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## Nottingham Health China

Building innovations in healthcare through partnerships



The University of Nottingham has made every effort to ensure that the information in this brochure was accurate when published. Please note, however, that the nature of the content means that it is subject to change from time to time, and you should therefore consider the information to be guiding rather than definitive.

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# The University of Nottingham

## Britain's Global University



A member of the Russell Group and the prestigious Universitas 21 group, The University of Nottingham is a leading global university for teaching and world-changing research. It is ranked in the Top 100 World Universities by the Shanghai Jiao Tong (SJTU) and Times Higher (THE) World University Rankings. Wide reaching, multi-disciplinary and high-impact research is delivered by all our faculties.

In 2003, Professor Sir Peter Mansfield of The University of Nottingham was awarded the Nobel Prize for Medicine for his work in the development of Magnetic Resonance Imaging (MRI). We are linked closely to the Nottingham University Hospitals NHS Trust, one of the largest hospital trusts in the UK and one of the largest teaching hospitals in Europe. One of the UK's leading universities for collaboration with industry, the University has joint projects with Government and industry partners, from small and medium-sized enterprises to the world's leading healthcare companies such as GSK, Pfizer, AstraZeneca and Alliance Boots. The University's 27 spin-out companies are mainly in biosciences and engineering, and the University is also a founding partner of BioCity, the UK's largest bioscience innovation and incubation centre located in Nottingham.

With mature campuses in Malaysia (5,400 students) and China (6,500 students), Asia is a significant market for the University's global knowledge exchange networks. Established in 2004 to offer world class teaching and learning in the exciting city of Ningbo, The University of Nottingham Ningbo China (UNNC) is the first Sino-Foreign Joint Collaborative University in China, praised by UK and Chinese government as 'the beacon of UK-China higher education collaboration'. UNNC provides world-class education to China and has excellent links with industry and is able to offer a range of services for businesses.

### REPUTATION FOR EXCELLENCE



**TOP 1%** of universities **worldwide**  
QS World University Rankings 2015

### FINANCES 2015

**£593m**

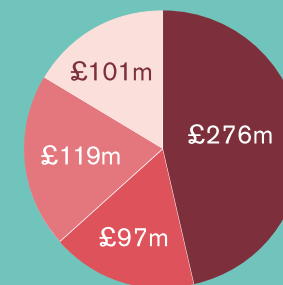
Total Income

**+ £25m**

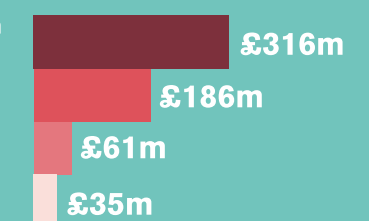
Surplus

**£596m**

Total net assets



- Tuition fees and education contracts
- Funding body grants
- Research grants and contracts
- Other income



more than

**97%**

of research at the University is **internationally recognised**

“The nearest Britain has to a truly **global university**

The Times and Sunday Times  
Good University Guide 2015

### UK RANKINGS

**TOP**  
UNIVERSITY IN THE UK FOR  
**JOB PROSPECTS**

WhatUni Student Choice Awards 2015

An alumni community of over

**250,000**

ACROSS THE GLOBE



“

Consistently one of **the most popular** UK universities among graduate employers

The Graduate Market in 2013, 2014 and 2015, High Fliers Research





**"With a population of more than one billion and a rapidly developing economy, China is set to become the world's fastest growing healthcare market. Today's £2 billion trade package for UK exports in research, hospital construction, training, diagnostics and drug discovery shows the huge potential of UK/Chinese Life Science trade."**

UK Minister for Life Sciences, George Freeman, 2015



## Foreword



UK and China face many similar health challenges. These include providing high quality healthcare for all citizens, planning and delivering services for the rapidly growing elderly population, and adapting services to manage the rising burden of non-communicable diseases, including diabetes, respiratory conditions, cancer and dementia. The changing healthcare needs of our respective populations are placing enormous demands on our health systems and infrastructure and there is a need for cost-effective guidelines that are based on best available evidence. The healthcare reforms initiated by China seek to develop a system providing "safe, effective, convenient and affordable" healthcare to both rural and urban residents by 2020. Having established near-universal insurance coverage, improving the quality and choice of healthcare services is a priority for China.

The UK is a world leader in healthcare, with unrivalled experience and expertise in meeting the complex health demands of diverse populations. Over the past 60 years, the UK has invested billions of pounds constantly improving the quality of healthcare available to the people of the UK. Through Healthcare UK, a joint venture between the Department of Health and UK Trade & Investment, overseas governments and healthcare providers can now access the significant benefits of that investment.

The UK Healthcare Sector helped to create today's National Health Service (NHS), one of the world's most cost effective healthcare systems, which is at the forefront of healthcare delivery, research and training. The UK has a world-class reputation for training medical, nursing, midwifery and allied professional staff. National Institute for Care and Excellence (NICE) provides national guidance and advice based on evidence to improve health and social care.

Collaboration between the NHS, commercial healthcare companies and academia helps develop innovative, integrated, high-quality and cost-effective systems of care. This partnership extends to planning and delivering facilities, clinical services and deploying new technologies.

The UK has a long track record of enhancing clinical services through analysis of how they are delivered and implementing solutions which provide better patient outcomes and improve efficiency. It also has specialist design, build and operating companies with an international reputation for creating unique and culturally appropriate medical facilities. The excellence in sophisticated data analysis and telehealth has placed the UK in a unique position in the health field.

# The University of Nottingham Expertise in Health

## The Faculty of Medicine and Health Sciences

The Faculty of Medicine and Health Sciences at The University of Nottingham draws together the activity of four separate schools to deliver world-leading research and inspirational teaching for tomorrow's scientists, doctors, nurses, midwives, physiotherapists and veterinary scientists. We host a range of research centres and research platforms which support our work and that of collaborators. All of these elements together offer a scale and range of work that bring great benefits to our staff and students and which foster our strong tradition of innovation.

