

**PRESS RELEASE**

FOR IMMEDIATE RELEASE

Thursday 18 August, 2011

**Pioneering research recognised by £20 million government grant**

Pioneering research to help people living with complex heart and lung conditions has been recognised with a grant of almost £20 million from the Government's National Institute for Health Research (NIHR).

Experts at two Biomedical Research Units (BRUs) run jointly by Royal Brompton & Harefield NHS Foundation Trust and Imperial College London, will receive the funding as a five year grant starting in April. The two units are at the forefront of international research into the most challenging lung and heart conditions affecting patients around the world.

The respiratory BRU incorporates a state of the art clinical research facility for both adult and children's research trials which has hosted more than 50 research studies, investigating new treatments for asthma, COPD, cystic fibrosis, bronchiectasis, interstitial lung diseases, acute and chronic respiratory failure and sleep medicine. The new funding will boost these studies, provide a focus on the treatment of respiratory lung infections and support a move toward personalised medicine.

The cardiovascular BRU incorporates leading facilities for cardiac imaging, interventional cardiology and genetics. Much of the cardiovascular BRU's research focuses on heart regeneration, aiming to increase understanding of poor heart function in people living with cardiomyopathy, arrhythmia, coronary heart disease and heart failure. This includes looking at new heart treatments using genes, imaging techniques, stem cells, tissue engineering and devices.

Both BRUs have active biobanks, collecting samples from patients to fuel research into cardiovascular disease and advanced lung disease. The biobank has collected samples from more than 1,000 patients to date, which will assist research enabling clinicians to better predict, diagnose, treat and prevent a range of conditions.

Professor Eric Alton, consultant physician at Royal Brompton Hospital, professor of gene therapy and respiratory medicine at Imperial College London and director of the respiratory BRU, said: "The starting point for our research always begins with the needs of the patients we treat every day. By investigating the causes of their conditions and testing new ways of diagnosing and treating them, we can deliver medical advances for the NHS and beyond. We have already made great strides forward in advanced lung disease and this further funding will enable us to build on these as well as train the next generation of researchers."

Professor Dudley Pennell, director of the cardiovascular BRU, professor of cardiology at the National Heart and Lung Institute at Imperial and consultant at Royal Brompton Hospital, said: "This is exceptionally good news for patients. We have already made great advances in both gene sequencing and imaging thanks to our initial BRU grant, and funding for another five years will enable us to continue our groundbreaking work. We have a duty to discover new treatments for heart disease, and investment on this scale from the NIHR gives us the best possible chance of doing so."

The cardiovascular BRU contains the latest world class imaging equipment. This includes a cardiac catheter laboratory, 3Tesla Siemens Skyra Cardiovascular Magnetic Resonance (CMR) scanner capable of assessing cardiac function, perfusion and myocardial fibrosis at high resolution, a state-of-the-art echocardiography suite and a state of the art genes laboratory with next generation gene sequencers. The respiratory BRU contains state of the art imaging, lung function, genetic sequencing, bronchoscopic and other investigational facilities providing the tools for research ranging from rehabilitation to gene therapy.

Facilities in both BRUs support a continued commitment to carrying out world-class research by;

- Increasing the critical mass of clinicians and scientists working together with well-phenotyped patient groups
- Sharing core facilities such as biobanks and databanks to increase synergy between the BRUs
- Increasing the number of drugs, devices, diagnostics or biomarkers progressing into phase II clinical trials
- Educating the next generation of translational researchers

- Developing public and patient involvement programmes to encourage involvement in research.

For more information about the cardiovascular and respiratory Biomedical Research Units (BRUs) visit <http://www.rbht.nhs.uk/brus/>

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**Notes to editors:**

**Royal Brompton & Harefield NHS Foundation Trust** is a national and international specialist heart and lung centre based in Chelsea, London and Harefield, Middlesex. The Trust helps patients from all age groups who have heart and lung problems and is the country's largest centre for the treatment of adult congenital heart disease. [www.rbht.nhs.uk](http://www.rbht.nhs.uk)

In April 2008, the NIHR awarded a four-year grant worth at least £10 million to a partnership of Royal Brompton & Harefield NHS Foundation Trust and Imperial College London to fund respiratory and cardiovascular BRUs at the Trust. The Units will lead innovative research in respiratory and cardiovascular medicine, translating advances in medical research into benefits for patients and supporting the expansion of current research output in these priority areas of disease.

The Cardiovascular BRU, a Cardiac Regeneration Unit, will research into new treatments for the heart using genes, stem cells, tissue engineering and devices. A significant part of the research will be the establishment of cardiovascular genetics research working in close synergy with advanced cardiac imaging and cardiac Positron Emission Tomography (PET). This will develop a pipeline of discovery of new mechanisms of heart disease and new treatments. The imaging technologies will also be used to develop new techniques of delivering novel treatments (such as stem cells).

Consistently rated amongst the world's best universities, **Imperial College London** is a science-based institution with a reputation for excellence in teaching and research that attracts 14,000 students and 6,000 staff of the highest international quality. Innovative research at the College explores the interface between science, medicine, engineering and business, delivering practical solutions that improve quality of life and the environment - underpinned by a dynamic enterprise culture.

Since its foundation in 1907, Imperial's contributions to society have included the discovery of penicillin, the development of holography and the foundations of fibre optics. This commitment to the application of research for the benefit of all continues today, with current focuses including interdisciplinary collaborations to improve global health, tackle climate change, develop sustainable sources of energy and address security challenges.

In 2007, Imperial College London and Imperial College Healthcare NHS Trust formed the UK's first Academic Health Science Centre. This unique partnership aims to improve the quality of life of patients and populations by taking new discoveries and translating them into new therapies as quickly as possible. [www.imperial.ac.uk](http://www.imperial.ac.uk)

The **National Institute for Health Research** provides the framework through which the research staff and research infrastructure of the NHS in England is positioned, maintained and managed as a national research facility. The NIHR provides the NHS with the support and infrastructure it needs to conduct first-class research funded by the Government and its partners alongside high-quality patient care, education and training. Its aim is to support outstanding individuals (both leaders and collaborators), working in world class facilities (both NHS and university), conducting leading edge research focused on the needs of patients.

[www.nihr.ac.uk](http://www.nihr.ac.uk)