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**Britain is in the vanguard of genetics research, and the government wants to put this to practical use**

ARGUMENTS over genetics work in opposite ways on different sides of the Atlantic. In America, genetic modification of plants raises barely an eyebrow. In Britain a rich assortment of lobby groups, now aided by Michael Meacher, the recently-sacked environment minister, has made enough noise on the issue to get supermarkets to remove GM foods from their shelves and to persuade the government to launch a summer-long public consultation before daring to lift a moratorium on commercial planting of GM crops.

In America, work on human genetics causes concern, at least where it involves embryos, for that touches on the enduring row over the sanctity of life. That's not something that bothers many people in Britain. And such pragmatism is one reason why Britain is still a world leader in human genetics research.

The birthplace of the double helix, Britain was first off the starting blocks 50 years ago. It has managed to keep pace with America's much bigger research machine ever since—especially in stem-cell research, where American scientists are hobbled by federal restrictions. A third of the Human Genome Project was carried out in the United Kingdom, and British researchers continue to break new ground in understanding the genetic links to such diseases as asthma.

Earlier this year, Britain saw the launch of the UK Biobank project, a unique initiative to analyse the genetic and biochemical profiles of 500,000 volunteers between the ages of 45-69 in order to get a better understanding of the genetic and environmental underpinnings of such afflictions as heart disease and, hopefully, develop genetic tests for early detection.

While Britain is in the vanguard of genetics research, it has been slower to apply its expertise in the clinic, says John Bell, Regius Professor of Medicine at Oxford University and head of the Biobank's scientific committee. The government is keen to change that, and this week published a white paper setting out its plans to invest an additional £50m (\$84m) over the next three years to beef up genetics services and clinical research.

The government is convinced that better application of greater genetic information will help its citizens stay healthier longer, and save the National Health Service lots of money in the long run. It has, for example, asked the Human Genetics Commission, an independent advisory group, to look into the possibility of genetically screening all newborn babies to create comprehensive DNA profiles. Having a national, state-owned health service should make this easier than in countries with fragmented, private system.

This raises concerns, particularly about who would have access to genetic data. **Some genetic information is already held in various**

databases. Worried about what would happen if people with bad genes could not get insurance, the government has negotiated a moratorium with the nation's insurers on using genetic test results to set premiums for life insurance policies—with the exception of Huntingdon's disease in the case of expensive policies. But the moratorium is set to expire in 2006, and the more information there is around, the harder it will be to balance the interests of insurers and policyholders.

Employers are also interested in having a glimpse of their employees' genetic tests, as a survey by the Institute of Directors has shown. Helen Wallace of GeneWatch, a public watchdog, worries that employers could use this information to keep workers out of pension plans, or refuse to hire certain applicants. GeneWatch is calling on the government to legislate against genetic discrimination in the workplace, just as it bans discrimination on grounds of race and sex.

The police can already access genetic information collected for medical purposes without an individual's consent, so long as a court agrees that it is in the public interest. The long arm of the law may reach further into genetics in the coming months. At present, the police can take DNA samples from people charged with an offence. If an amendment to the Criminal Justice Act, currently before the House of Lords, is passed, they could collect the DNA of anybody who is arrested, and enter this information into the national DNA database. That will probably help the police catch criminals; but it will also mean that the law holds the genetic code of more innocent people.

The government's desire to push Britain's lead in genetics is understandable. There are not many areas of science where the country can still hold its own. And this is one where the benefits are tangible, and the worries are comfortingly abstract.

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