Overall we have around 5,300 undergraduates and 900 postgraduate taught students in the Faculty. Our courses are renowned for their prestige, their standard of teaching, their international focus, and the employability of their graduates. Our research integrates basic science, translational research and applied clinical activity, with a focus on making a real-life impact on our patients and the public. We currently supervise about 800 postgraduate research students and our research funding totals more than £170 million.

Comprising four schools of Life Sciences, Medicine, Health Sciences, and Veterinary Medicine and Science, the Faculty works closely with our local NHS and other healthcare providers, veterinary practices and industry, it brings relevance and real-life impact to our teaching and research. All of the schools have already undertaken significant collaborations with partners in China.

### FACULTY FACTS

**5,300**  
taught undergraduates

**900**  
taught postgraduates

**800**  
postgraduate research students

Medicine and Health Sciences research portfolio of  
**£170m**

## School of Life Sciences

The School of Life Sciences covers a wide spectrum of biological and medical sciences in both teaching and research. The expertise in the School spans molecular and cell biology, biochemistry, genetics, microbiology, pharmacology, physiology, anatomy and zoology. The School aims to achieve excellence in education, both in its own undergraduate science and postgraduate MSc degrees and with the major contributions it makes to professional courses in Medicine, Pharmacy and Dietetics.

The School of Life Sciences is a vibrant, forward-looking research unit that provides the main focus for biological and biomedical research at The University of Nottingham. Members of the School occupy top-quality research laboratories with state-of-the-art facilities within the Queens Medical Centre, the Life Sciences building and the new Centre for Biomolecular Sciences (CBS) on the main University Park campus. The School's research covers all areas of contemporary biology and biomedicine from Neurobiology to Microbiology, from Ecology to Physiology and Pharmacology and from Immunology to Genetics.

Our research activity has impact in three major areas:

- Translational research bridges key gaps between invention, evaluation and adoption, driving significant changes in medical practice and clinical guidelines.
- Our ambitious patient engagement programmes link researchers with patients and the public, from early research stages identifying important questions, to advanced stages of adoption of research findings.
- Our commercial collaborations are accelerating the pace of drug and treatment development.

There are 11 divisions within the School of Medicine:

### Cancer and Stem Cells

This division brings together scientists and clinicians with expertise in basic biological and translational areas of oncology and stem cell biology including cell and molecular biology, immunology, clinical cancer medicine and therapeutic cell biology. It aims to develop new treatments to target cancer by focusing at the interface between laboratory and clinical research. The efforts concentrate on better understanding of the tumour microenvironment, by not only studying cancers themselves but importantly the interactions between the tumour and the body.

The staff in the division carry out phase I, II and III trials, working with other academic institutions and the pharmaceutical industry, in local, national and international trials. The division has a national and international profile in several cancer types including melanoma, renal cancer, breast, gynaecological and upper gastro-intestinal cancers. The division's stem cell biology group model a wider range of diseases and mechanisms. In all cases, the close collaboration between laboratory and clinic promote exchange of both ideas and clinical material to facilitate more effective cancer research.



## School of Medicine

The School of Medicine is the largest school in the University, covering a diverse range of medical and surgical disciplines, with the mission of improving human health and quality of life locally, nationally and internationally through outstanding education, research and patient care. Strong links with industry and healthcare providers enable translation of our cutting-edge research into direct benefit for patients. The School works closely with the East Midlands Healthcare Workforce Deanery, Health Education East Midlands (part of NHS Health Education England), NHS Trusts, General Practitioners and other healthcare providers across Nottinghamshire, Lincolnshire and Derbyshire to train medical students.

The School's current partners and clients range from start-ups and small and medium enterprises, to global pharmaceutical companies, creating successful spin-out companies and transforming intellectual property into valuable innovations.





### Child Health, Obstetrics and Gynaecology

This division is a vibrant, active department with an international reputation for our research excellence, innovations, training in research and teaching of child and women's health. It is closely linked with the Nottingham Children's Hospital in the University Hospital (Queen's Medical Centre) and with Neonatal Intensive Care and Fetal Medicine in Nottingham.

The division is at the forefront of research in women and children's health. Research within the division ranges from that which promotes better reproductive health for women, through the basic science which enhances our understanding of human development onto practical interventions which provide better care for sick infants, children and young people.

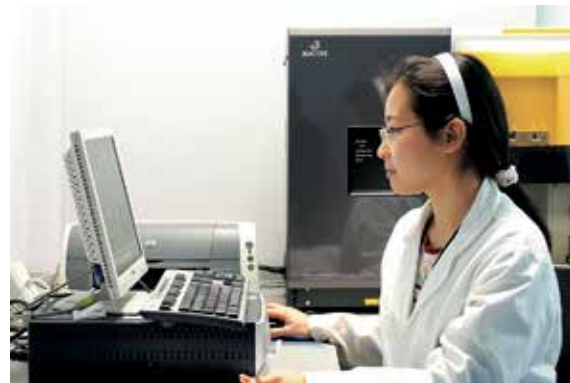
### Clinical Neuroscience

This division is the largest division in the School of Medicine, bringing together leading clinical and laboratory neuroscientists across the fields of anaesthesia, hearing sciences, neuroimaging, neurology, ophthalmology and stroke (including cardiovascular medicine). It is a part of Neuroscience@Nottingham and works closely with Nottingham based neuroscientists.

Key areas relevant to clinical neurosciences are addressed using a spectrum of methods embracing basic science, translational and experimental medicine, and clinical research including large randomised trials. Much of this work is embedded in the NHS, particularly the Nottingham University Hospitals NHS Trust, to bring cutting-edge clinical care to our patients and clinical relevance to our research and teaching.



Our research is founded in excellence and builds on the work of pioneers in Nottingham, especially the Nobel Prize-winner Professor Sir Peter Mansfield.



