellows and research nurses / assistants) are based within the MIDRU building at Heart of England NHS Foundation Trust. The group have supported over 20 trainees to obtain higher

degrees. The group have strong links with the Emergency Medicine Group led by Professor Matthew Cooke. Alongside your clinical training you will work with other senior members of the department for mentoring and support. The group support a range of clinical and translational studies into critical illness, peri-operative care.

Trainees will be provided with Good Clinical Practice training and the opportunity to participate in on-going trials at the Trust alongside developing their own programme of work for the 4 month academic attachment.

2. Emergency Medicine

Consultant Educational Supervisors will be:

Dr Ellen Jones, Consultant/ Senior Lecturer in Emergency Medicine

Duties

The posts will operate from the Emergency Department of Heartlands Hospital as well as from the Health Services Research Institute of Warwick Medical School on the Gibbett Hill Campus of Warwick University.

BHH has a purpose-built Emergency Department and sees approximately 90,000 patients per annum. The department has resuscitation facility of 5 beds, one of which is a paediatric facility. The department is separated into 2 areas, one for major injury and illness and the other for walking wounded and children, with 18 cubicles in total. There are trained Emergency Nurse Practitioners in the Department who can see, treat and discharge their own case load. The Department also benefits from Cardiac Triage nurses and a team of qualified children's nurses. In addition we have an 8 bedded clinical decision unit. There are 10 Emergency Medicine consultants in the department and a large middle grade tier including 5 registrars.

As an F2 in the emergency department you will work on a full shift system with the rest of the Emergency team to provide high quality care to patients arriving at our department. We see patients with a wide variety of clinical conditions including major & minor injury & illness, paediatrics and psychiatry. Most acute specialties are available on site and we work closely with them. You will work in all areas of the department, including the resuscitation room. Each day will bring different challenges and there will be ample opportunity to achieve competencies required for F2.

Your clinical learning will be supported by your educational supervisor. 24 hour middle grade cover on the shop floor & extended hours consultant presence provide excellent shop floor supervision, direct observation and case discussion. Your post will begin with clinical induction and continue with a programme of Emergency Medicine teaching to help you provide good patient care and maximise learning from the job. You will also attend the local foundation programme teaching.

Research Opportunities

Trainees would be expected to work as part of a research team on existing projects or a selection of new projects, according to the particular interests of the trainee. It is envisaged that the trainee will undertake work that will lead to publication and presentations. There is a wide range of research being undertaken and candidates can access the areas most applicable to their interests. These include prehospital emergency care, emergency critical care, resuscitation, soft tissue injury, organisation of emergency care and serious gaming in healthcare. The research is linked to both the Warwick clinical trials unit and the Centre for clinical systems improvement (a joint initiative of the NHS institute for Innovation and Improvement and Warwick University).

Education

The trainees will have tailored education in emergency care research as well as having access to relevant modules of the Masters in Applied Health sciences. The trainee will be expected to register and work for a Post Graduate Award in 'research methodology and critical appraisal' at Warwick University. Research meetings at the hospital are held regularly in both critical care and emergency medicine.

All Foundation trainees will have a protected half day on Thursday afternoon to attend the Generic Skills teaching programme.

3 General Practice

Location allocated following appointment.

ROTATION 10

FOUNDATION YEAR ONE

(University Hospitals of North Midlands NHS Trust)

This rotation will consist of:

Post 1	Post 2	Post 3
Paediatrics	General Surgery – Upper GI	General Medicine - AMU

The Keele Academic F1 posts are all designed to provide extremely good general clinical experience, particularly focusing on ensuring robust acute medical exposure. This is to allow the candidate to focus almost exclusively on the academic post in the F2 rotation, creating the opportunity to produce academic outputs prior to job applications for further posts. During these posts, it is expected that the trainee will liaise with their subsequent academic supervisor to start preparations for the subsequent project.

All academic trainees on Keele University rotations (rotation 10, 11 and 12) will obtain core skills in research methods by attending a 5 day Masters level course that attracts 15 M level credits. This course is widely respected and covers pertinent aspects of study design, research ethics and statistical analysis.

Both General Surgery (Upper GI) and the Medical Admissions (AMU) at UHNS are widely recognised as providing exceptional breadth of experience within a supportive environment. The Paediatrics Department is one of the largest in the country with a number of sub specialty areas receiving tertiary care referrals, and is one of the most popular training locations on the paediatric training rotations.

FOUNDATION YEAR TWO

	First post	Second post	Third post
Trainee 1	Academic Diabetes and Endocrinology	General Practice	Acute Internal Medicine
Trainee 2	Academic General Practice	Acute Internal Medicine	Diabetes and Endocrinology
Trainee 3	Academic Acute Internal Medicine	Diabetes and Endocrinology	General Practice

The academic portion of this rotation is based on the first post, and the majority of the candidates' time during this post would be expected to be dedicated to

academic work. All of these posts have a dedicated academic supervisor, who will help the post holder develop a project that suits their interests.

Post holders will have academic appraisals based on academic competencies for academic foundation trainees, covering

Generic and applied research skills
Research Governance
Communication/Presentation skills and Education

Specific competencies within these areas will be agreed based on the nature of the project with the academic supervisor, and formal assessment will occur throughout the rotation.

1. Academic Diabetes and Endocrinology

The academic trainee will be jointly supervised by one of the clinicians within the department, and on the academic side, by the Professor of Clinical Biochemistry, Anthony Fryer. In the course of producing 158 authored papers, Professor Fryer's research has covered subjects including

- The impact of maternal folate supplementation during pregnancy on fetal epigenome.
- Genetic and environmental risk factors for skin cancer in renal transplant recipients: use of statistical modelling approaches to predict risk

The interaction with the diabetes team includes an NIHR funded project examining the use of diabetes testing as a model to examine drivers of, and methods of reducing, inappropriate use of pathology testing, the use of breath analysis in diabetes control and how to predict dysglycaemia in acute coronary syndromes.

2. Academic General Practice - Location allocated following appointment

Our internationally renowned research programme in pain and musculoskeletal disorders in primary care is underpinned by high-quality cohorts and randomised clinical trials (with linkage to medical records) and supported by qualitative research.

Our overall aim is to deliver high quality multidisciplinary research designed to improve the content, delivery and configuration of primary care for the benefit of patients with musculoskeletal conditions.

The programme in academic general practice is led by Dr Joanne Protheroe with Professor Christian Mallen.

