THE FOUNDATION FOR SCIENCE AND TECHNOLOGY

DINNER/DISCUSSION SUMMARY

What should be the priorities for medical research in the UK?

Held at The Royal Society on 20th May, 2009

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Chair: **The Earl of Selborne KBE FRS**
Chairman, The Foundation for Science and Technology

Speakers: **Sir Leszek Borysiewicz FRS FRCP FMedSci**
Chief Executive, Medical Research Council
Sir John Bell FRS FMedSci
President, The Academy of Medical Sciences
and Chairman, Office for Strategic Coordination of Health Research
Sir David Cooksey GBE
Chair, Bioscience Innovation and Growth Team and
Chair, UK Centre for Medical Research and Innovation

First respondent: **Dame Sally Davies DBE FMedSci**
Director General of Research and Development, Department of Health

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SIR LESZEK BORYSIEWICZ outlined the mission of the Medical Research Council (MRC). It was to encourage high quality research to improve human health; to produce skilled researchers; to disseminate knowledge which would improve the quality of life and the competitiveness of the UK economy; and to promote dialogue with the public on medical research. The remit of the MRC strategy board was to consider strategic funding and the allocation of resources. The MRC was implementing a new strategy, set after consulting five hundred stakeholders, based on a non prescriptive agenda; leading and influencing major sectors, and developing partnerships. It aimed to identify research that delivered; was relevant to all sectors of society; was global in the context of international research; and supported scientists through laying infrastructure for the future. A central feature was the emphasis on embracing transational activities which took basic scientific research through pre-clinical development to clinical trials and patient use. Particular areas where research could deliver lay in better understanding of resilience to disease, mental health, and the relationship of lifestyles and environment with health. Much greater understanding of the effects of regulation, and ethical issues and governance were essential if all sectors of the population were to benefit. Supporting scientists meant not only better training and development, but greater use of population based data in an improved research environment. Success should be measured in scientific, societal and economic terms.

SIR JOHN BELL welcomed the MRC strategy, which recognized that the MRC had moved from being the sole provider of research funding to being part of a network with other funding participants, such as Wellcome, the National Institute of Health Research (NIHR) and the NHS. The Office for Strategic Coordination of Health Research (OSCHR) had successfully combined the two major budgets of the MRC and the NIHR and developed a structure which was seen as a lead model for how research could be coordinated by Whitehall. Features were that it was UK wide, strengthened the transitional focus in public health research, provided a research budget for new activities within a ring-fenced budget, and monitored success in delivery. But there was much unfinished business in all these areas. The problems in implementing the MRC strategy through implementing partnerships, moving away from being the sole provider and developing a greater emphasis on transitional activity while promoting basic science should not be underestimated. It was important to maintain a single focus as well as interdisciplinary working. There were crucial problems in getting more effective and less restrictive regulation and ethical understanding. Communications between academia, industry and the public were still weak; it was not clear that industry and academia had aligned views on priorities or what capabilities were needed for transitional work. International partnerships and a global perspective were vital; but more thought needed to be given to priorities between Europe and the rest of the world. MRC had to make choices between large and small science, top down or bottom up research, how to develop the critical mass needed for excellence, and how to preserve the ring fenced budget.

SIR DAVID COOKSEY said the aims of medical research were new knowledge for its own sake, benefit for patients and benefit for the UK economy. The focus on the transitional agenda, and the creation of OSCHR with increased funding should help achieve all these aims. But there were difficult problems ahead. The time taken to approve new drugs or treatments was still too long; the UK was losing share in new developments and it was extremely difficult for venture capitalists to see how investment in developing new products could be worthwhile. There were unlikely to be new block busting drugs which would have sufficient global sales to justify the ever increasing development costs. Emphasis was shifting to treatments of subsets of identifying patients who would respond to particular treatments. This meant smaller populations using the treatment, a longer time for development and higher costs. A new model is needed for authorization and limiting liability risk to bring down the time scale for translation from fifteen years to eight. The new model should balance risk and reward; take account of new technology such as IT; reconsider the remit of the National Institute of Clinical Excellence (NICE); consider both the incentives offered and the capability of all those engaged in developing new drugs and treatments - from basic researchers, those engaged in clinical research, those in industry and finance involved in transition; the skills needed for processing through development; and, above all, how to make the NHS a better

customer. There were two basic gaps in the present system. First, the long time scale from basic science to testing and use; second the slow take up by the NHS of new health devices and drugs - it was the worst customer amongst developed countries in taking up new cancer drugs.