### Nottingham Digestive Diseases Centre

The Nottingham Digestive Diseases Centre (NDDC) has a strong track record in basic science, experimental medicine and translational research. It comprises over 100 academics and NHS associates including consultant gastrointestinal (GI) pathologists, hepatologists, radiologists and surgeons. We conduct research to make novel observations regarding mechanisms underlying digestive health and diseases.

Our experimental medicine programme encompasses basic and translational research from discovery to clinical application and dissemination. We collaborate with patients, clinicians, basic scientists and industry partners to develop innovative tests, devices and interventions that improve digestive health and treat digestive diseases. We create an environment where researchers learn, develop and respond creatively to an ever changing clinical context.

### Epidemiology and Public Health

Researchers at the Division of Epidemiology and Public Health work at the interface of clinical practice and public health, in disciplines including epidemiology, statistics, economics, qualitative methods, clinical science and health policy. Our aim is to deliver research that improves health and wellbeing by recruiting, developing and empowering gifted researchers working across the spectrum of public health; and by generating research which leads to positive changes in policy and practice across a range of clinical and public health research priority areas.

We teach undergraduate medicine and public health, deliver masters courses in public health, applied epidemiology and international health, and have a thriving PhD programme, generating academic public health and epidemiology capacity for the future.



in the UK for funding across both Knowledge Transfer Partnerships and Research and Development

Research Councils UK, 2015



### Psychiatry and Applied Psychology

The Division of Psychiatry and Applied Psychology is composed of an interdisciplinary group of psychiatrists, clinical psychologists, forensic psychologists, neuropsychologists, occupational psychologists and health psychologists based within the Institute of Mental Health and enjoying close links with Nottinghamshire Healthcare NHS Trust. Within an energetic and collaborative environment we carry out internationally competitive and locally relevant applied research and deliver innovative teaching at undergraduate, masters and doctoral level.

We conduct high quality research that enhances our understanding of the causes, mechanisms and treatment of mental disorder and criminal offending across the lifespan; promotes individual and organisational health and wellbeing; and improves policies, systems and the delivery of services in order to achieve these goals. In addition to our valuable contribution to the undergraduate medical course, we offer popular professional doctorates in clinical and forensic psychology and masters degrees in mental health research, occupational psychology, workplace health and wellbeing, and criminological psychology.

### Rheumatology, Orthopaedics and Dermatology

The Division of Rheumatology, Orthopaedics and Dermatology comprises three integrated departments: Academic Rheumatology (City Hospital), Orthopaedics Trauma and Sports Medicine (Queen's Medical Centre), and the Centre for Evidence Based Dermatology (King's Meadow campus). In line with the School of Medicine, the mission of the division is to improve health and quality of life through outstanding medical education, research and patient care in the areas of joint, bone and skin disease.

We undertake both primary research and secondary research evidence synthesis. Two Arthritis Research UK (ARUK) centres of excellence are based in the division. We are also actively engaged in undergraduate and postgraduate education and undertake a wide range of research. We work closely with other departments in the University and University Hospitals NHS Trust, as well as patients and members of the public.

### Primary Care

Division of Primary Care is one of the foremost primary care centres in the UK, with 82% of our research judged as world-leading or internationally excellent in the Research Excellence Framework (REF) 2014.



Part of the NIHR National School of Primary Care Research, we are a multi-disciplinary unit of over 100 people, including practising GPs, other health professionals, psychologists, statisticians, research and support staff. We carry out internationally leading research to improve the health and primary health care of individuals and communities.



The Division welcomes and trains postgraduates to be the best researchers of tomorrow, and has expertise in randomised controlled trials, observational studies, epidemiology, economics and qualitative methods. We teach across all years of the undergraduate of the undergraduate Bachelor of Medicine Bachelor of Surgery (BMBS) course. We lead training of medical students in clinical and professional development, chronic illness in the community, clinical skills, and their placements with over 200 general practices.



Winner of the Times Higher  
Education Awards 2014  
**Research Project of the Year**

### Rehabilitation and Ageing

Rehabilitation aims to lessen the impact of disease and disability on everyday life and to assist people in reaching their fullest potential. We provide a vibrant and supportive rehabilitation research and teaching community and contribute to improving the capacity and capability of the clinical and research workforce in this field. The Division has a dynamic research portfolio that has gained both national and international recognition with funding from charities, National Institute for Health Research, research councils, industry and European awards.

Our studies range from the theoretical underpinning of rehabilitation practice, understanding older people's health, the development and evaluation of complex interventions and the implementation of research knowledge into changing practice and improving health.



### Respiratory Medicine

The Division is a large respiratory research group with 10 senior academic staff at Professor and associate Professor levels and more than 70 clinical and basic scientists including 10 senior staff based on both the Nottingham City Hospital and Queen's Medical Centre campuses. We have state of the art laboratories and a purpose built clinical trials unit, the Nottingham Respiratory Research Unit (NRRU) on the City Hospital campus. We have research programmes in obstructive lung diseases (Asthma/COPD), fibrotic lung diseases (IPF, LAM) and infective lung diseases (cystic fibrosis, pneumonia).

Our research focuses on genetics, pharmacogenetics, molecular pathophysiology, translational research (including biomarkers and imaging) and clinical trials. We have a broad portfolio of research funding from MRC, BBSRC, NC3Rs, Wellcome and other charities, EU and industry.

We have close links on respiratory themes with researchers within other research groupings in Nottingham such as epidemiology, molecular microbiology, drug discovery, allergy, immunology and child health.

We are part of several major national/international collaborations (for example MRCMAP COPD, NIHR TRP in inflammatory diseases and UBIOPRED IMI consortia) working closely with major academic institutions and industry. We host the National Centre for research into lymphangiomyomatosis (LAM).

Our research outputs were specifically commended in REF 2014. Our impact statements were described as 'exemplary' and our research environments were described as being of 'world-leading' quality in terms of vitality and sustainability.