The objectives of our research are:

- To provide reliable estimates of the occurrence and distribution of pain and musculoskeletal disorders in the population, and their long-term impact on population health and working life [population epidemiology]
- To describe the long-term course of pain and musculoskeletal disorders and identify risk factors for their onset, persistence and progression as potential targets for intervention [population and clinical epidemiology]
- To characterise the patterns of primary care consultation, diagnosis, episodes and outcomes of care for pain and musculoskeletal disorders using routinely collected information from medical records [consultation epidemiology]
- To provide evidence and develop practical tools to inform clinical decision making and assist in the assessment, diagnosis, prognosis, and monitoring of individual patients with pain and musculoskeletal disorders in primary care [clinical epidemiology]
- To evaluate the clinical and cost-effectiveness of existing and new interventions and models of care for pain and musculoskeletal disorders, with special emphasis on individualising care and optimising the role of the multidisciplinary primary care team [trials]
- To provide up-to-date syntheses of research evidence on pain and musculoskeletal disorders for stakeholders (researchers, service managers, practitioners, public/patients, funders, and policy-makers) [systematic reviews and meta analysis]
- To explore the personal experience and impact of pain and musculoskeletal disorders and people's expectations and experiences of primary health care [qualitative research and social science]
- To explore and evaluate ways of involving patients in formulating research questions and designing appropriate, credible interventions [patient and public involvement]
- To develop, test and apply innovative methodology in primary care research [methodology]
- To test the feasibility of incorporating interventions shown to be effective in research projects, into clinical practice [Clinical effectiveness and implementation]
- To improve awareness and knowledge of pain and musculoskeletal disorders and their management among the general public and primary health care practitioners

For those contemplating a career in academic general practice, this post would strengthen an application for the Keele University academic GP training programme, an innovative 4 year programme that leads to a Masters in Medical Science degree, integrated with the clinical programme. Recent graduates from this programme have already become established locally in joint clinical/academic careers and five have the distinction of being awarded Arthritis Research UK or NIHR Primary Care Fellowships to do a PhD.

The centre combines current strengths in clinical health research at Keele University and our NHS partners in North Staffordshire, related to primary care, the interface between primary and secondary care, and in education research. A close relationship exists between Academic Rheumatology Haywood at the Hospital and the Arthritis Research Campaign National Primary Care Centre at

Keele University - the Keele Haywood Arthritis Partnership (KHAP). The post will have access to research projects from within the KHAP partnership. Academic and clinical mentors will usually have formal links to one or both research units.

The university has strongly supported primary care musculoskeletal research. A £3,000,000 funding initiative for purpose-built offices to house our group was completed in 2004 and has been integrated with development of academic capacity by investment in early-experience researchers. Since 2001, the University has promoted 10 post-doctoral staff in the group to University Lectureships and Senior Lectureships.

3. Academic Acute Internal Medicine

The Acute Medical Unit within University Hospitals of North Midlands NHS Trust is one of the busiest in the region, serving a population that has one of the highest levels of multimorbidity in the country. The academic trainee will be supervised by the lead for the Health Services Research Unit, Professor Simon Davies. The trainee will therefore have the opportunity to become part of the HSRU team studying one of the main problems affecting acute medicine: chronic disease and multimorbidity.

Areas within this include a national initiative to establish the optimal frequency of laboratory testing of patients with long-term conditions, as well as near-patient monitoring of chronic conditions including continued development of pictogram analysis for menorrhagia and novel approaches using breath analysis to monitor *Pseudomonas* infection in children with cystic fibrosis. There is also an epidemiological approach to the impact of multiple chronic diseases on the health and care of older populations, with ongoing investigation of the impact of multiple conditions in patients with heart failure and frailty.

ROTATION 11

FOUNDATION YEAR ONE

(University Hospitals of North Midlands NHS Trust)

This rotation will consist of:

Post 1	Post 2	Post 3
Otolaryngology (Mr Isles)	Acute Medicine (Dr Sathiavageeswaran)	Respiratory (Dr Hussain)

The Keele Academic F1 posts are all designed to provide extremely good general clinical experience, particularly focusing on ensuring robust acute medical exposure. This is to allow the candidate to focus almost exclusively on the academic post in the F2 rotation, creating the opportunity to produce academic outputs prior to job applications for further posts. During these posts, it is expected that the trainee will liaise with their subsequent academic supervisor to start preparations for the subsequent project.

All academic trainees on Keele University rotations (rotation 10, 11, 12 and 13) will obtain core skills in research methods by attending a 5 day Masters level course that attracts 15 M level credits. This course is widely respected and covers pertinent aspects of study design, research ethics and statistical analysis.

Some of the rotations will require the F1 to participate in on call rotas to enable them to obtain the competences required for satisfactory completion of the F1 year and for GMC registration. On calls do not apply to all of the rotations.

The Acute Medicine post is hosted in County Hospital with the other two at the Royal Stoke University Hospital.

FOUNDATION YEAR TWO

(University Hospitals of North Midlands NHS Trust)

This rotation will consist of:

	First post	Second post	Third post
Trainee 1	Academic Nephrology (Renal Medicine)	General Practice	Obstetrics and Gynaecology
Trainee 2	Academic General Practice	Obstetrics and Gynaecology	Nephrology (Renal Medicine)
Trainee 3	Academic Obstetrics and Gynaecology	Nephrology (Renal Medicine)	General Practice

The academic portion of this rotation is based on the first post, and the majority of the candidates' time during this post would be expected to be dedicated to academic work. All of these posts have a dedicated academic supervisor, who will help the post holder develop a project that suits their interests.

Post holders will have academic appraisals based on academic competencies for Academic foundation trainees, covering

Generic and applied research skills
Research Governance
Communication/Presentation skills and Education

Specific competencies within these areas will be agreed based on the nature of the project with the academic supervisor, and formal assessment will occur throughout the rotation.

1. Academic Nephrology

Academic Supervisors

Prof Simon Davies
Dr. Mark Lambie

Clinical Supervisors

Dr. Dominic De Takats
Dr. Kerry Tomlinson
Dr. Chris Thompson
Dr. Madhu Menon
Dr. Andrew McClean
Dr. Julie Wessels
Dr. Daniela Farrugia
Dr Richard Fish

Background

The research within nephrology is undertaken as part of the Institute of Science and Technology in Medicine, but also as a major part of the specialty cross-cutting Health Services Research Unit. This provides a unique opportunity to engage in either translational research through the strong engineering background of ISTM, or to utilise the analytical strengths of the HSRU with clinically based research.

