CHAPTER 1.0

OBJECTIVES OF UKCMRI

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1. 1

Description of the proposals

The UK Centre for Medical Research and Innovation (UKCMRI) seeks to provide modern, state-of-the-art facilities for around 1,500 staff comprising scientists and support staff. It will be located in St Pancras, at Brill Place, behind the British Library, in the London Borough of Camden.

Fig 1-1. Midland Road entrance to UKCMRI

1. 2

UKCMRI is intended to be a world class research institute. It is a not-for-profit partnership between the Government's main medical research agency, the Medical Research Council (MRC), the country's leading cancer charity, Cancer Research UK, the world-renowned University College London (UCL), and Europe's largest endowed charitable foundation, The Wellcome Trust.

1. 3

Relocation from other sites

UKCMRI proposes to offer a core of shared services and new, integrated facilities for scientists currently working at the Cancer Research UK London Research Institute (LRI) in Lincoln's Inn Fields, Central London[3] and from the MRC's National Institute for Medical Research (NIMR) in Mill Hill, Barnet. The old National Temperance Hospital was bought by the MRC as a replacement for Mill Hill but this transfer has never successfully been implemented and it is currently empty. It is anticipated that this location may be brought forward as a regeneration opportunity in due course.

1. 4

It will thus enable the creation of a critical mass of researchers who are currently spread over a much wider area. The Institute also intends to be a focal hub for researchers already working in UCL's laboratories and at hospitals and other life science research facilities located in Central London and across the UK.

1. 5

It is estimated that UKCMRI will employ around 1,500 people. It is anticipated that, on opening, a significant proportion of the staff will transfer from existing jobs at Cancer Research and the MRC. Depending therefore upon the number who transfer from existing jobs and the pace of growth at UKCMRI, there will be between 400 and 700 new positions across a range of roles from research scientists to engineering, administrative and other support staff.

1. 6

It is anticipated that the relocation to UKCMRI will lead to the closure of the existing sites. The proposed development offers a natural form of regeneration and renewal of land uses, in which new activities which offer more added value replace old ones. This type of replacement contributes towards the continued health of the economy. It is likely that the sites in Mill Hill and Lincolns' Inn Fields will go on to be redeveloped, leading to further economic benefits.

[3] A small number of staff are also likely to relocate from Clare Hall in South Mimms, Hertfordshire but this institution will remain active.

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1. 7

How UKCMRI will operate

This is more than a relocation, the objective of UKCMRI is to perform medical research in a different and innovative way. It seeks to do this in two ways – by the co-location of different scientific research specialisms; and by the co-location of researchers with clinicians – so called from 'bench to bedside'.

1. 8

The co-location of different scientific specialists will facilitate interdisciplinary research. The institute will bring together scientists from a range of disciplines. It will house medical researchers, physicists, chemists, engineers, mathematicians and computer scientists, thus promoting collaborative working across different specialisms.

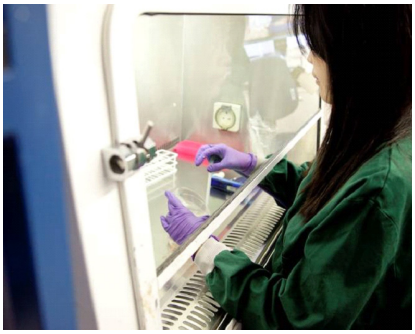

Fig 1-2. Splitting tumour-derived cells in a biological safety cabinet in the Cell Motility Laboratory at Cancer Research UK's London Research Institute

1. 9

As the Cooksey review[4] found, the UK has a world class health sciences base, a unified health system (the NHS), and a good pharmaceutical industry and finance sector. However the UK is failing to exploit this due to barriers between research and clinical practice. The Cooksey review calls for cultural change to address these barriers. UKCMRI seeks to remove exactly these barriers by creating a unique multidisciplinary research institute.

1. 10

The institute will provide modern R&D facilities that will house the critical mass of scientists necessary for a 21st century research institute, and which is designed to encourage collaborative, inter-disciplinary, and translational (as opposed to basic)[5] research. This will enable the UK to stay in the forefront of biomedical research worldwide. Although steps are being taken to actively encourage R&D investment and growth in the UK, when contrasting it to other existing and emerging global hubs of scientific excellence it is apparent that the UK lacks comparable, modern R&D facilities that are specifically designed to encourage and employ the critical mass needed for collaborative, inter-disciplinary research and to breakdown the kinds of barrier identified by Cooksey, which can translate basic and clinical research into real innovations.

1. 11

Sir David Cooksey highlights the quality of the UK's health research base but considers it vulnerable to competition from emerging scientific hubs abroad.[6] He laments the UK's current inability to reap the full economic, health and social benefits from its public investment in health research and makes recommendations to increase the translation of R&D into health and economic benefits for the UK, both in the public and private sectors.

[4] A review of UK health research funding, Sir David Cooksey, December 2006

[5] Translation has specific meanings within scientific research. It has two meanings, both of which are relevant here. Firstly, the translation of basic discoveries into clinical practise, sometimes called clinical translation and secondly, translation in the sense of innovation, where spinoffs occur as a result of scientific discoveries or theories. This may involve start-up companies or licenses.