We have a thriving group of postgraduate students in a newly established Centre for Doctoral Training Rehabilitation and Healthcare Research. In addition, we train undergraduate students in healthcare of the elderly, and deliver the Masters in Rehabilitation Psychology and Masters in Health Psychology courses.



### Medical Sciences and Graduate Entry Medicine

Based in a new building on the site of the Royal Derby Hospital, the division accommodates over 120 University staff and enjoys excellent links with the Derby Hospitals NHS Foundation Trust. Academic staff include scientists, clinicians and health professionals. Medicine is an exciting, challenging and demanding career. The University of Nottingham prides itself on being at the forefront of innovation in medical education, health science research and working with NHS organisations to promote excellence in all aspects of patient care.

We deliver the Graduate Entry Medicine (GEM) course which is an innovative four-year, fast-track programme designed to widen access to medical careers for graduates who come from a wide range of professional and educational backgrounds. Our teaching programme produces the finest doctors from the most diverse backgrounds. There is an emphasis on clinical and translational research, spanning molecular mechanisms through to clinical trials. Research within the division is funded by the Biological and Biotechnological Sciences Research Council, British Heart Foundation, Health Technology Assessment, Action Medical Research, Kidney Research UK, amongst others.

The School has a thriving PhD programme linked to its key research groups:

- Supportive and palliative care
- Digital health
- Mental health
- Rehabilitation
- Maternal health and wellbeing
- Skin integrity



The results of the UK's latest Research Excellence Framework confirm the School as one of leading institutions carrying out nursing and midwifery research in the UK, with the vast majority of its research defined as 'world-leading' or 'internationally excellent'.



### School of Health Sciences

The School of Health Sciences delivers a range of undergraduate and postgraduate courses and degrees in the fields of nursing, midwifery, physiotherapy, sport rehabilitation, and allied health professions. The school offers a wide range of MSc courses such as the MSc in Maternal and Newborn Health, the MSc in Midwifery and the MSc in Physiotherapy. Also, health and social care professionals can continue their learning through a range of Continuing Professional Development programmes. The School works closely with its NHS clinical partners across the region and has developed a unique clinical practicum programme for its international students.

Teaching in the School is supported by an international award winning e-learning Centre which also offers short courses in developing e-learning for healthcare.

The School has an international reputation for CPD and faculty development programmes in nursing and midwifery, delivered in partnership with professional bodies and governments in India, Europe, east Africa and also China. The School has a strong relationship with the China Guanghua Nurse Fund – a special fund of China Guanghua Science and Technology Foundation in 2006 to build capacity and capability in the Chinese Nursing workforce. The School has delivered CPD programmes for nurse leaders and faculty in China, as well as hosting study tours and short courses in Nottingham for nurses from China.





## School of Veterinary Medicine and Science

The School of Veterinary Medicine and Science is a UK leader in its field. We provide a diverse, vibrant and stimulating environment for research and consultancy, and are ranked as one of the top universities for research in the UK.

It is our aim to equip our undergraduate students with the diagnostic, medical, surgical and other skills required to succeed in a changing world. The curriculum combines a clinically-focused basic science programme, relevant clinical learning opportunities with integrated research.

Our undergraduate veterinary course brings students into contact with animals and clinical case scenarios from the very beginning of the course.



Teaching standards at the University received the **highest possible commendation** in the latest QAA (Quality Assurance Agency) audit (2009)

## School of Pharmacy

The School leads in the training of pharmacists in the UK, as well as joint UK-China Pharmacy education. It is recognised as a world leader for research in the design and use of drugs and medicines.



The School of Pharmacy at Nottingham came joint first in the 2014 REF amongst pharmacy schools in the UK, for the quality of its research. It is the only school of pharmacy to have 100% of research at 4\* (Internationally leading) in the 'Impact on Society' category. The School is ranked 6th in the world in the 2016 QS World Rankings for pharmacy and pharmacology.



### Research divisions

The School has five major and integrated research divisions housed in state of the art modern facilities. Researchers receive funding from the UK Research Councils and the European Union as well as charities and industry. This funding helps the school attract around 40 to 50 PhD students a year and supports many outstanding postdoctoral researchers.

The five research divisions include:

- Pharmacy Practice and Policy
- Biomolecular Science and Medicinal Chemistry
- Molecular Therapeutics and Formulation
- Advanced Materials and Healthcare Technologies
- Regenerative Medicine and Cellular Therapies

### Industry and business partnerships

Significant value can be added to businesses of all sizes by working in partnership with the School. Our flexible approach will guarantee a tailored solution that provides access to some of the best facilities and academic expertise in the UK. We are continually seeking further opportunities to generate mutually beneficial collaborations.

### UK-China joint pharmacy course

The School is excited to be delivering the first UK-China joint pharmacy course. This new five-year course, approved by the Chinese Ministry of Education, started in September 2015 and aims to advance international pharmaceutical education and cultivate highly qualified pharmaceutical talent, particularly for the hospital sector in China. The School of Pharmacy at The University of Nottingham (UoN) and the College of Chinese Material Medica at Tianjin University of Traditional Chinese Medicine (TUTCM) are jointly delivering the course, in which all pharmacy teaching and assessment is in English.

High-quality students will spend their first and second year at TUTCM, years 3 and 4 at UoN and year 5 at TUTCM. Students will complete a BSc in International Pharmacy, whilst in the UK. During this time, and the previous year in TUTCM, students will gain a western perspective on medicine and drugs, clinical and commercial knowledge and patient safety from Nottingham experts. At the end of the five-year programme, which has a continuous theme of traditional medicines, students will also receive a Bachelor of Science from TUTCM.



Across our **UK, China and Malaysia** campuses, we have over

43,000

students from more than

150

different countries. Of these, over

9,000

are engaged in postgraduate study





## Institute of Mental Health

The Institute of Mental Health (IMH) is the UK's prime location for inter-disciplinary research in the mental health field (psychiatry, psychology, sociology, business, law, nursing, economics and statistics). The Institute is a partnership between two highly respected organisations, Nottinghamshire Healthcare NHS Foundation Trust and The University of Nottingham, bringing together both the healthcare and education sectors to achieve 'Research Excellence for Innovation'. Since its formation in 2006, the Institute has established a track record of success, with achievements in pioneering education provision and innovative service-facing research, taking the organisation from humble beginnings to the international stage in a short time.