Research

The renal department has an international reputation for its clinical research on peritoneal dialysis patients, which includes the pathophysiology of the peritoneal membrane and accrual of damage over time, inflammation within the peritoneum and systemically, dialysate composition, epidemiological, investigations, prognostic models, multimorbidity, body composition, assessment of fluid balance and breath analysis including flowing afterglow mass spectrometry.

A significant portion of this work is developing, leading and analyzing large international multicenter studies. This includes the NIHR funded PD-CRAFT and with Professor Nick Topley (Cardiff University), the Global Fluid Study, currently the most comprehensive international cohort study in peritoneal

dialysis and the Peritoneal Dialysis Outcomes and Practice Patterns Study (PDOPPS). This is an international effort designed to optimize the world-wide use of this treatment modality as well as underpinning the national strategy to increase the use of home dialysis care. Funding for this study (currently circa \$8M) is from multiple sources including the Canadian Institute for Health Research, National Health and Medical Research Council of Australia, National Institutes of Health (US), NIHR (with Sheffield), Japanese Society for Peritoneal Dialysis and industrial partners. The unit is also leading the BISTRO study; the NIHR HTA funded RCT that will be the biggest study of bio-impedance in the management of haemodialysis patients.

Most consultants also co-ordinate clinical trials within the unit, meaning that at any one time there are a wide variety of RCT's on a wide range of subjects being run through the Renal Research Team.

2. Academic General Practice - Location allocated following appointment

Our internationally renowned research programme in pain and musculoskeletal disorders in primary care is underpinned by high-quality cohorts and randomised clinical trials (with linkage to medical records) and supported by qualitative research.

Our overall aim is to deliver high quality multidisciplinary research designed to improve the content, delivery and configuration of primary care for the benefit of patients with musculoskeletal conditions.

The programme in academic general practice is led by Professor Christian Mallen and Dr Joanne Protheroe.

The objectives of our research are:

- To provide reliable estimates of the occurrence and distribution of pain and musculoskeletal disorders in the population, and their long-term impact on population health and working life [population epidemiology]
- To describe the long-term course of pain and musculoskeletal disorders and identify risk factors for their onset, persistence and progression as potential targets for intervention [population and clinical epidemiology]
- To characterise the patterns of primary care consultation, diagnosis, episodes and outcomes of care for pain and musculoskeletal disorders using routinely collected information from medical records [consultation epidemiology]
- To provide evidence and develop practical tools to inform clinical decision making and assist in the assessment, diagnosis, prognosis, and monitoring of individual patients with pain and musculoskeletal disorders in primary care [clinical epidemiology]
- To evaluate the clinical and cost-effectiveness of existing and new interventions and models of care for pain and musculoskeletal disorders, with special emphasis on individualising care and optimising the role of the multidisciplinary primary care team [trials]

- To provide up-to-date syntheses of research evidence on pain and musculoskeletal disorders for stakeholders (researchers, service managers, practitioners, public/patients, funders, and policy-makers) [systematic reviews and meta analysis]
- To explore the personal experience and impact of pain and musculoskeletal disorders and people's expectations and experiences of primary health care [qualitative research and social science]
- To explore and evaluate ways of involving patients in formulating research questions and designing appropriate, credible interventions [patient and public involvement]
- To develop, test and apply innovative methodology in primary care research [methodology]
- To test the feasibility of incorporating interventions shown to be effective in research projects, into clinical practice [Clinical effectiveness and implementation]
- To improve awareness and knowledge of pain and musculoskeletal disorders and their management among the general public and primary health care practitioners

For those contemplating a career in academic general practice, this post would strengthen an application for the Keele University academic GP training programme, an innovative 4 year programme that leads to a Masters in Medical Science degree, integrated with the clinical programme. Recent graduates from this programme have already become established locally in joint clinical/academic careers and five have the distinction of being awarded Arthritis Research UK or NIHR Primary Care Fellowships to do a PhD.

A 2-year academic F1 through F2 post designed to encourage the best and most highly motivated medical graduates to consider clinical academic careers from this early stage. They provide excellent clinical experience and supervision, together with protected time and high-level support to learn about different aspects of research and medical education.

The centre combines current strengths in clinical health research at Keele University and our NHS partners in North Staffordshire, related to primary care, the interface between primary and secondary care, and in education research. A close relationship exists between Academic Rheumatology Haywood at the Hospital and the Arthritis Research Campaign National Primary Care Centre at Keele University - the Keele Haywood Arthritis Partnership (KHAP). The post will have access to research projects from within the KHAP partnership. Academic and clinical mentors will usually have formal links to one or both research units.

The university has strongly supported primary care musculoskeletal research. A £3,000,000 funding initiative for purpose-built offices to house our group was completed in 2004 and has been integrated with development of academic capacity by investment in early-experience researchers. Since 2001, the University has promoted 10 post-doctoral staff in the group to University Lectureships and Senior Lectureships.

3. Academic Obstetrics and Gynaecology

The academic obstetrics and gynaecology department is led by Prof Shaughn O'Brien, who has been joined by a recently appointed lecturer, Pensee Wu, strengthening further a highly productive academic department.

Prof O'Brien's extensive gynaecological research and writing has covered gynaecological endocrinology, menopause with his most notable output in the field of medical and diagnostic gynaecology, disorders of the menstrual cycle, particularly disorders of the menstrual cycle and premenstrual syndrome, as well as polycystic ovary syndrome. He is editor-in-chief of the Journal of Psychosomatic Obstetrics and Gynaecology, the international journal which addresses the emotional, psychological and biopsychosocial factors in the specialty, and chairman of the International Society for Premenstrual disorders. Dr Wu's research interests are in high risk obstetrics and fetal medicine. Through collaborations with scientists at Keele University, her laboratory is conducting different projects in stem cell, epigenetic and biomaterials research to examine clinical problems such as metabolic syndrome in pregnancy and premature births. Other consultants within the departments are also research active in areas such as urogynaecology and gynaecological cancers.

The department is involved in several national / international clinical trials including improved study (identifying biomarkers for pre-eclampsia) and HELIUM study (RCT in treatment for endometriosis) which are led by consultants within this department.

