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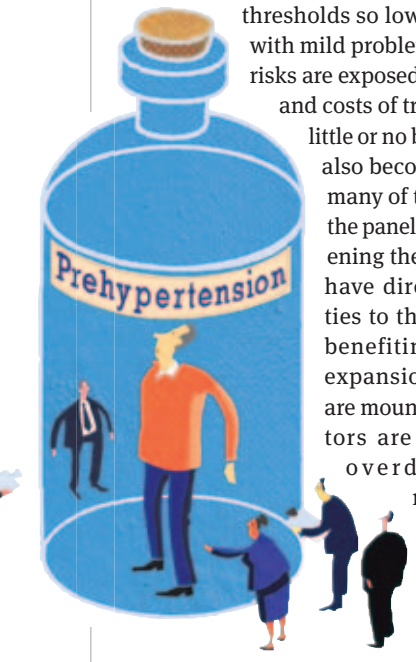
- Observations: Overdiagnosis and the dangers of early detection (*BMJ* 2011;342:d1140)

A new deal on disease definition

How do we replace the old panels of conflicted experts? **Ray Moynihan** investigates

As this still-fresh century rolls forth, medicine's imperial project looks on the whole to be in remarkably good health, despite the odd failed campaign. With our new found fondness for preventing disease and premature death we're redefining more and more of the healthy as sick, and then prescribing our new patients lifelong pharmaceutical solutions to reduce their risks. One recent analysis suggests that the definitions of common conditions have broadened so much that virtually the entire older adult population is now classified as having at least one chronic disease.[1]

Yet a growing scrutiny of the seemingly well meaning march of medicalisation suggests we may sometimes be pushing boundaries too wide, and setting treatment thresholds so low, that people with mild problems or modest risks are exposed to the harms and costs of treatment with little or no benefit.[2] It has also become clear that many of the people on the panels that are widening the patient pool have direct financial ties to the companies benefiting from that expansion. Concerns are mounting that doctors are collectively overdiagnosing millions of what were until very recently considered healthy people, and leading voices are asking whether it is time society at large took a more direct role in deciding who really warrants a medical label.[3] Some are now calling for a major renovation of the way in which we define disease.



Critics have rejected "pre-hypertension" as a dangerous pseudosyndrome that could increase drug company markets

SUMMARY POINTS

- Many existing panels that define and expand diseases are heavily tied to drug companies
- Some voices are calling for fresh new ways to define disease, with new panels
- New panels could be independent of industry and entirely free of conflicts of interest
- The constitution of new panels could be broadened, more representative, with more citizens' voices
- The best evidence should inform decisions, including evidence on social determinants

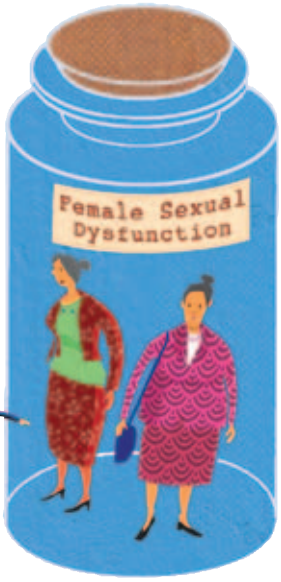
Conflicted panels widen diseases, lower treatment thresholds

Among the 12 members of the panel that created the controversial diagnostic category "pre-hypertension" in 2003, 11 received money from drug companies, and half of those people declared extensive ties to more than 10 companies each.[4] Critics have rejected "pre-hypertension" as a dangerous pseudosyndrome that could increase drug company markets,[5] while others point out that it gives a diagnostic label to nearly 60% of the adult population of the United States.[1] Similarly, 11 of the 12 authors of a 2009 statement on type 2 diabetes were heavily conflicted, with authors working as consultants, speakers, or researchers for an average of nine companies each.[6] That panel advocated a contentiously low blood sugar target, and explicitly defended the use of rosiglitazone, a drug since suspended from the European market because of its hazards to human health. Within the field of sexual dysfunction, conflicts of interest have reached new heights of absurdity, with drug company employees joining their paid consultants to design diagnostic tools to identify and then medicate millions of women with a disorder of low desire that may not even exist.[7 8]