The Institute's mission is to improve people's mental health through the use of ground-breaking research and pioneering educational activities. The Institute's staff are dedicated to improving the care and treatment of people who use our access mental health services through innovating, developing, exploiting and distributing knowledge about mental health. The key activities of the Institute are to promote research, support clinical practice, provide educational training courses and act as an expert resource in promoting best practice in mental health.



The Institute currently attracts nearly £10m in any one year in external research grants to fund its work. We have 21 full and associate professors and publish nearly 250 peer-reviewed journal papers per year. We have 29 of our own unique Managed Innovation Networks (MINs) and more than 300 members.

The portfolio of training and development opportunities offered by the Institute attracts 1,000 students each year. Courses offered include one-off modules, diplomas, BA, MA and PhD degrees in mental health subjects. The Institute is home to a number of specialist centres of excellence: Health and Justice; ADHD and Neuro-developmental Disorders across the Lifespan; Social Futures; Dementia; Education and Translational Neuroimaging.



## Nottingham University Business School

Nottingham University Business School (NUBS) is an international leader in finance and management education and a research pioneer in entrepreneurship, innovation and sustainability. NUBS ranked 6th for 'research power' out of 101 UK business and management institutions in the 2014 Research Excellence Framework (REF). We have an unrivalled global reach through our campuses in the UK, China and Malaysia.

The University of Nottingham ranks among the UK's elite universities and global polls for research excellence. Our Business School has many researchers who are leaders in their fields, and our centres and institutes work with global businesses and regional enterprises to develop practical and relevant thought leadership.



Links with more than

300



UNIVERSITIES  
IN OVER

40

COUNTRIES

## Continuing Professional Development (CPD)

Our CPD programme will develop your clinical and professional knowledge and skills, interacting with leading clinicians and learning of the latest developments. We deliver CPD across a range of species and disciplines to address the lifelong learning needs of health professionals.

We have a reputation for innovative course design and delivery, and this expertise underpins our CPD opportunities. We have developed a series of highly practical sessions that are clinically applicable to health professionals and driven by up-to-date evidence.



## Non-clinical Health Expertise at University of Nottingham Ningbo China

University of Nottingham Ningbo China (UNNC) has more than 40 scholars across the three faculties of Social Sciences, Science and Engineering, and Arts and Education. These academic experts have the capabilities to contribute to the development of non-clinical healthcare projects.

Their expertise includes:

- specialist expertise in healthcare information systems and use of information technologies in clinics and hospitals
- the development of data-mining, statistical models and other analytical techniques to explore clinical practices and health research data
- the use of Big Data techniques in healthcare research and public health management
- the development of financial models and financial products for the healthcare sector
- development of staff competencies in patient communication and health education
- new materials, electronic and electrochemical technologies for applications in the development of medical implants and biomedical sensors



With high tutor-to-attendee ratios, our courses focus on your individual development. Whether discussing your own experiences or getting hands on with the latest clinical approaches, you will benefit from close personal involvement and interaction.





# Nottingham Health China

In the 21st century, China faces a number of major public health challenges, in particular the rapidly rising incidence of non-communicable disease. Smoking related lung diseases such as chronic obstructive pulmonary disease (COPD) and lung cancer, cardiovascular disease, type 2 diabetes, and dementia are all increasing in a population which is ageing and in which smoking is common and obesity is increasing. With its proven expertise in public health, epidemiology and evidence-based medicine, The University of Nottingham is ideally placed to help drive improvements in health and the delivery of health care, both at a regional and a national level. At the centre of these improvements will be the need for knowledge exchange and to grow the capacity in collaborative health research and teaching at both The University of Nottingham Ningbo China campus and the UK campus.

Nottingham Health China is an initiative, driven by The University of Nottingham, to engage with China's health agenda. Research, education and training will be delivered to address relevant issues. The initiative will link to the University's wider capabilities within the Faculty of Medicine and Health Sciences, the School of Pharmacy and the Nottingham University Business School in China and the UK. For example, the Institute of Mental Health is already collaborating with Shanghai Jiao Tong University to explore mental healthcare issues in China, and this activity will be incorporated under the remit of this initiative. In addition, it will also bring in the expertise from the Business School through the recently established Centre for Health Innovation, Leadership and Learning to develop leadership and management skills in the healthcare sector.

The Nottingham Health China initiative will:

- facilitate research collaborations with Chinese and UK healthcare institutions by enhancing interactions between UK and China based researchers and clinicians, and by using access to populations and samples from collections in China and the UK to facilitate research
- enhance the interaction and policy dialogue with both the regional and national government
- engage with the commercial sector in China, particularly with regard to IT and data, and establish a presence in the healthcare education sector
- contribute to healthcare education provision in China that is tailored for the China healthcare sector needs. There is a major requirement within China to access high quality postgraduate education programmes and CPD programmes. The centre will seek to play a major role in the delivery of such programmes, both through the Ningbo campus and also through links in the UK
- host exchanges for more senior staff wishing to gain experience of the UK or China's healthcare sector
- organise international conferences
- provide teaching and CPD courses for Chinese healthcare professionals

With support from the Ningbo Municipal government, The University of Nottingham will work closely with partners in the UK and China. Nationally, health has been identified as a strategically important sector between the UK and China, presenting opportunities to share knowledge and skills in order to solve the health challenges in both countries. There have been several recent high profile visits to promote the UK Healthcare sector to China, and Nottingham Health China has been designed to align with this strategically important collaboration between China and the UK.





## Key work strands

### The Centre for Evidence Based Healthcare

Evidence Based Practice (EBP) is a problem-solving approach to the delivery of care that incorporates the best evidence from well-designed studies in combination with a clinician's expertise and patients' preferences within a context of caring.