ROTATION 12

FOUNDATION YEAR ONE

(University Hospital of North Midlands NHS Trust)

This rotation consists of:

Post 1	Post 2	Post 3
General “Internal” Medicine (Gastroenterology)	Trauma & Orthopaedic Surgery	Emergency Medicine

The Keele Academic F1 posts are all designed to provide extremely good general clinical experience, particularly focusing on ensuring robust acute medical exposure. This is to allow the candidate to focus almost exclusively on the academic post in the F2 rotation, creating the opportunity to produce academic outputs prior to job applications for further posts. During these posts, it is expected that the trainee will liaise with their subsequent academic supervisor to start preparations for the subsequent project.

All academic trainees on Keele University rotations (rotation 10, 11, 12 and 13) will obtain core skills in research methods by attending a 5 day Masters level course that attracts 15 M level credits. This course is widely respected and covers pertinent aspects of study design, research ethics and statistical analysis.

FOUNDATION YEAR TWO

(University Hospital of North Midlands NHS Trust)

This rotation will consist of:

	First post	Second post	Third post
Trainee 1	Academic Rheumatology	General Practice	Geriatric Medicine
Trainee 2	Academic General Practice	Geriatric Medicine	Rheumatology
Trainee 3	Academic Stroke Medicine*	Rheumatology	General Practice

The academic portion of this rotation is based on the first post, and the majority of the candidates' time during this post would be expected to be dedicated to academic work. *The academic stroke medicine post has the clinical portion in geriatric medicine.

Academic competencies covered are based on those described for Academic Clinical Fellows and Clinical Lecturers, covering

Generic and applied research skills

Research Governance

Communication/Presentation skills and Education

Specific competencies within these areas will be agreed based on the nature of the project with the academic supervisor, and formal assessment will occur throughout the rotation.

1. Academic Rheumatology / Musculoskeletal Research

The Musculoskeletal Research Centre incorporates distinct research groups as follows:

The Arthritis Research UK Primary Care Centre (ARUKPCC) forms a strong collaboration between academics from primary care, clinical rheumatology, epidemiology, physiotherapy, psychology, pharmacy, ageing research and health services research, and its clinical partner the **North Staffordshire Primary Care Research Consortium**.

The main areas of research interest are:

- I. research into musculoskeletal conditions and chronic pain, focused on joint pain and osteoarthritis, back pain and widespread and regional pain together with common inflammatory conditions at the primary/secondary care interface (including PMR, gout and rheumatoid arthritis)
- II. primary care and public health research in these areas, embracing allied health care professions and general practice
- III. a strong track record in epidemiological research, trials and mixed methods involving qualitative research
- IV. a strong commitment to ensuring that research findings contribute to evidence-based practice, health policy and guidelines, and development of enhanced scope practitioners and related training

Our main NHS research partners are

- (i) The local Primary Care Research Consortium, whose research programme is coterminous to that of the ARUKPCC
- (ii) The North Midlands NHS Hospital Trusts Research Consortium, who support rheumatology and pain research across the primary / secondary interface

The Academic Rheumatology Research Group from the Haywood Hospital, Staffordshire Rheumatology Centre, who have:

- (i) a strong 20-year track record of clinical research and trials in rheumatology
- (ii) a research agenda focused on the interface between primary and secondary care into the management of musculoskeletal conditions and chronic pain
- (iii) a nationally renowned programme of medical education research and evaluation of practice

(iv) A close relationship with laboratory based research with a true ‘bench to bedside’ ethos, combining clinical epidemiology with genetics and cytokine analysis, producing novel and internationally recognised research in inflammatory arthritis.

The Medical and Inter-professional Education Research Group includes a developing programme of education evaluation research led by Prof Andrew Hassell.

Arthritis Research UK Primary Care Centre team

- Elaine Hay: Professor of Community Rheumatology, Director ARUK PCC
- Christian Mallen, Professor of General Practice
- Ed Roddy: Senior Lecturer in Rheumatology
- Sam Hider: Senior Lecturer in Rheumatology
- Zoe Paskins: Clinical Lecturer Rheumatology

Rheumatology team

- Elaine Hay: Community Professor of Rheumatology
- Andrew Hassell: Professor / Consultant Rheumatologist
- Jon Packham: Honorary Senior Lecturer/ Consultant Rheumatologist
- Ed Roddy: Senior Lecturer in Rheumatology
- Sam Hider: Senior Lecturer in Rheumatology
- Peter Dawes: Consultant Rheumatologist
- Caitlyn Dowson: Consultant Rheumatologist
- Sanjeet Kamath: Consultant Rheumatologist
- Shyra Price: Consultant Rheumatologist
- Ajit Menon: Consultant Rheumatologist
- Shouma Dutta & Zoe Paskins Consultant Rheumatologist

Research resources

Expertise groups: include the trials unit, the bio-statistics team, clinical epidemiology, surveys and cohort management, qualitative research, health economics, health informatics, systematic reviewing, and research governance and management.

The Keele GP Research Network: 29 general practices, who receive training, support and feedback on the quality of their consultation data recording. The high quality data provides the basis for the Unit’s epidemiological studies of consultations related to musculoskeletal illness, and supports patient recruitment to trials and other studies.

The North Staffordshire Primary Care Research Consortium: joint venture between the Unit and the local primary care community, the Consortium facilitates, coordinates and funds Primary Care support for the musculoskeletal

research programme, and secures health professionals' direct involvement in all aspects of research design, development and conduct.

The Haywood Hospital which in addition to being the base for Academic Rheumatology provides the clinical research facility for clinical studies.

Many other academics within the centre may also act as supervisors for academic trainees. For more information on the arcNPCC research team and the research programme developed by the team, visit the Centre website on www.keele.ac.uk/research/pchs/pcmrc/Academic.

This academic programme is only one of a handful of integrated academic training programmes in rheumatology in the UK and offers the potential for seamless transition between academic Foundation Y1 and Y2 posts, Walport academic clinical training fellowships and Walport Clinical Lecturerships in both Rheumatology and General Practice (with a specialism in musculoskeletal medicine).

The Projects (Examples):

- Exercise for knee pain - attitudes and behaviours of general practitioners
- Systemic review of the impact of urate levels on cardiovascular risk in the general population.
- The impact of socioeconomic status on ankylosing spondylitis severity across the UK.
- Is satisfaction with hand appearance associated with self reported hand deformity and pain in the community?
- Pain beliefs and coping in middle and old age: a descriptive study in community dwelling adults with knee pain.
- Does the time taken from the onset of joint pain in the community to specialist rheumatology treatment influence outcome in patients with rheumatoid arthritis?