One of the best known examples of conflicted panels widening disease definitions comes from the *Diagnostic and Statistical Manual of Mental Disorders*. An examination of those who produced its fourth edition found 56% of panel members had financial ties to drug companies, although for some panels, including that for mood disorders, the figure was 100%.[9] Despite a new American Psychiatric Association policy aimed at reducing conflicts, an analysis of the forthcoming fifth edition found that of those panel members who'd made disclosure statements, exactly 56% had financial relationships with pharmaceutical companies.[10]

"We've got to take this away from the American Psychiatric Association," said Allen Frances, the psychiatrist who chaired the taskforce for the fourth edition, the *DSM-IV*. He now believes that that edition unwittingly contributed to an explosion of unnecessary diagnoses in the areas of attention deficit, autism, and bipolar disorder. Frances argued that it was not just financial ties that were important, but intellectual conflicts too, where researchers pushed for greater recognition of their own pet conditions.

To emphasise this point, he said that he did not believe a drug industry push was behind even those decisions that would most benefit the industry. Today he warns that the forthcoming *DSM-V* could unleash multiple new "false positive epidemics," where common experiences including binge eating and temper problems are mistaken for the "symptoms" of new disorders.[11] "Experts tend to loathe the idea of missing a potential patient, and they lack the ability to assess the risks and benefits of creating new conditions or widening old ones," he explained to the *BMJ*. "This sort of work should no longer be done by any professional association. A new way to define disease is needed."



"Experts tend to loathe the idea of missing a potential patient, and they lack the ability to assess the risks and benefits of creating new conditions"

New panels, free of conflicts of interest

One of the strongest arguments for maintaining conflicted individuals on influential panels is that most leading medical experts do paid work for drug or device companies, and it is almost impossible to find respected individuals who do not. But a recent policy change at the US Food and Drug Administration has made that argument look extremely shaky. Since 2008, tough new guidelines have strongly discouraged doctors with major financial conflicts from taking part in the powerful panels advising on which new drugs should be approved.[12] "It's just laziness, because it's much easier to find a conflicted expert," said Sidney Wolfe, a member of one of the newly constituted panels, and director of the health research group at the Washington, DC based organisation Public Citizen, which has long pushed for such a clean up. Importantly, the Institute of Medicine's landmark report in 2009 also recommended that committees that write clinical practice guidelines should exclude individuals with conflicts of interest.[13] Wolfe argues that the same rules should apply to the panels that define disease, and create the cut-offs for treatment.

"The stakes are very great in terms of public health," Wolfe told the *BMJ*, because the old panels are "constantly broadening the numbers of people defined as ill and recruiting millions of people to drug treatments that may not benefit them." The youthful 73 year old physician cites the example of cholesterol, where people like him in good health have lipid levels defined as "above-optimal," which can lead some doctors to prescribe unneeded cholesterol lowering drugs. Others have observed that treatment thresholds have now become so low that in some cases hundreds of people at low risk of future illness need to take medications for a year, in order for one of them to benefit by having a bad event prevented.[14]

Just a short metro ride from downtown Washington, DC is the sprawling campus of the US National Institutes of Health. The epicentre of the global biomedical project, it also boasts the world's toughest policies on conflicts of interest for panels that draw the lines between health and sickness. "We don't manage conflicts of interest on those panels," says Barry Kramer, until recently a senior manager at the National Institutes of Health, "we simply avoid them." Not only are experts with financial ties prohibited from sitting on the National Institutes of Health state-of-the-science and consensus panels, if a researcher has a declared view on a question being considered, he or she too will be excluded. "Intellectual conflicts of interest can be equally potent," Kramer told the *BMJ*.