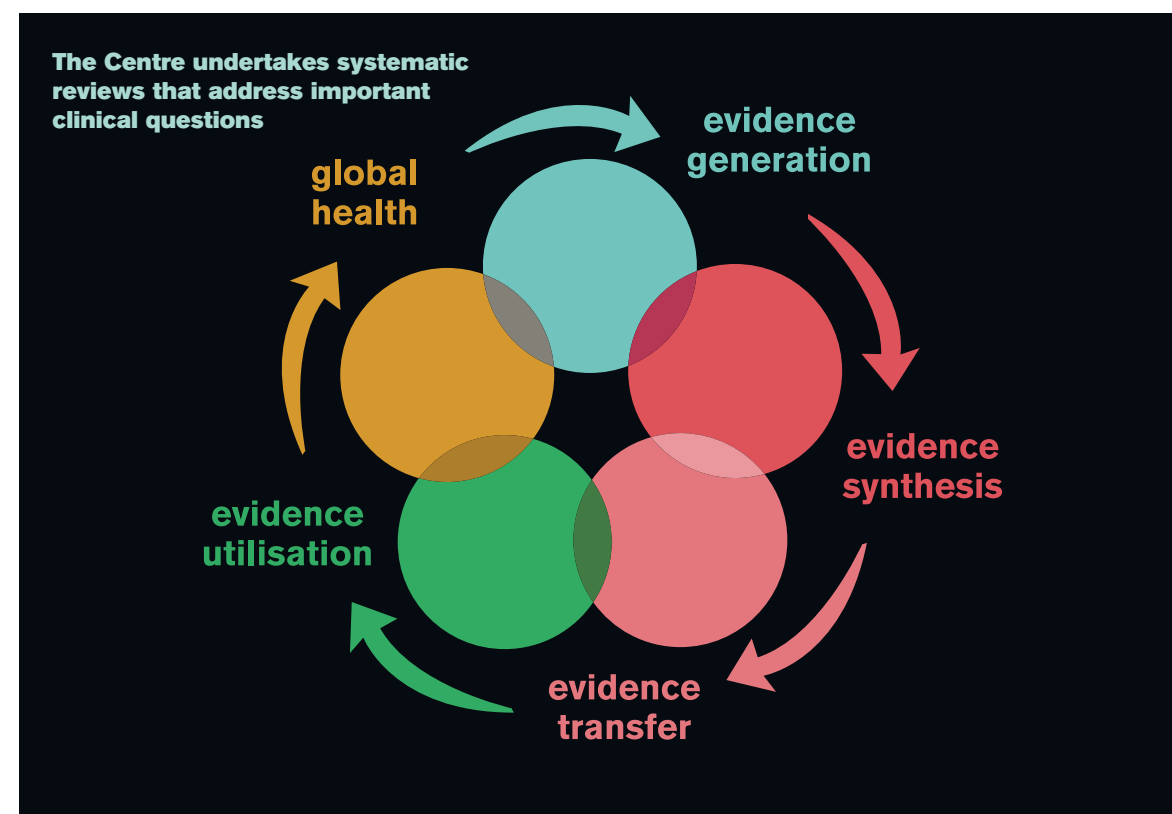
The Nottingham Centre for Evidence Based Healthcare (CEBHC) is part of The University of Nottingham's Faculty of Medicine and School of Health Sciences. It is vibrant, growing Centre made up of experienced academic researchers, information scientists and clinical practitioners, all specialising in evidence synthesis.

We publish Systematic Reviews using a variety of methodologies, registered through the Joanna Briggs Institute (JBI) and Cochrane Collaboration, with the aim of improving healthcare practices for the benefit of patients and practitioners all over the world.



The Centre has three main areas of activity:

- Collaborating with faculty research groups to provide methodological input for research programmes.
- Collaborating with clinical partners to tackle established clinical priorities through evidence synthesis and implementation.
- Delivering high-quality training on systematic reviewing and evidence based healthcare. Our expert team delivers short courses and bespoke workshops locally, nationally and internationally.



**8<sup>th</sup>** in the UK in terms of **research power**

Research Excellence Framework (REF) 2014

### The Centre for Health Innovation, Leadership and Learning International (CHILLI)

#### Areas of Expertise

The Centre's mission is focused on supporting service innovation, continuous learning and transformational leadership. Our work is also brought together around four key strategic service priorities:

#### Improving quality & safety

Our work is committed to improving the quality and safety of patient care. We have a large portfolio of cutting-edge research projects, we work closely with regional and national safety leaders, and we are home to two cohorts of Health Foundation Improvement Science doctoral students, and a Health Foundation Improvement Science Fellow.

#### Sustaining innovation

Our work is committed to support service leaders to implement meaningful and lasting service innovations through bringing to light the organisational, political and economic drivers of change. We have particular expertise in the processes of technological innovation, workforce change and new organisational forms.

#### Integrating care organisations

Meeting the triple challenge of healthcare organisation relies upon closer working and integration between different care providers, especially health and social care agencies. We have evaluated a large number of policies, frameworks and interventions aimed at fostering integration from which we have developed evidence-based guidance and learning.

#### Implementation & Evaluation Framework

Service providers often need support in implementing change and in determining whether change delivers on the expectations of stakeholders. We have considerable expertise in implementation science and evaluation methodologies, and devised a Nottingham Framework for Implementation & Evaluation. This has been successfully used with regional partners. We now look to build capacity for partners through supporting their understanding of implementation and evaluation. CHILLI has established collaborations with researchers and health care providers in the United States, Brazil, the Philippines, New Zealand, India and Iran.