Management and Mentoring

During the academic module, trainees will receive academic and clinical mentorship through both academic and clinical tutors (usually Professor Hay, Drs Hider, Roddy, Hassell or Packham).

The post will join three other clinical posts (standard registrar and Year 2 posts) based at Haywood Hospital, Stoke-on-Trent providing peer support and critical mass. Many doctors and other health professionals working in the rheumatology unit have been successfully guided and developed to obtain training fellowships leading to PhDs or MDs.

These are foundation level posts will provide a firm foundation of knowledge and understanding on which to build formal research training and academic practice at a later stage.

2. Academic General Practice - Location allocated following appointment

Our internationally renowned research programme in pain and musculoskeletal disorders in primary care is underpinned by high-quality cohorts and randomised clinical trials (with linkage to medical records) and supported by qualitative research.

Our overall aim is to deliver high quality multidisciplinary research designed to improve the content, delivery and configuration of primary care for the benefit of patients with musculoskeletal conditions.

The programme in academic general practice is led by Dr Joanne Protheroe and Professor Christian Mallen.

The objectives of our research are:

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- To characterise the patterns of primary care consultation, diagnosis, episodes and outcomes of care for pain and musculoskeletal disorders using routinely collected information from medical records [consultation epidemiology]
- To provide evidence and develop practical tools to inform clinical decision making and assist in the assessment, diagnosis, prognosis, and monitoring of individual patients with pain and musculoskeletal disorders in primary care [clinical epidemiology]
- To evaluate the clinical and cost-effectiveness of existing and new interventions and models of care for pain and musculoskeletal disorders, with special emphasis on individualising care and optimising the role of the multidisciplinary primary care team [trials]
- To provide up-to-date syntheses of research evidence on pain and musculoskeletal disorders for stakeholders (researchers, service managers, practitioners, public/patients, funders, and policy-makers) [systematic reviews and meta analysis]
- To explore the personal experience and impact of pain and musculoskeletal disorders and people's expectations and experiences of primary health care [qualitative research and social science]
- To explore and evaluate ways of involving patients in formulating research questions and designing appropriate, credible interventions [patient and public involvement]
- To develop, test and apply innovative methodology in primary care research [methodology]
- To test the feasibility of incorporating interventions shown to be effective in research projects, into clinical practice [Clinical effectiveness and implementation]

- To improve awareness and knowledge of pain and musculoskeletal disorders and their management among the general public and primary health care practitioners

For those contemplating a career in academic general practice, this post would strengthen an application for the Keele University academic GP training programme, an innovative 4 year programme that leads to a Masters in Medical Science degree, integrated with the clinical programme. Recent graduates from this programme have already become established locally in joint clinical/academic careers and five have the distinction of being awarded Arthritis Research UK or NIHR Primary Care Fellowships to do a PhD.

The centre combines current strengths in clinical health research at Keele University and our NHS partners in North Staffordshire, related to primary care, the interface between primary and secondary care, and in education research. A close relationship exists between Academic Rheumatology Haywood at the Hospital and the Arthritis Research Campaign National Primary Care Centre at Keele University - the Keele Haywood Arthritis Partnership (KHAP). The post will have access to research projects from within the KHAP partnership. Academic and clinical mentors will usually have formal links to one or both research units.

The university has strongly supported primary care musculoskeletal research. A £3,000,000 funding initiative for purpose-built offices to house our group was completed in 2004 and has been integrated with development of academic capacity by investment in early-experience researchers. Since 2001, the University has promoted 10 post-doctoral staff in the group to University Lectureships and Senior Lectureships.

3. Academic Stroke Medicine

UHNS is amongst of the largest specialist stroke services in the country with over 1500 patients admitted every year. We have 24/7 access to state of the art imaging (CT, CT angiograms, CT perfusion, transcranial Doppler, and MRI). PET scanning is available within hours. We are one of only 8 Hyperacute Stroke Research Centres in England, enabling us to recruit stroke patients to acute trials 24/7. We have excellent links with imaging, the emergency services, the West Midlands Ambulance Service, neurosurgery, and vascular surgery. This enables us to provide a wide range of research opportunities both within the stroke specialty and beyond. The clinical service is supported by four research nurses, who work 8-8 and cover after hours. We are currently involved in over 20 multicentre trials, ranging from hyperacute (Enchanted, DIAS-4, ARTSS-2b, PISTE, CLOBUST, WAKE-UP, SOS penumbra, TICH-2) and acute (SLIC6), to recovery (Multistem, FOCUS, STEPS-2, EXTRAS, FAST Indicate) and prevention (TARDIS, PRESERVE, RESTART, CROMIS-2, Gloria AF, VIST) providing a wide range of trial and protocols to study.

The research interests of the department include clinical and preclinical lab-based projects, and span the whole stroke pathway from acute to rehabilitation and car in the community. Currently active projects include:

Lab based and clinical projects relating to thrombectomy as a treatment for acute stroke: Imaging and clinical determinants of good outcome after thrombectomy.

1. In vitro-comparison of device-thrombus interaction in different designs of thrombectomy devices.
2. Effect of alteplase on thrombi. This study is the basis of an MPhil undertaken by a 4th year medical student.
3. Comparison of thrombi from acute ischaemic stroke patients: A cross sectional study.
4. An experimental study of the effects of contrast media and hypoxaemia on human endothelial cells in culture.

New treatments for acute stroke:

5. A study of peritoneal dialysis in acute ischaemic stroke.

Novel stroke diagnostics:

6. SMART Chip: a two centre project to develop and assess a field-deployable blood test for stroke, capable of detecting brain ischaemia from the earliest stages of pathology.

Stroke complications:

7. The Stroke Oxygen Study (SO2S): a multi-centre, prospective, randomised, open, blinded-endpoint study of routine oxygen treatment in the first 72 hours after a stroke. **Recruitment** of 8003 patients complete, now in write-up. Opportunities for secondary analyses.
8. Studies of the effect of different techniques of oral and enteral feeding to prevent pneumonia
9. The use of ultrasound to diagnose pneumonia after stroke.

Rehabilitation and life after stroke

10. The So-Long Cohort Study – Stroke Oxygen Longitudinal cohort study examining predictors of long-term outcomes in the SO2S cohort.
11. Studies relating to the prevention and management of spasticity and contractures, and pertaining to rehabilitation can be conducted in collaboration with the School of Health and Rehabilitation.

