

Safe in their hands?

Britain's restructuring of research funding and the budget announced last week are welcome. But a cloud still hangs over basic biomedical science.

Every country with any interest in biomedical science and its applications wants to boost 'translational research': the work required to shift biological insights discovered in laboratories towards their application in the clinic. Britain is no exception, and given its scientific and industrial strengths, it is well placed to do so, as part of a drive to deliver the greatest economic return from its scientific investment.

The 2008–09 budget announced last week was fully consistent with this general goal. With a tough review of government spending yet to be completed, Tony Blair's government has nevertheless committed to a growth in science funds of 2.7% above inflation, with increased incentives for industrial innovation.

But beneath the surface, all is not well for Britain's future commitment to basic biomedical research. To consider the money first, the allocated funds have to pay for the new initiatives to boost translational research. But they also have to cover other government commitments, including more realistic compensation to universities for the costs of all government-funded research. These will make substantial claims on the budget of the Medical Research Council (MRC), so the basic biomedical research that it has long supported seems bound to take a hit.

Basic science is vulnerable for another reason: changing organization. Last year, the government announced the removal of funds from the National Health Service trusts that currently control them so the money could be more transparently and rigorously deployed as a dedicated research budget under the auspices of a new National Institute for Health Research (NIHR), working alongside the MRC. Above these bodies sits the Office for Strategic Coordination of Health Research, chaired by John Bell, professor of medicine at the University of Oxford.

This is all to the good. But here too there are devils in the detail. The NIHR will not materialize until 2009 at the earliest, a year later than originally envisaged. There are major negotiations ahead about who has what responsibility for enhancing translational and clinical research and developing the necessary infrastructures. Translational

research is, after all, very different from basic research in terms of its organizational and regulatory requirements and associated costs.

There is no doubt about Bell's belief in basic research. But this top-level development requires healthy cooperation between the various parties involved. It also requires strong leadership at the MRC to protect the interests of basic research. But the MRC's chief executive, Colin Blakemore, and the Department of Health research director, Sally Davies, are reportedly not communicating on such matters. Furthermore, the MRC has been somewhat marginalized in developing bids to the Treasury in the spending review. And its clout is further reduced by the fact that Blakemore's term as MRC chief executive will come to an end later this year, with no replacement in sight.

The MRC faces other challenges, too. Last October saw its appointment of a chair, John Chisholm, who has a strong track record in privatizing defence research laboratories. He has recently sent signals that have left MRC researchers dumbfounded. To judge by recent statements, he views biomedical research as being applied research by definition, and sees fundamental research to be all but irrelevant. A review of MRC governance that he commissioned, to be considered by the MRC's council this week, leaves open the possibility that the representation of basic science on that governing body will be weakened. And it is anybody's guess whether Blakemore's successor will be a sufficiently forceful champion of fundamental research among the various fiefdoms competing for leverage and budgets within the new structures.

In short, despite a seemingly strong environment for Britain's basic biomedical research, an unfortunate combination of issues leaves it looking vulnerable. Translation is one critical route to the biomedical future, but equally important for the MRC are the people responsible for fundamental discoveries, including some with little idea about applying their knowledge outside their labs. Unless Britain's new biomedical hierarchy demonstrably commits itself to such people, it risks losing not only some excellent scientists, but also its ability to retain and attract those very industries on which the country's science-based economic strategy depends. ■

Mutant mice galore

A new consortium will fulfil a genomics dream — provided it gets the support it deserves.

The purpose of sequencing the mouse genome was to further the career of *Mus musculus* as the biologist's favourite model of human disease. The task was completed in 2002, a year after the human genome. To exploit the new knowledge, a catalogue of mutant mice had to be created in the service of biomedical science.

The outstanding questions were just how many genes needed to be individually mutated in mice, and how to set about it.

Some five years later, genetic technologies have developed so fast that the questions have virtually answered themselves. The community at large, in the form of the newly created International Mouse Knockout Consortium, has now declared that each and every one of the 20,000 or so genes in the mouse genome will be systematically targeted and mutated in embryonic stem cells. And all this is only the beginning.

The consortium is now taking requests from the community for genes to be targeted, with the gaps to be filled in later. Soon, if all