A recent example of this model in action was the 2009 state-of-the-science conference on the diagnosis and management of ductal carcinoma in situ of the breast, a condition often treated aggressively.[15] The 14 member panel—which included representatives from nursing, social work, and population health alongside surgeons, radiologists, and oncologists—made the dramatic recommendation to change the very name of the condition. The panel wanted to remove the "anxiety producing term carcinoma" because of the "non-invasive nature" of ductal carcinoma in situ coupled with its "favourable prognosis." The group also highlighted the need to better identify women for whom tissue abnormalities would not progress to breast cancer, in order to prevent them having to risk the side effects of unneeded treatments including tamoxifen and radiotherapy—"both of which are proven to cause cancer," says Kramer, currently a contractor to the National Cancer Institute, and editor of the cancer journal *JNCI*. "I view it as the high court of medicine," he says, referring to the panels that strictly excluded the conflicted, "and the judges are picked for their respect in the field and their ability to assess evidence."

This tough model is endorsed across the other side of the Atlantic by Sir Michael Rawlins, chair of the UK National Institute for Health and Clinical Excellence (NICE). As to the broader question about the risks of over-medicalisation, Rawlins told the *BMJ* that he didn't believe the boundaries of disease were being inappropriately widened, but he agreed that panels writing definitions or setting treatment thresholds should be as free as possible of conflicts, both financial and reputational.

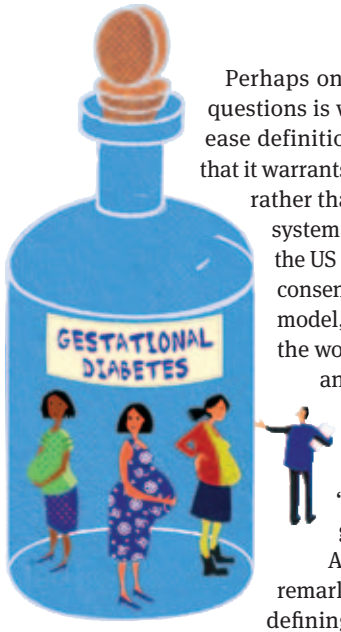
Panels with broad representation, evidence based

The National Institutes of Health model also calls for panels to be more broadly representative than just those within a particular subspecialty. It specifies that as a general rule, along with practising clinicians and researchers, panels should include biostatisticians, epidemiologists, non-health professionals, and people representing the wider public interest.[16] The addition of a health economist is also critically important, to assess the cost effectiveness of changing diagnostic categories.

Given the growing evidence on the social and environmental determinants of health and disease,[17] perhaps the membership of newly renovated panels might be broadened even further. For example, might it be possible that the myriad panels that focus in a fragmented way on treating surrogate end points like blood pressure or lipids be subsumed into a broad new panel addressing multiple measures to fight cardiovascular disease in a more holistic way, which would include representatives from the worlds of transport, building design, and food regulation, along with doctors and others? Fran Baum, public health professor at Flinders University in Australia and a member of the World Health Organization's Commission on the Social Determinants of Health,

The forthcoming *DSM-V* could unleash multiple new "false positive epidemics," where common experiences including binge eating and temper problems are mistaken for the "symptoms" of new disorders

A 2010 revision of the definition . . . has just dramatically lowered the threshold for diagnosis, more than doubling the number of women classified as having [gestational diabetes]



says that the idea of panels combining a clinical and social approach is feasible. "It would be good to have the conversation," she told the *BMJ* cautiously, "but it would need to happen in the context of government policy less dominated by clinical medicine and more interested in addressing social determinants."

Whatever the make-up of new more independent and broadly representative panels, everyone agrees on the need to inform decisions with the best evidence, such as that currently produced by systematic reviews, including those from the international Cochrane Collaboration. Yet groups like Cochrane have so far focused their reviews far more on interventions, rather than assessing the different forms of evidence used to make decisions about disease definition or diagnosis. As a result the claims about the nature or extent of medical conditions are rarely exposed to the same rigorous systematic scrutiny as the studies of treatments for them.