The Stoke Stroke Research group led by Professor Christine Roffe. provides support to junior researchers wishing to develop their own research projects. We have close links with researchers at Keele University and clinical staff.

The foundation doctor will be trained in good clinical research practice (GCP) and consent procedures. We will provide training in literature search, protocol

development and report writing. The trainee will be expected to submit a research paper for publication.

The clinical portion for this job is in the Care of the Elderly department.

ROTATION 13

FOUNDATION YEAR ONE

(University Hospital of North Midlands NHS Trust)

This rotation consists of:

Post 1	Post 2	Post 3
Acute Medicine	Upper GI surgery	Psychiatry

The Keele Academic F1 posts are all designed to provide extremely good general clinical experience, particularly focusing on ensuring robust acute medical exposure. This is to allow the candidate to focus almost exclusively on the academic post in the F2 rotation, creating the opportunity to produce academic outputs prior to job applications for further posts. During these posts, it is expected that the trainee will liaise with their subsequent academic supervisor to start preparations for the subsequent project.

All academic trainees on Keele University rotations (rotation 10, 11 12 and 13) will obtain core skills in research methods by attending a 5 day Masters level course that attracts 15 M level credits. This course is widely respected and covers pertinent aspects of study design, research ethics and statistical analysis.

FOUNDATION YEAR TWO

(University Hospital of North Midlands NHS Trust)

This rotation will consist of:

	First post	Second post	Third post
Trainee 1	Academic Pathology (Histopathology)	Cardiology	Paediatrics
Trainee 2	Academic Cardiology	Paediatrics	Histopathology
Trainee 3	Academic Paediatrics	Histopathology	Cardiology

The academic portion of this rotation is based on the first post, and the majority of the candidates' time during this post would be expected to dedicated to academic work.

Academic competencies covered are based on those described for Academic Clinical Fellows and Clinical Lecturers, covering

Generic and applied research skills
Research Governance
Communication/Presentation skills and Education

Specific competencies within these areas will be agreed based on the nature of the project with the academic supervisor, and formal assessment will occur throughout the rotation.

1. Academic Pathology

The academic trainee will be supervised by the Professor of Clinical Biochemistry, Anthony Fryer, who is also the director of Research and Development within UHNM. Active research within the pathology department includes, but is not limited to:

- The impact of maternal folate supplementation during pregnancy on fetal epigenome.
 - Genetic and environmental risk factors for skin cancer in renal transplant recipients: use of statistical modelling approaches to predict risk
 - The appropriate use of pathology testing, which has led on to the appointment of one of the first NIHR Healthcare Scientist Fellowships
- Projects will be discussed and adapted towards the trainee's interests within the pathology department.

2. Academic Paediatrics

The Respiratory Paediatric team at UHNM is one of the largest in the UK and offers a wide range of academic possibilities. The team comprises six respiratory paediatricians, one consultant nurse, six clinical nurse specialists and a full time physiologist. We have close links with respiratory centres throughout the Midlands and North West as well as Great Ormond Street Hospital in London. The current research interests of the department focus on the use of non-invasive techniques for monitoring and treating children's lung diseases.

This post will be supported by a full time Senior Lecturer in Respiratory Paediatrics (Dr Fran Gilchrist, Keele University) and an Honorary Reader in Paediatrics (Dr Will Carroll, UHNM). Both are experienced supervisors whose aim is to ensure that appointees are given opportunities for publication and academic career advancement. We have a proven track record in achieving this. The exact project offered will be dependent upon the interests, skill set and previous experience of the successful applicant.

3. Academic Cardiology

Clinical role:

The post is based in the Academic Department of Cardiology, at UHNM. The Department of Cardiology is the largest cardiology department in the West Midlands and one of the 5 largest in the UK providing tertiary care cardiology services to a million patients. The department has an active interventional cardiology program, structural program, with state of the art imaging, pacing and a nationally recognised Heart Failure Shine Unit. The department is one of the most research active in the region having published over 50 papers in 2015 and delivering over 20 commercial trials during this period. Your role will work alongside junior clinical staff to provide clinical care to general cardiology patients and involvement in the delivery of specialist interventions.

Academic and Research:

The trainees will work alongside the group of Professor Mamas and will focus around research projects involving meta-analyses around a cardiovascular theme and further complement research activity that focuses around routinely collected national cardiovascular data in areas such as acute coronary syndromes, percutaneous coronary intervention and heart failure. The successful students will receive training in meta-analytical techniques and will work with statisticians to learn the basics of statistical analyses and lead data projects that are aligned to their interests using cardiovascular datasets. It is expected that the trainees will gain 1 or more publication during their time spent with the academic cardiology team.

ROTATION 14

FOUNDATION YEAR ONE

(Royal Wolverhampton Hospitals NHS Trust)

This rotation will consist of:

	Post 1	Post 2	Post 3
Trainee 1	Gastroenterology (Prof Brookes)	General Surgery (Breast) (Mr Isgar)	Obstetrics & Gynaecology (Dr Saeed)
Trainee 2	General Surgery (Breast) Mr Isgar	Obstetrics & Gynaecology (Mr Saeed)	Gastroenterology (Prof Brookes)
Trainee 3	Obstetrics & Gynaecology (Mr Saeed)	Gastroenterology (Prof Brookes)	General Surgery (Breast) (Mr Isgar)

The core objective in the F1 year is to develop as a clinician, moving from medical student to full-registration. This rotation, within the West Midlands (North) Foundation School offers a good balance of clinical specialties to achieve that and is especially suitable for trainees who have made a firm decision to be clinician scientists rather than laboratory scientists.

In addition, there will be opportunities to gain additional academic skills through the placement in gastroenterology especially, working with Prof Brookes. You will get the opportunity to support recruitment to clinical trials and investigator led studies currently undertaken within gastroenterology. Additional experience could be obtained from spending time observing the Gastroenterology research team within their University laboratories if this is desired. Attaining GCP qualification may be possible, in addition to some academic development at the University of Wolverhampton.