### Nursing and Midwifery

As the demands of an ageing population stretch health service capacity, new ways of working are required. The Division of Nursing has a long history of welcoming MSc and PhD students from China. It seeks to collaborate with existing and new partners in China in four areas:

- Development of clinical and faculty exchange relationships to promote mutual learning.
- Provision of CPD and MSc courses to support (i) innovations in nursing education, (ii) nursing leadership and (iii) the development of clinical nurse specialist roles.
- Courses to build capacity in the existing nursing workforce (for example, through an on-line BSc degree for nurses who currently have a diploma and wish to up-skill).
- Development of research partnerships in areas of mutual interest (for example, care of patients with dementia, acute and chronic wound care).

The Division of Midwifery offers expertise and established programmes in pre-registration midwifery education, CPD and postgraduate taught programmes for maternity professionals (MSc in Midwifery for individuals registered as midwives; MSc Maternal and Newborn Health for healthcare professionals working in maternity settings). Its research falls within three major themes: (i) the organisation and content of maternity care; (ii) perinatal mental health and pregnancy; (iii) birth and motherhood in contemporary society.

It has an international reputation for its education and research focus on promoting 'normality' in childbirth and in developing and evaluating, midwifery-led models of care. In China, the Division of Midwifery seeks to engage in education and research initiatives such as:

- delivering workshops and conferences on evidence based approaches to Perinatal Mental Health and Midwifery role and models of care
- facilitating observation visits of senior midwives from Ningbo Women's and Children's Hospital to Nottingham University Hospitals Trust
- building research links, starting with doctoral students





## Mental Health

The mission of this work strand is to improve people's mental health through the use of ground-breaking research and pioneering educational activities. Our work is also brought together around four key strategic service priorities:

- Postgraduate education: To enhance the skills of the next generation of Chinese mental health work force, through the provision of PhD training for mental health researchers, and clinical training for mental health clinicians.
- Strategic research: To provide academics and researchers of international excellence from partners within the centre to lead on large scale research projects of national importance, with a view to informing, refining and implementing Chinese mental health policy and practice.
- Education and training: In addition to the focus on postgraduate training, the IMH also place considerable focus on short education and training courses focused on existing mental health care workers or academics working in mental health care contexts. These courses would aim to provide core skills to support existing staff to improve current mental health care provision and research.
- Health technology: Drawing on considerable existing expertise within the IMH in Nottingham seek out and evaluate appropriate technological solutions for mental health care diagnosis, treatment and support in China.



## Medical Education

The current challenge facing most, if not all, healthcare systems is re-shaping the workforce to deliver the care patients' need in the 21st century. The priority for medical educators is to facilitate this transformative change by developing, retraining and retaining a workforce with the right skills, values and behaviours in sufficient numbers and in the right locations to serve patients.

The School of Medicine has a well-established MMedSci in Medical Education aimed at delivering this vision and ensuring healthcare professionals develop teaching and research excellence alongside their clinical expertise.

The Medical Education Centre in the School of Medicine seeks to collaborate with existing and new partners in China in the following areas:

- Faculty development with a particular focus on Educational Scholarship and Leadership.
- Provision of MMedSci modules and short courses for providing updates around new insights or any controversies in the following areas:
  - o Teaching
  - o Learning
  - o Assessment
  - o Feedback
  - o Curriculum
  - o Technology
- Cutting-edge research, innovation and development in medical education:
  - o Clinical diagnostic decision-making in complex healthcare environments.
  - o Enhancing the performance and resilience of healthcare professionals using insights from sports psychology, business and education.
  - o Technology-enabled learning and quality improvement using multifaceted educational interventions.

The Medical Education Centre in the School of Medicine has a track-record in attracting and supporting both MMedSci and PhD international students, therefore we have a keen interest in supporting students from China to pursue such opportunities with us.





## Primary Care Teaching and Training

In November 1976, UK Parliament approved statutory vocational training for General Practice (GP) which was implemented in 1982. However GP Vocational Training had already begun in the early 1970s with training programmes developing in postgraduate centres linked to major Teaching Hospitals in cities such as Nottingham in the East Midlands. Since then UK General Practice has evolved to the status of a three-year specialty training programme under the remit of Health Education England. The training, though competency driven with strict summative criterion, allows for out of programme experiences for example in global health.

Health Education England for East Midlands has recently completed a successful exchange programme in which GP learners from Kenya and the East Midlands combined on evaluating and comparing the respective health needs of marginalised communities in Kenya and Nottingham. This Global exchange model has been successfully evaluated and can be applied to promote GP Training and education in China. GP educators and learners from the UK and China could combine to evaluate respective education and training experiences with a view to produce a report with suggestions for implementation and strategy for promoting and enhancing GP training for both countries. A preliminary visit to Ningbo No.2 Hospital and the University of Nottingham Ningbo China in June 2016 by a senior GP educator from the UK has identified mutually beneficial opportunities for global collaborative working which are being taken forward.

