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From the editor

Apocalypse – when?

Most physicians (listening, no doubt, to BBC Radio 4 one early March morning) will have been struck by Dame Sally Davies' use of the 'A-word' as she described the prospect of a post-antibiotic era in which the development of resistance by currently susceptible micro-organisms turns back the clock to the early 20th century.[1] The second part of her annual report on the health of the nation, published on 11 March, describes the challenges from both established and emerging diseases.[2] It highlights the relative lack of investment in antibiotic development and charts the rate of emergence of new diseases. One of the most striking illustrations in the report is a timeline for the recognition of new diseases since 1980 – coincidentally the same year the last new class of antibiotics was discovered and developed. The report comprises both the chief medical officer's advice to the government and a series of authoritative reports on which she has based that advice – in particular, highlighting the risks and challenges to people in different age groups. Bacterial infections and the emerging dominance of resistant Gram-negative organisms constitute a growing menace in adults.

The barriers to the development of new antibiotics have been well rehearsed – the cost of development scarcely stacks up against the payback, since a highly successful new antibiotic would only be prescribed in courses lasting from a few days to weeks. The contrast with a successful lipid-lowering drug, a drug for arthritic pain or an antihypertensive is striking. The contrast with many anti-viral drugs is also marked; when suppression rather than cure is the outcome, as in HIV and HBV for example, extended courses offer the prospect of greater return on investment. Such considerations open up the question of what alternatives to the pharmaceutical company model of innovation and drug discovery might be encouraged.

Dame Sally advocates further actions by the Innovative Medicines Initiative (IMI), a private–public partnership aimed at improving drug development, currently backed by €2 billion (half from the European Commission and half from members of the European Federation of Pharmaceutical Industries and Associations).[2] Its rather tweely named ND4BB (New Developments for Bad Bugs) programme may dispose up to €400 million. Its €200 million COMBACTE project brings together three major pharmaceutical companies – GlaxoSmithKline Research and Development, AstraZeneca AB and Janssen Infectious Disease Diagnostics BVBA – with 16 European universities and research organisations, to design and implement improvements to clinical trials for antibiotics. No doubt the UK is well-represented among these international academic and research partners, one would have thought. All credit to the North Bristol NHS Trust – the only UK institution in the list.[3]

While the concentration on improving and speeding up clinical trials (topic 1 of the IMI) is, of course, welcome, physicians and academic researchers might wish for an additional scientific initiative to discover new drugs. Discovery and development of new drugs combating Gram-negative infections remains a future topic on the ND4BB suggested architecture.[4] However, there is already one – albeit smaller – IMI programme directly addressing bacterial susceptibility. TRANSLOCATION is aimed at increasing understanding of how to get antibiotics into multi-resistant Gram-negative bacteria. Here at least two of the fourteen universities, research organisations etc, are British (step forward Newcastle and St Andrews).[5]

What other approaches, outside the involvement of large (and necessarily bureaucratic?) European Organisations, should be encouraged to prevent this apocalypse and, in particular, how should the UK respond? The MRC's Infection and Immunology Board lists microbiology and microbial resistance as a key area being stimulated through the development of research partnerships and consortia. Its website highlights £4 million in 2011 for two such grants.[6] It is more difficult to discern how much funding in total is directed at front-line *in vitro* research into microbial metabolism – both through centres such as the MRC Centre for Molecular Bacteriology and Infection, and through project-specific funding through the MRC and the Wellcome trust. However, if Dame Sally's warnings are to be taken at face value, the funding bodies – and UK academic and clinical institutions – should be concentrating resources and enhancing priorities in this area. The history of the development of anti-HIV drugs in the 1990s in response to urgent investment shows clearly that research endeavour can be channelled to specific aims by directing research funds to the area of need. If the risks are as stated, the current response seems limited. In stimulating research on new antibiotics, the strategy of leaving the windows open in Praed Street has probably fulfilled its potential.

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Francis inquiry: effecting change

Richard Thompson

At last it has been published – the second report by Robert Francis QC of the Mid Staffordshire NHS Trust Public Inquiry – with 293 recommendations. None of them is unexpected; see the RCP's recent reports*: Hospitals on the edge?*[1] and *The medical registrar,*[2] and the upcoming *Future Hospital Commission*, which is shortly to report.

Officers of the RCP have visited Stafford hospital three times after the failings of the Trust first made the news. The physicians and nurses there were not evil, but they were frustrated and disempowered by a management striving to achieve impossible financial targets and become a Foundation Trust, and thus were deaf to cries for help from patients and staff. Standards fell, there was occasional brutal behaviour, corners were cut and statistics were manipulated.[3] More generally, under the current perverse (not to say immoral) tariff system, many smaller hospitals, like Stafford, cannot generate enough income to afford to treat the steadily increasing tide of acutely ill elderly patients, 15% of whom are likely to be readmitted within 28 days. Hence many hospitals are not sustainable, squeezed between this unmanageable medical load and PFI payments. Reconfiguration may not help because the patients still have to be seen somewhere and will continue to cost more to treat than clinical commission groups (CCGs) will pay under the current tariff.

Francis emphasises the crumbling of the culture of care and generosity of purpose, which is being replaced everywhere by an atmosphere of fear. All patients should have a doctor responsible for them – and so where were we when patients were neglected, developed pressure ulcers or were allowed to starve or dehydrate? Was not a consultant in charge of each and every one of them and were not trainees daily on these wards? The inquiry rightly criticised nursing standards, but doctors must bear part of the blame for these poor standards, which are often only brought to light by determined relatives, rather than the staff.

Slogans will not motivate staff in the NHS, and so what practical changes can be made? We must agree with Francis that consultants and trainees should take responsibility, and probably accountability, for the whole care of their patients, not just focusing on their particular clinical area of expertise. This implies that there must be a return to the consultant- led team in charge of the clinical pathway and thus continuity of care. Clinicians must work more closely with the nursing teams to improve all those things we could tend to forget, such as nutrition, hydration, skin care, dignity and understanding; we must think of dementia. We are all now physicians for the care of the elderly and there is nothing wrong with that.

I believe there is failure of leadership for all the highly motivated, but deeply disillusioned, health professionals. Physicians must work together as leaders to change, as Francis underlined, the baleful financial culture in the NHS, which comes from the top where there seems little understanding of the increasing pressures on medical teams. This is highlighted by universal unhappiness among the key medical registrars.[2] To do this, senior doctors must meet regularly in committees with managers to discuss how to innovate and improve the working of their hospital, and interact directly with the Trust board. Remember that doctors working together are a powerful force. Trainees are the eyes and ears of the hospital and should also be consulted and listened to – read about the efforts of Basildon trainees to do this in the February 2013 issue of *Commentary*.[3]

The RCP's *Future Hospital Commission*, which will report to me later this year, will look at many of these issues. However, I believe that, in addition, an elected doctor or nurse should sit on the Trust board and be responsible for staff health and morale,

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