FOUNDATION YEAR TWO

(Royal Wolverhampton Hospitals NHS Trust)

This rotation will consist of:

	Post 1	Post 2	Post 3
Trainee 1	Chemical Pathology & Metabolic Medicine (Professor Gama)	General Medicine (Endocrinology) (Prof Singh)	General Practice (Dr Sidhu)
Trainee 2	General Medicine (Endocrinology) (Prof Singh)	General Practice (Dr Sidhu)	Chemical Pathology &

			Metabolic Medicine (Prof Gama)
Trainee 3	General Practice Dr Sidhu	Chemical Pathology & Metabolic Medicine (Prof Gama)	General Medicine (Endocrinology) (Prof Singh)

The second year of this rotation, also within the West Midlands (North) Foundation School, builds on the development of potential clinician scientists: it allows you to incorporate an academic approach to medical care within your training, which forms an excellent foundation for your academic career. You will have the opportunity for the intellectual satisfaction of exploring your potential to make a contribution in clinical medical research and / or education.

There will be opportunity to engage in high quality clinical audit and research projects across the whole rotation. It is expected that motivated trainees will pursue a postgraduate award (University of Wolverhampton), where Prof Singh is the Medical Director of the Academic Institute of Medicine.

The aims of this rotation are

- To achieve all competencies in the Foundation Programme in preparation for higher specialist training
- To provide exposure to academic medicine, clinical science and evidence-based clinical practice to provide a foundation for a career in academic medicine

Most of the main F2 clinical competencies will be achieved in the General Medicine (with Emergency medicine) and General Practice placements.

Training to achieve academic competencies will be provided by Research and Development Directorate at New Cross Hospital and University of Birmingham Postgraduate School.

The successful candidates will form a tight learning / action group with commitment from their consultants to act as trainers, guides, coaches, and mentors in achieving academic outcomes.

1. FY1 - Academic Gastroenterology

Academic Supervisors

Professor Matthew Brookes

Clinical Supervisors

Dr H Steed

Dr C Corbett

Dr I Perry

Dr S Menon
Dr A Muruganathan
Dr H Padmanabhan
Dr A Veitch
Dr A Shah
Dr McKaig

Background

Professor Brookes has a post-doctoral facility at the University of Wolverhampton and in addition has full laboratory facilities. He currently has a number of PhD students and research fellows in post. There will be full and ample opportunities for the post-holder to access these facilities and to complete a basic science project.

The posts at Royal Wolverhampton NHS Trust are designed to provide an excellent clinical experience and will allow candidates to focus on the academic part of the job.

All the rotations will also offer full opportunities for FY1 trainees to demonstrate competence against their first year curriculum.

Academic Opportunities

The Gastroenterology department has a number of opportunities to participate in research. These include the opportunity to get involved in basic science or clinical projects. We have also started a number of qualitative projects in the field of IBD recently. In addition to these we have funding to undertake projects investigating the following areas –

1. The impact of bile acids on recurrence of Crohn's disease in IBD.
2. The impact of ethnicity on voluntary childlessness in patient with IBD.
3. The development of a novel one stop test to determine and diagnose bile acid diarrhoea.
4. A pilot study to evaluate the effect of IV iron on the treatment of palliative anaemia
5. An RCT to determine the efficacy of IV iron in the treatment of anaemia in upper GI cancer.

Trainee will have a number of opportunities to get involved in and contribute to these projects. They will also have opportunities to get involved in the extensive CRN research portfolio within Gastroenterology.

Educational Opportunities

- GI teaching on ward
- Weekly radiology & MDT meetings
- Monthly GI histology meeting
- Mortality Meetings undertaken monthly to allow case-based discussion

Gain experience in

- Prescribing
- Discharges

- Arranging investigations
- Audit
- Morbidity and Mortality Meetings

Gain experience in the following additional procedures

- Interventional procedures e.g. paracentesis (once trained)
- Optional observation of Endoscopy and clinics

Main duties of this placement

- In-patient care of GI patients on 21-bedded ward
- Daily consultant and / or ST3+-led ward rounds
- Arranging investigations
- Responsibilities for prescribing/discharge

2. FY1 - Academic Surgery (Breast)

Clinical supervisors:

Mr B Isgar
Mr T Sircar
Ms S Soulsby
Ms S Elgadaal
Mr M Manu
Ms P Matey
Mr S Mylvaganam

All the rotations will also offer full opportunities for FY1 trainees to demonstrate competence against their first year curriculum.

Educational opportunities

- Daily consultant ward round
- Weekly MDT with interventional radiology
- Participation in Undergraduate Teaching
- Weekly departmental teaching

Gain experience in

- Care of the critically ill patient including invasive perioperative monitoring
- Outpatient consultation and diagnosis

Main duties of the Placement

Daily Ward Rounds
Pre-operative clinics

3. Academic FY1 - Obstetrics & Gynaecology

Clinical supervisors: Mr M Saeed

All the rotations will also offer full opportunities for FY1 trainees to demonstrate competence against their first year curriculum.

Educational opportunities

Once a week, two hours of departmental teaching for all junior doctors.
Obstetrics teaching for all junior doctors on Wednesday evenings. Informal teaching during rounds from several doctors.

Main Duties

Ward rounds with consultant and registrar seeing gynaecology and obstetrics patients. Putting in venflons and taking bloods. Seeing emergencies, performing speculum examinations and taking swabs under supervision. Attending theatres and assisting consultants. In outpatient antenatal / gynaecology clinics, attending in supernumery capacity. In four month placement, four on call nights covering gynaecology and obstetrics as first on-call.

4. Academic FY2 – Chemical Pathology & Metabolic Medicine

Clinical Supervisor Prof R Gama

All the rotations will also offer full opportunities for FY2 trainees to demonstrate competence against their first year curriculum

Educational Opportunities

- Attend weekly F2 teaching sessions
- Attend weekly “duty biochemist” meeting
- Attend weekly academic training programme
- R&D project

Gain experience in:

- Management of cardiovascular risk
- Management of adult inborn errors
- The importance and clinical value of laboratory tests
- Horizontal and vertical laboratory audits

Main Duties of the Placement

- Clinical and laboratory work under supervision
- Project work

Typical working pattern of this placement:

- Monday to Friday 09:00 to 17:00
- No out-of-hours

5. Academic FY2 - General Medicine Endocrinology

Clinical Supervisor Prof B Singh

All the rotations will also offer full opportunities for FY2 trainees to demonstrate competence against their first year curriculum

It is expected that motivated trainees will pursue a postgraduate award (University of Wolverhampton), where Prof Singh is the Medical Director of the Academic Institute of Medicine. More detail on this post is available from Prof B Singh at baldev.singh@nhs.net

6. Academic FY2 – General Practice - Location allocated following appointment

Clinical Supervisor Dr M Sidhu

All the rotations will also offer full opportunities for FY2 trainees to demonstrate competence against their first year curriculum

Educational opportunities:

- Developing consultation, communication, management, and prescribing skills within the setting of a general practice consultation
- Dedicated simulation sessions. These will take place in the newly developed Wolverhampton Sim Ward and are consultant-led
- In addition to the foundation teaching at New Cross Hospital, there will be informal teaching and depending on the practice formal teaching sessions within the primary care setting.