Jeremy Grimshaw, co-chair of the Cochrane Collaboration Steering Group, says a key problem is the lack of a gold standard "against which to judge different claims around how to define disease." Further complicating matters, the judgments about what constitutes sufficient distress or risk to warrant a definition of "case-ness," and what might best be considered normal life, are "highly subjective decisions." Despite the complexities, Grimshaw sees some merit in the idea of new citizens' panels making these judgments, empowered and informed by the evidence from systematic reviews by groups including the Cochrane Collaboration.

Perhaps one of the most contentious questions is whether the process of disease definition is deemed so important that it warrants more regulatory oversight, rather than the loose self regulating system that currently exists. While the US National Institutes of Health consensus panels may have a strict model, many of the groups around the world deciding who is normal and who is not are simply self interested professional societies, whose panels are riddled with conflicts. "New diagnoses are as dangerous as new drugs," said Allen Frances. "We have remarkably casual procedures for defining the nature of conditions, yet they can lead to tens of millions being treated with drugs they may not need, and that may harm them." Frances wonders whether regulatory agencies should play more of a role in overseeing new panels, and is developing proposals as part of a forthcoming book.

Medicalisation and its discontents

Meanwhile medicalisation and its discontents continue, with one of the latest controversies being gestational diabetes, a condition of raised blood glucose in pregnant women. A 2010 revision of the definition by an international panel of professional societies has just dramatically lowered the threshold for diagnosis, more than doubling the number of women classified as having the condition, to almost 20% of the entire pregnant population.[18] While the new definition is already being adopted in a number of jurisdictions, serious concerns are being expressed in the medical literature that the proposed screening test has poor reproducibility for mild cases, the evidence of benefit for the newly diagnosed pool of pregnant women is weak, and the magnitude of that benefit modest at best.[19] The international panel's report argues that the widened definitions will reduce health problems, including babies being "large for gestational age," but it concedes that some recommendations are based on opinion because good evidence is not yet available, and that the new expanded definition "will substantially increase the frequency of hyperglycaemic disorders in pregnancy."[18] According to the critics, another case study of over-medicalisation is in the making, with the risk that millions of women will receive an unneeded label, and vast resources will be wasted. Perhaps those planning to conceive a new deal in defining disease should find a hotel room, and quick.

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GETTING EVIDENCE INTO PRACTICE

Tackling inequality by implementing high quality research

Karen Pettersen introduces this year's shortlist

A vast amount of medical research is published every day: an average of 11 systematic reviews and 75 controlled trials (*PLoS Med* 2010;7:e1000326). Information overload is often cited as the main reason why much of this research never affects clinical practice and so fails to lead to the promised improvements in healthcare. So what can be done to change this?

The Getting Evidence into Practice award recognises the efforts of clinicians committed to successful implementation of high quality research. Our expectations of entries were high: we looked for initiatives that not only implemented high quality research (from guidelines or protocols based on systematic reviews or from individual systematic reviews) but also used evidence based implementation protocols and demonstrated improvements in outcomes that matter to patients.

Our entries this year included initiatives as diverse as a programme conducted in Manchester to increase rates of diagnosis of chronic kidney failure; a multicentre initiative spanning America, Canada, Europe, and Asia to implement the World Health Organization Safer Surgical Checklist; and a Hong Kong initiative aimed at localising the National Institute of Neurological Disorders and Stroke guidelines for stroke thrombolysis to a regional hospital. Many submissions were exceptional and producing a short list was a challenge. Some of the initiatives were reported on too early to show effects on clinical outcomes, and we would urge these groups to enter again in the future.

A central theme that emerged was a dedication to reducing inequality, whether from a lack of resources in developing countries or inequality of access to treatment for particular groups of patients. Our three finalists epitomise this strong belief in the importance of providing equitable access to the best possible healthcare.