[6] A review of UK health research funding, Sir David Cooksey, December (2006)

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1. 12
The Academy of Medical Sciences makes a similar point in its recent report, Reaping the Rewards: A Vision for UK Medical Science.[7] While acknowledging the strength of the UK's research base, it regards the future success of the country's commercial medical research as under threat and sets out a medical science vision that, if realised, claims will revitalise the UK economy and alleviate the burden of ill-health on patients and public services.[8]

1. 13
And although the Council for Science and Technology notes the UK's leading position in research, it calls for the country to prioritise and nurture a world-class research base that is globally competitive in the face of major investments into the sciences by existing and emerging economic powers.[9]

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Perceived shortfalls are also implicit in the Academy of Medical Sciences' 2010 recommendations as to how to better integrate high-quality research into the NHS so as to provide researchers with easy access to data and potential research participants, and better target treatment beneficiaries.[10]

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The Institute intends to play a key role in overcoming the weaknesses identified in these reports. In doing so, it will not only support the UK economy but also help to reduce the burden of ill health across the world.

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To encourage interdisciplinary research, the Institute will not operate according to traditional discipline-based departmental divisions. In this regard UKCMRI seeks to offer a distinctive model of how biomedical research should be conducted, and aspires to exemplify how a world-leading research initiative should operate.

1. 17
The scale and scope of UKCMRI will also enable it to leverage additional research funding in both the public and private sectors. In part this is because it will have the scale and facilities to enable it to offer opportunities to researchers across the UK and encourage interaction between them as well as attracting high quality international visitors.

1. 18
Focus of research
UKCMRI will focus on understanding the basic biology of human health and disease, and will tackle major diseases including cancer, heart disease, tuberculosis, influenza and malaria. Such diseases affect people in the UK and London and are also important in the developing world; in less developed countries sickness traps people in poverty even more severely than it does in the developed world.

Fig 1-3. Preparing a sample to run on a next generation DNA sequencing machine in the Advanced Sequencing Facility at Cancer Research UK's London Research Institute

Fig 1-4. Building laboratory equipment in the Fine Instrument Workshop at the MRC's National Institute of Medical Research

[7] The Academy of Medical Sciences (2010), Reaping the Rewards: A Vision for UK Medical Science
[8] Ibid.
[9] Council for Science and Technology (2010), A Vision for UK Research
[10] The Academy of Medical Sciences (2010) , Reaping the Rewards: A Vision for UK Medical Science

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Fig 1-5. Ossulston Street – staff entrance and community facility

1. 19

People and jobs

In addition to the 1,500 jobs located there, UKCMRI will also recruit scientists, visiting professors and industry researchers working on secondment from elsewhere in London, in the UK and abroad.

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Development of researchers at all levels, including undergraduates and PhD students, will be one of UKCMRI's priorities. The institute intends to offer a summer student programme aimed at UK students as well as laboratory placements for longer term undergraduates and approximately 250 four-year PhD studentships. The Institute's collaborative environment will encourage knowledge transfer between scientists, there will be an industry 'club' with pharmaceutical and biotech sectors, and it will offer more formal training such as integrated training programmes.

1. 21

It is also anticipated that scientists working at the Institute will subsequently take on leadership roles elsewhere in UK biomedical research, thereby reinforcing UKCMRI's national role in training the next generation of scientific leaders. UKCMRI will promote transfers of its scientists with those in other UK institutions and across the world, with a view to furthering the dissemination of research and innovation.

1. 22

The construction of UKCMRI is anticipated to take around 48 months and employ an average of around 600 people. Efforts will be made to source these contractors locally.

1. 23

Benefits to the community

Public outreach will complement and enhance existing outreach efforts by UKCMRI's partner organisations. UKCMRI's physical space will provide opportunities for workshops, conferences and other events, while outreach activities will provide a means to engage with local communities.

1. 24

One of UKCMRI's aims is to engage with the general public, educating people about health and disease. To this end, a series of seminars and lectures will be open to the public. It is also hoped that local community groups will use the UKCMRI's conference and workshop facilities. By virtue of being at the Institute, members of the public will learn about UKCMRI and its work.

1. 25

UKCMRI will work with local schools and community youth groups educating young people about science, health and disease. As with other outreach activities, this will build on work already being undertaken by the partner organisations such as having scientists teach part of the science curriculum at local secondary schools, speaker programmes for local schools and professional development programmes for science teachers.

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1. 26
The Institute will engage with local Colleges and other institutions before opening to ensure that local residents are well placed to take up opportunities at the Institute as they emerge.

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The Institute is discussing with the council the provision of 450m² of space to make possible community facilities, provisionally called the Living Centre, for use by community and training groups and focused particularly on health issues.

1. 28
Benefits to the Economy
As well as providing employment, there are additional benefits to the economy at all levels. The location of this facility in the heart of London will facilitate access to finance and venture capital and improve the capacity to develop successful spinoffs and new businesses and investments.

1. 29
More locally, there will be impacts from spending both by residents and non-residents in the area surrounding the institute. Even where employees do not live locally, they will still be spending a significant proportion of their income nearby. The construction phase will also generate local spending.

1. 30
The site is located in an area in need of regeneration, with issues around health, incomes and unemployment, and crime. UKCMRI will have a positive impact upon these issues.

1. 31
These impacts are quantified and discussed in more detail in section 4.