In opening the discussion DAME SALLY DAVIES said she recognized the need for good basic research and endorsed the transitional agenda. NIHR was strengthening its relationship with industry and saw itself as the translator between the NHS and industry to ensure that work was done which was needed and would be used. NIHR supported clinical trials with all funders and supported the MRC strategy. One of its own priorities was mental health, which involved working with other Whitehall Departments in developing holistic approaches. She accepted that the NHS was not yet the asset it might be for research development. It was a decentralized organization where individual managers did not always appreciate that clinical research would be in their own interests.

In further discussion, participants took up the question raised by Sir David about the role and remit of NICE. Its existing remit required it to focus on whether new treatments provided value for money in the NHS. Such judgements were made in a far too narrow context. They ignored other considerations such as export potential or societal benefit. Innovation was inhibited. Failure to get NICE approval meant that many drugs which could have global benefit and export potential never came to market. But it was important to recognize that there were overall public expenditure constraints that could not be ignored, and the money that NICE had saved the NHS over the years was considerable. The problem on delay of approval was being tackled, but the major difficulty was that many new products were brought before NICE too late in the day.

Several speakers were concerned by the failure of the NHS, to be an effective customer for new products and treatments. Because it was so slow in taking up new procedures it affected the volume of sales any new product might have and therefore, and therefore strongly constrained the willingness of investors to fund new developments. The promise that 1.5 per cent of NHS spend would be spent on clinical research had not been implemented - it was now only eighty eight per cent (although of a bigger budget). Why was the NHS such a poor customer? Was the problem one only of culture - simply that the NHS was risk averse, failed to get rid of out of date practices, and did not allow patient power to drive innovation? Or was there a failure of leadership? Who made decisions? Where was the political input? But it must be recognized that the driving force in the NHS was service delivery which did not always align with academic or industrial aims. Academia, in particular, needed to understand that some research will not be capable of being delivered because the NHS priorities had not been understood, and universities must take the lead in developing new partnerships and devising new ways of working with industry and the NHS. Three quarters of the cost of bringing new drugs to market was the cost of clinical trials. This could only be reduced through new procedures, which implied major rethinking by regulators, and the lessening of fear of litigation. But it was inevitable that the cost of some drugs, such as antimicrobial drugs, to which resistance built up quickly and hence sales declined, would rise. More research needed to be done on the causes to resistance to such drugs.

The contrast between the US and UK experience was marked. Expenditure on research and development in the US was much greater, and the US formed by much the larger market for UK researched drugs. It also constructively engaged engineers in the life sciences. But it did not form a model for the UK, with its very strong research base, and where, as a result of OSCHR and the MRC had the chance of focussing on crucial sectors and developing strategically. Life sciences now formed one of the largest sectors of the UK economy, and more needed to be done to ensure that other disciplines beside medical skills were involved. The financial state of the country meant inevitably that public investment in every field would in the future be constrained. The health sector, and in particular research will only maintain its place if it is seen to be focussed, contribute strongly to economic benefit (which included increased productivity in the workforce as well as direct sales) and communicated effectively to all sectors of society. Effective communication required better understanding of the reasons why clear health messages (such as on smoking, drinking and obesity) were not taken up, often by those most at risk. People would always want an escape from stress through such means, but there was little understanding of why particularly damaging routes were chosen, or how damage could be mitigated.

The size of the UK economy meant that it could never compete with larger economies in developing global health programmes, but it had an essential role, because of its research skills and strategic approach in leading the development of global programmes. Mental health, which was a great concern in both developed and developing countries, and which was a priority in the UK research programme was an example.

Sir Geoffrey Chipperfield KCB

Web Links:

Academy of Medical Sciences
www.acmedsci.ac.uk

AstraZeneca
www.astrazeneca.co.uk

Bioscience Innovation and Growth Team -
The Review and Refresh of Bioscience 2015
www.berr.gov.uk/files/file49805.pdf

Department for Health
www.dh.gov.uk

The Foundation for Science and Technology
www.foundation.org.uk

GlaxoSmithKline
www.gsk.com

Medical Research Council
www.mrc.ac.uk

National Institute for Health and Clinical Excellence
www.nice.org.uk

Office for Strategic Coordination of Health Research
www.nihr.ac.uk/about/pages/about_oschr.aspx

Pfizer
www.pfizer.co.uk

Technology Strategy Board
www.innovateuk.org

UK Centre for Medical Research and Innovation (UKCMRI)
www.ukcmri.ac.uk