L to R: Richard Feinmann's team in Uganda; Dr Loh; and Laurence Wood of the Coventry project

Premature birth in Coventry

The Coventry quality improvement project for extreme prematurity aimed to reduce rates of delivery of infants under 34 weeks' gestation in an area of the UK where more than half of pregnancies are in women from groups whose preterm delivery and mortality rates are three times the national average. The team implemented a multifaceted programme based on evidence from Cochrane systematic reviews that outcomes are improved in women taking calcium, vitamin D, and omega 3 fatty acids and who are screened for sexually transmitted infections. The team needed to engage a range of stakeholders, including patients, clinicians, dietitians, and commissioners. An important factor in achieving this engagement was the measurement and publication of baseline data on the target population, which showed a lack of use of supplements and low rates of screening attendance. After the delivery of their package of care, the team was able to show a significant reduction in rates of pre-34 week delivery in the cohort. The approach was clearly documented and could be replicated successfully in similar communities.

Low cost tuberculosis testing, Uganda

Richard Feinmann's team at International Hospital Kampala, Uganda, sought to implement microscopic observed technique (MOT), a low cost test for diagnosing tuberculosis in an area with a high disease burden as well as high rates of co-infection with HIV. At the start of the initiative the team did a cross sectional observational study in Kampala to ensure the sensitivity and specificity of the new test against the gold standard test, the Bactec 960 mycobacterial growth indicator tube. MOT had a sensitivity of 88% and a specificity of 98%. Dr Feinmann's team then trained over 100 volunteer Ugandan clinicians to use MOT and administer directly observed treatment. So far, 464 patients have been screened and 123 have been diagnosed and successfully treated. The use of a low cost diagnostic tool has helped a poor region with a high tuberculosis burden and greatly improved the local infrastructure for providing healthcare.

Care for Malaysian breast cancer survivors

Our third finalist, from the University of Malaya Medical Centre, Malaysia, focused on an area that is sometimes neglected in evidence based medicine because of difficulties in measuring improvements in outcome: the patient's quality of life. The Staying Abreast Moving Ahead (SAMA) programme recognises that as breast cancer mortality decreases, improving quality of life for breast cancer survivors becomes the next important goal. Dr Loh and her team introduced SAMA to their patients after their qualitative study of Malaysian women identified a need not only for medical intervention but also for emotional support. Dr Loh's team conducted a randomised controlled trial in 147 women comparing SAMA with usual care. SAMA involved education, group activities, peer support, and networking aimed at self care and managing emotions and allowing women to refocus after breast cancer. SAMA led to significant improvements in quality of life at four and eight weeks compared with usual care. Improvements were maintained at two years in the random sample of women who were followed up.

Our judges are David Asch, winner of last year's award for his work on smoking cessation; Peter Rothwell, professor of clinical neurology and director of the Stroke Prevention Research Unit at the University of Oxford; Angela Coulter, director of global initiatives at the Foundation for Informed Medical Decision Making; and Peter Brindle, general practitioner and lead for dementia services in Bristol.

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Talking about a research revolution

The Nobel Prize winning scientist at the helm of Europe's biggest biomedical research enterprise talks to **Geoff Watts** about his aspirations for the centre and the culture of UK medical research

Digital image of the UK's new £600m national biomedical research centre, London, opening 2015

For someone who's risen about as high as you can go in UK science—the presidency of the Royal Society—Paul Nurse remains pleasingly unstuffy. There's no trace of the haughty demeanour or academic self absorption that has characterised some of his distant predecessors. When we met in the organisation's grand headquarters in Carlton House Terrace, overlooking London's St James's Park, he was wandering around in an open neck shirt and sweater and looking—not untypical, this—slightly rumpled.

Along with the presidency, Nurse is a working scientist who runs his own laboratory and is director of the embryonic UK Centre for Medical Research and Innovation (UKCMRI). So he's a man with three jobs. Each of them, he says with a cheerful disregard for mathematics, occupies half his time. And he says it with the satisfaction of a man accustomed to keeping busy.

Having shared a Nobel Prize for his work on the cell cycle, Nurse has nothing to prove in the matter of scientific credentials. The Royal Society has been going since 1660 and has acquired a certain momentum of its own. So it's the third of Nurse's jobs that's set to test him. The £600m (€680m; $980m) UKCMRI is currently a building site just north of the British Library in London. By 2015 or soon after, when it's fully up and running, its expected staff of 1500 will make it the biggest biomedical research enterprise in Europe. And whether it succeeds will have a lot to do with decisions being taken now.