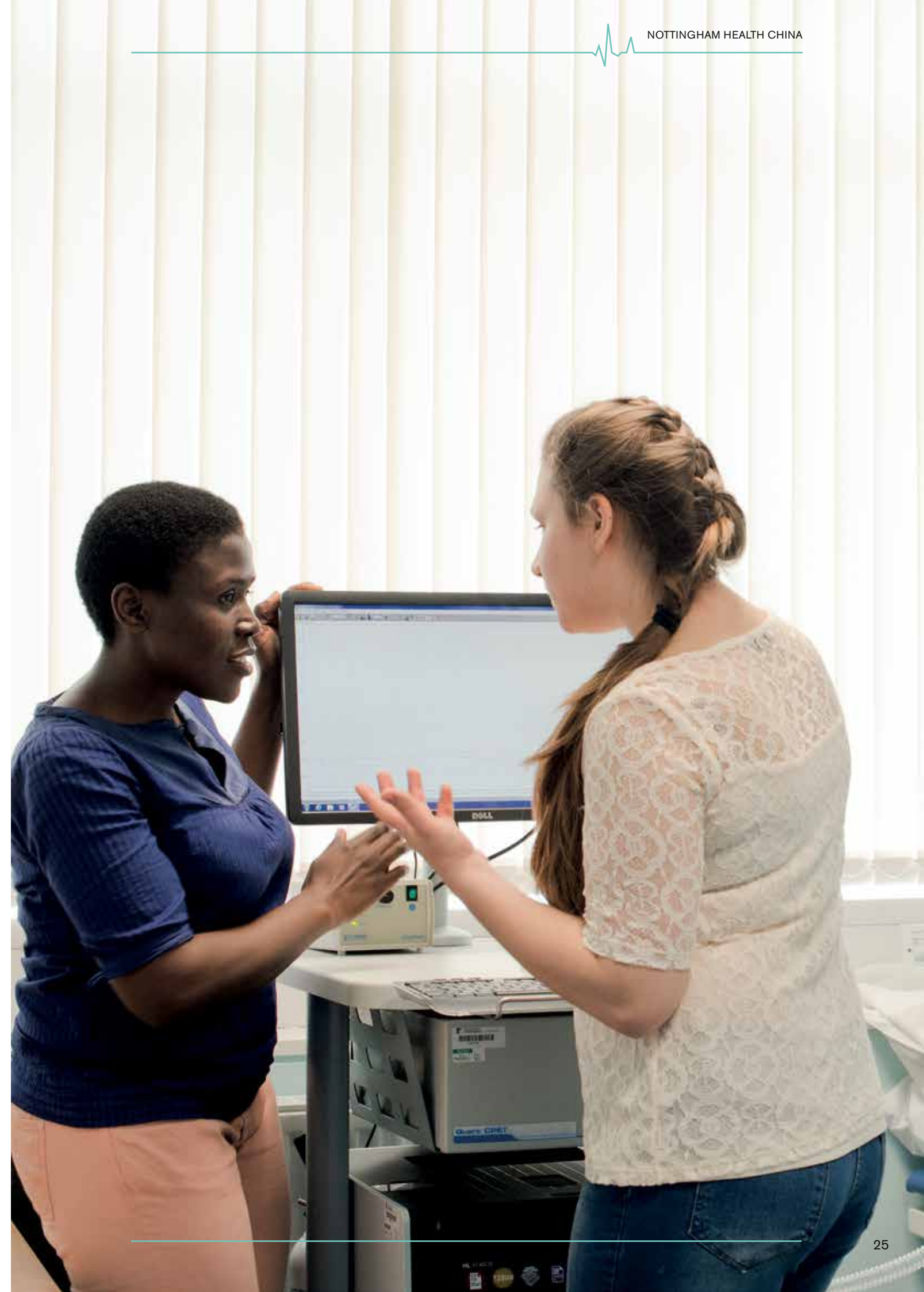


## Healthcare Software and Epidemiology

The Division of Epidemiology and Public Health at The University of Nottingham has a strong interest in clinical epidemiology – that is using epidemiological methods and statistics with routinely collected clinical datasets to try to answer questions that are important to health care works and also people with disease. We plan to teach this pragmatic and practical approach to public health in a series of short courses in China.

As part of our practical approach to health services research the Division of Epidemiology and Public Health has a long history of managing and analysing large routinely collected clinical datasets derived from both primary and secondary care. The division has been using computerised primary care records for research since 1997 and a few examples of projects completed using these data include risk factors for hip fracture, the risk of thromboembolic disease during pregnancy, predicting which patients will get lung cancer, and studying the co-morbidity of conditions such as Coeliac disease and lung fibrosis. The division also uses UK, Swedish and American hospital data for research, and the national cancer audits. Examples of research here include the safety of surgery for people with lung cancer and the risk of complications during routine medical procedures for people with lung fibrosis. As the Health Care System in China moves to become more digital we are ideally placed to help local researchers and health care providers maximise the benefit of their data.

The UK Software company TPP is a leading provider of health care software in the UK and provides primary and secondary care data for research into the care of patients in the UK. The Company have successfully piloted their software in China and a number of health centres have now started to use the SystmOne package. The University of Nottingham is exploring collaborative links with TPP and the School of Computer Science at UNNC to maximise the benefit of these datasets.



# Partners in the UK and China

The Nottingham Health China initiative aims to become the gateway for UK public and private healthcare providers to enter China, promote and grow the capability of China to manage its health issues through a series of national and international partnerships. We cultivate relationships between university, public and private institutions and in doing so developing trust, confidence and capability.

## Scope of partners' capabilities

- Clinical
- Education
- Financial
- Facility
- Technology

## Our current partners include:

### UK

Healthcare UK  
Nottingham University Hospitals NHS Trust  
Nottingham CityCare Partnership  
East Midlands Academic Health Science Network  
NHS  
The Ear Foundation  
The Institute of Mental Health

### CHINA

National Health and Family Planning Commission of P.R. China  
Guanghua International Education Association  
China Nursing Association  
Ningbo No.1 Hospital  
Ningbo No.2 Hospital  
Ningbo Women's and Children's Hospital  
Ningbo Centre for Disease Control and Prevention

## How to get involved

This initiative will facilitate connections between different stakeholders, encouraging collaboration between commercial and public organisations and enabling you to build new partnerships that strengthen your proposition value and global reach. If you are interested in partnering with us in this exciting journey, please get in touch with our Asia Business Centre. Email: [AsiaBusiness@nottingham.ac.uk](mailto:AsiaBusiness@nottingham.ac.uk)



# Knowledge Exchange China and Asia Business Centre

The Asia Business Centre (ABC) and Knowledge Exchange UNNC are a single team located both in the UK and China that delivers the University of Nottingham Tri Campus Knowledge Exchange strategy in China. It is the innovative expression of commitment of the University's 'internationalisation' and 'partnerships for growth' strategy and UNNC Strategy 2020. Incorporating a cohesive, close knit team of senior management and professional services, ABC targets growth clusters based in UK and UNNC to capitalise upon the University's unique presence in China and Asia.

ABC has been developing and supporting the University's China Healthcare strategy, and sees the Nottingham Health China initiative as instrumental to realise our engagement with China's health sector.