Gain experience in

- Developing and understanding of the role of the primary care team
- Being involved in chronic disease management

Gain experience in the following additional procedures:

- Seeing patients in a home setting

Main duties of the Placement

- Seeing patients in primary care setting under supervision

Typical working pattern in this placement

- Work pattern will differ between different practices. Most practices start at 8.30am and are open throughout the day till 6.30pm at night. There is no on-call commitment; there is no out of hour's commitment. You will be expected to fit in with the organisational structure of the practice within the limitations of the European working time directive.

6 ISSUES COMMON TO CLINICAL POSTS IN WEST MIDLANDS FOUNDATION PROGRAMMES

6.1 Clinical and Educational Supervision

All foundation trainees will have a clinical supervisor for each of their 4 month clinical attachments and, an educational supervisor who will have oversight of their training for each post. Academic trainees will have an academic supervisor or mentor. The mentor will meet with the trainee at regular intervals to develop a personalised programme and monitor progress through the academic curriculum. Post holders must always be aware of their nominated Educational supervisor. This will usually be one of the consultants they are currently working with. It will be this person who will undertake appraisal.

In each Trust, the Clinical Tutor and / or his nominated deputies will act as a further tier in educational supervision to which the Foundation Programme doctors will have full and open access. It will be the Clinical Tutor's office that will maintain central records, undertake the validation (sign off) process including multisource feedback and formal review of portfolios in order to maintain a general overview of Foundation Programme post holders as they move through various specialties.

At regional level, Health Education West Midlands is composed of three foundation schools, each led by an Associate Dean. An Associate Dean with the lead for each Medical School is responsible for the academic foundation trainees across Health Education West Midlands.

6.2 Study and Training

All foundation training programmes have a structured programme in which priority will be given to essential training and key skills. All the necessary training will take place within programme

The expected attendance at the modular day release teaching and at half day release programmes will be >70%. In order to achieve this, post holders must forward plan their timetables with individual specialties to resolve any conflict with rotas.

6.3 Induction, appraisal and assessment

The post holders will complete general induction into their base acute Trusts and will have induction into the individual specialties as they rotate through the programme.

It is obligatory for post holders to ensure that they complete their appraisal schedule and maintain their electronic portfolio and this ensures that all information is produced for joint ARCPs.

Post holders will be responsible to complete various assessments to include mini CEX, DOPs and case note review as well as Team assessment of behaviour

(TAB). The procedures for these assessments will be explained as part of the programme.

6.4 Audit and evidence based medicine

It is vital that post holders are involved in clinical audit activity and can evidence this at the end of the programme. Other involvement in EBM and Clinical Governance is to be encouraged including literature review, case presentations, evaluations of clinical incidents and clinical risk management.

6.5 Portfolio Management

Post holders are expected to maintain the national portfolio of evidence to demonstrate progress in the programme to include (TAB), and other documented assessments, audit, other EBM activity and various other professional certifications.

Portfolios may be reviewed twice a year by the local Clinical Tutors and other programme managers to ensure satisfactory progress. This will include review of portfolio evidence of appraisal and assessment documentation including the outcome of TAB. Attendance at teaching will be monitored as will progress in completing audit.

6.6 Trainee Representation

Health Education West Midlands encourages foundation trainees to participate in the operational, strategic and educational management of foundation programmes, Trainee representatives are elected to all foundation school committees.

6.7 Main conditions of Services

Contracts of employment will be held by trusts and will be for a fixed term of 12 months with subsequent progress to Foundation Year 2 subject to satisfactory progress. Contracts are governed by the Terms and Conditions of Service, Hospital & Dental staff in England and Wales, an up to date copy of which may be seen upon request in the Human Resources department for each Trust.

6.8 Unsociable hours enhancements

Some posts will attract unsociable hour's enhancements but the details can only be clarified at a later date **by the trusts**. There is no unsociable hour's enhancement in the General Practice attachments or in the 4 month academic placements. **Health Education England working across the West Midlands cannot provide information to applicants about out-of-hours duties or unsociable hour's enhancements.**

7. THE APPLICATION PROCESS

All candidates must enroll and complete the national application form via the online system Oriel.

Number of academic training opportunities: 42

Applications open: 19th October 2020 (09:00 GMT)

Applications close: 04th November 2020 (12:00 noon GMT)

Interview date: 5 and 6 January 2021 (subject to the number of applicants).

The interviews will be virtual using Microsoft Teams, each candidate will be assessed by a single panel, that will address both the Clinical and Academic aspects. The minimum duration of the interview will be 20 minutes.

8. USEFUL LINKS AND FURTHER READING

The following links may be useful:

- a. Academic Foundation Programme 2021 (AFP) Recruitment Process
<https://foundationprogramme.nhs.uk/>
- b. National Institute for Health Research <https://www.nihr.ac.uk/funding-and-support/funding-for-training-and-career-development/training-programmes/nihr-hee-ica-programme/>
- c. Information on Health Education West Midlands's Foundation Programmes
<http://www.westmidlandsdeanery.nhs.uk/FoundationProgramme.aspx>
- d. Buckley CD. Careers in clinical academic medicine: new opportunities or old threats? *Clin Med* 2007; 7: 79-81
- e. The International Campaign to revitalise academic medicine (ICRAM)
<http://www.bmj.com/academicmedicine/>
- f. Warwick Medical School <http://www2.warwick.ac.uk/fac/med/>
- g. University of Birmingham School of Medicine and the Wellcome Trust Clinical Research Facility <http://www.medicine.bham.ac.uk/> and [NIHR / Wellcome Trust Clinical Research Facility \(CRF\)](#)
- h. University of Keele School of Medicine <http://www.keele.ac.uk/depts/ms/>
- i. NIHR Integrated Academic Training Programme for Doctors and Dentists
<https://www.nihr.ac.uk/funding-and-support/funding-for-training-and-career-development/training-programmes/integrated-academic-training-programme/>

Last updated: August 2020