Conversation with Paul Nurse is a pleasure, not least because he listens and engages and offers the occasional indiscretion. In electing him as its president, the Royal Society has once again chosen a first rate communicator: a man whose style is not polished in the manner of Nick Clegg or David Cameron but who gets the scientific case across because he talks so straightforwardly about it. He also has a self deprecating charm—as when he addressed the annual "Science meets the media" reception earlier this year. It was held shortly after an edition of BBC television's *Horizon* in which Nurse had been given the opportunity to confront some of the more vociferous critics of science. In his speech he told us that the *Times Higher Education*'s reviewer had described his performance as that of "a genial soul with the bewildered air of a hobbit who has strayed out of Middle-earth to find himself trapped in Killzone 3."[1]

Even before he took up the presidency the *Times* science magazine *Eureka* had labelled him the most influential scientist in Britain. He treats this as media froth but is aware that his two leadership roles carry a responsibility. People at his level in science have often lost direct contact with the business of doing it, he points out. "Because I'm still a practitioner, and quite close to the coal face of science, I think I can bring something to the party that will be useful." He still has a laboratory at Rockefeller University in New York; by the end of the year he'll have a new one back on his old stamping ground at Lincoln's Inn Fields in London, the main laboratory of Cancer Research UK. In due course he'll run a lab in the UKCMRI building.

"A first rate communicator: a man whose style is not polished but who gets the scientific case across"

Meeting of minds

The origins of the new institute date from an informal brainwave that originally got nowhere. "Around the year 2000 I very, very gently launched the idea that Lincoln's Inn Fields and Mill Hill [the MRC's National Institute for Medical Research] should get together on a new site. I was thinking of the Millennium Dome at the time because nobody then knew what to do with it." The idea (minus the dome, fortunately) was later resurrected by Professor Keith Peters when he was acting director of Mill Hill. It acquired reality when University College London (UCL) and the Wellcome Trust came on board, and a site was found across the road from the revamped St Pancras railway station.

Nurse, by then happily ensconced in New York as the president of Rockefeller University, was asked to chair the scientific planning committee. Election to the top job in the Royal Society is an honour that would by itself have brought him back to the UK. Conveniently, though, his return coincided with the decision by UKCMRI's funders that it was time to appoint a director. With Nurse now geographically available and in need of paid employment (the Royal Society job carries no salary) the pieces fell neatly into place.

The UKCMRI research programme will focus on the fundamental biological processes underlying human health and disease. According to the institute's website, cancer, circulatory problems, infections, and disorders of the immune and nervous systems—all the big targets, in other words—will be the most likely beneficiaries of its eventual clinical impact. Wider impressions of the institute and all its works will be greatly enhanced by an intended name change. UKCMRI is enervating to speak or write in full and the acronym is unpronounceable. A new title has in fact been chosen. "It'll be named after a famous scientist," says Nurse. But other than denying it will be the Paul Nurse Institute, that's all he'll say.

You don't have to spend long talking to Nurse to grasp that what he'd really like to do with biomedical research is refashion its structure, even its culture. If he'd never before emerged from his Nobel Prize winning laboratory you might dismiss his ideas as slightly fanciful. But he has run things—not least the Imperial Cancer Research Fund and Rockefeller University. So when he talks big, he does so from a solid platform.

UKCMRI will be a large organisation: large enough, he hopes, to change some of the rules. "One of the weaknesses of research institutes is

ANNE KATRIN PURKISS/REX FEATURES

PAUL NURSE: A LIFE IN BRIEF

- Born on 25 January 1949 Paul Nurse read biological sciences at the University of Birmingham before doing a PhD at the University of East Anglia
- Via Edinburgh and Sussex he joined the Imperial Cancer Research Fund (ICRF) in London in 1984 as head of its cell cycle control laboratory
- A professorial stint at Oxford from 1987 to 1993 was followed by a return to ICRF, first as director of research and subsequently as director general, both while still running his cell cycle lab
- In 2003 he became the president of New York's Rockefeller University and head of its laboratory of yeast genetics and cell biology
- Election to the presidency of the Royal Society brought him back to the UK in 2010, the year in which he was also appointed director of the UKCMRI
- A recipient of many academic distinctions and honorary degrees, he won the Albert Lasker Award in 1998 and the Nobel Prize for Physiology or Medicine in 2001

that they tend to be a bit monotheistic, by which I mean that they tend to focus on biomedicine in its narrowest sense. Advances in physics, chemistry, maths, engineering, and so on are quite difficult to integrate with that. If you have good engineers or good physicists they don't tend to want to leave their discipline." With UCL, and maybe a couple of other London universities, Nurse hopes that UKCMRI will be able to set up what he calls satellite groups. These would comprise small numbers of non-biomedical people who wanted to work with biologists in the institute but who could keep a base in their home institution's physics, chemistry, or other department.

These novel links with UCL and other universities, embracing not just scientific but also clinical researchers, will contribute to what UKCMRI's glossy brochure describes as its "distinctive vision of medical research." Another feature will be the absence of a traditional departmental structure; there'll be no divisions of cellular biochemistry or biophysics or immunology or anything else. Instead there will be interest groups that individuals can join according to their inclination. "Strategy will be developed largely by the recruitment of fresh staff working in whatever areas happen to be currently interesting." Topics of key interest in biology keep on changing: 30 years ago it might have been monoclonal antibodies; now it could be stem cells; by the time UKCMRI is in operation . . . well, who knows?

Nuturing talent

Nurse reckons he'll end up with around 120 research groups of "high quality people doing interesting things." Two thirds will be "juniors" in their 30s and early 40s. They'll be mentored by the other third, the more senior staff. Regular recruitment of six to eight juniors each year will allow the introduction of new research topics and, over a period, progressively shift the centre of gravity, the overall balance of the research effort. The strategy won't alter in discrete lurches but progressively and in line with the development of new technologies for investigating living systems and with the acquisition of new insights. If Nurse's hopes are fulfilled, UKCMRI will behave rather like the systems it's been set up to study; it will continuously evolve and adapt to circumstances.

At risk of pushing the biological analogy too far, UKCMRI will also spawn mature research progeny. Researchers who have spent perhaps 10 or 12 years establishing their career and reputation to professorial level will then be encouraged to move out and set up new units at other institutions. "UKCMRI could become a feeder of high quality researchers for the rest of the country," says Nurse. "When we get someone who's really excellent we won't hang on to them. We'll export them—completely counterintuitive."

Nurse talks of UKCMRI as "permeable" to other organisations, including university departments, research institutes, and commercial companies. "We'll be open to visitors from the pharmaceutical industry or the NHS coming to work with us." He's eager to promote the translation of research findings into practical use (hence the word "innovation" in UKCMRI's title) and sees the permeation as a two way affair. Given the right circumstances he might, say, consider seconding a member of staff to a commercial company.

"Most universities look on intellectual property just as a way of making money—and you can see why. I see our role as promoting wider economic growth and to be less bothered with making money from it." How the people in charge of UKCMRI's finances will view this remains to be seen. Nurse himself adds that this is a model he's still "playing with" and realises he's possibly being "a bit naive about it." Either way, collaboration with industry gives him no problems, provided the institute doesn't get nailed down into a particular research programme or find itself playing a mere service role.

Of course size also has some downsides. The building itself will be large, designed from scratch, and fitted into a relatively restricted area. And its viability will depend on the successful merger of two existing bodies of researchers, each with its own culture. Mergers like this can create conflict—and even if this doesn't happen, a sense of being one community will still have to be forged. "Achieving a structure that will allow 1500 people to feel part of one endeavour will be quite difficult."

An amateur pilot, Nurse had recently passed the regular medical required to renew his licence. Whether his flying skills include the more acrobatic elements such as getting out of a tail spin or even looping the loop I have no idea. Metaphorically at least they might conceivably come in handy in the coming years.

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