THE FOUNDATION FOR SCIENCE AND TECHNOLOGY

ROUND-TABLE DISCUSSION SUMMARY

The Accelerated Access Review

Held at the laboratories of MedImmune, AstraZeneca,
Granta Park, Cambridge on 26th October, 2015.

The Foundation is grateful to AstraZeneca for arranging a visit to their laboratories before the round-table discussion to provide a context for the debate.

Chair: **Sir Gordon Duff FRCP FRCPE FMedSci FRSE**
Chair, Biotechnology and Biological Sciences Research Council

Speakers **Sir Hugh Taylor KCB**
Chair, Accelerated Access Review for the Department of Health
Professor Sir Leszek Borysiewicz FRS FRCP FMedSci FLSW
Vice-Chancellor, University of Cambridge

SIR HUGH TAYLOR outlined the challenge that Ministers had posed the Accelerated Access Review (AAR)[1]. We are on the cusp of one of the most exciting eras for innovation in healthcare technology – medicines, devices, diagnostics and digital. However, all national healthcare systems are also facing significant economic constraints, requiring governments to make a judgement on what is and is not affordable. There are two dimensions to this challenge: to get ahead of the curve so the system is capable of responding when the innovation is ready; and to energise the healthcare system to adopt innovation that will increase efficiency and improve patient outcomes. The AAR will build upon the strong platform that exists in the UK including the National Institute for Health Research (NIHR), the Medicines & Healthcare products Regulatory Agency (MHRA) and the National Institute for Health and Care Excellence (NICE).

There has been a lot of interest in the AAR and the interim report[2] is a high level summary of what has been heard to date:

1 There needs to be a stronger patient voice at all stages of the pathway: focusing development on outcomes that matter most to patients; patient pull for new treatments; deciding the level of acceptable risk and being active participants in decision making.

2 The UK needs proactively to seek out the relatively small number of transformative technologies as early in development as possible to help generate the evidence required to navigate new technology through the system. This will require commercial access agreements based on provisional regulatory and HTA decisions to enable quicker access for patients. These agreements may include: flexible reimbursement schemes; maximising regulatory flexibilities; creating new pathways for devices and digital; improving patient recruitment into clinical trials; adopting new trial methods and better use of all available data.

3 The NHS needs to be incentivised to adopt innovation through support for change management; through incentivising the main academic centres (eg the Academic Health Science Centres (AHSCs)) to become accountable for bringing through innovation; and through medicines optimisation at the local level.

4 The working assumption is that the AAR should not create new bodies but will improve the role of Academic Health Science Networks (AHSNs) and AHSCs in driving local and regional adoption of innovation. This could be supported by an Innovation Partnership at the national level (bringing MHRA, NICE and NHS England closer together) and Information Exchanges at the local level (involving patients, clinicians and innovators). All of this

[1] Department of Health Accelerated Access Review www.engage.dh.gov.uk/acceleratedaccess/

[2] www.gov.uk/government/publications/accelerated-access-review-interim-report

could be underpinned by a Concordat, to which all bodies in the pathway would sign-up and be held accountable.

The next stage of the AAR will be to get into the granular level, building on these high level themes.

SIR LESZEK BORYSIEWICZ described the constructive collision between the world of innovation and the world of the NHS. There are good regional, importantly not national, research ecosystems being tested in the UK. Academics drive new thinking, deliberately without control or process, and are enabled to take ideas forward, which is the first clash with a highly process-driven NHS.

The cluster effect is having the same positive impact on biotech as it has for the IT sector. However, compared with IT, it takes a lot longer for biotech investments to reach the end user which can be a challenge for companies needing to maintain investment. Universities provide an open innovation system with voluntary control over IP ownership. They also deliver undergraduate capacity for innovation and secondary/tertiary tier technical support.

Conversely there is no innovation pull from the NHS, at all. SMEs do not know where the decisions are really taken within the NHS to allow access. The system needs to be simplified so that if NICE makes a national decision, this is followed through at the local level. Rather than micromanaging the whole system, the NHS should work with trusted innovation partners to help deliver their objectives. Regulators are doing a good job, but can be intimidating for SMEs and should be there to help innovators meet their regulatory requirements.

Concerns about the impact of innovation are focused on the wrong part of the healthcare pathway. Precision medicine will have the greatest impact on primary rather than tertiary care due to increased patient monitoring and follow-up. Horizon scanning as proposed in the AAR will be vital to help innovators know the limits for acceptable cost for new technologies.

Localism is important, if adoption of every discovery or innovation is dictated at the national level it will inhibit local innovative activity and decision making. At the local level though there is greater risk aversion and a greater focus on budget management so new ideas are less likely to be taken up. There needs to be a central set of priorities which are delivered at the local level.

In summary, the NHS needs to recognise its own limitations when it comes to innovation, it has not got the relevant skills to innovate on a useful scale. The NHS should find trusted partners to deliver innovative solutions to NHS-defined priorities, away from centralised control, through a limited number of centres around the country.

KEY POINTS FROM THE DISCUSSION

Time and cost

It takes time for technology to be useful to the patient. The Cooksey Review[3] suggested a new economic model could be possible if development times were reduced from an average of 17 to 10 years, thereby allowing companies to reduce the price of medicines by recouping their investment over a longer period. The NHS could help with this through the use of patient data and novel trial design.

There was debate about whether the era of the dominance of randomised controlled trials might be coming to an end. There are new and possibly better ways of assessing value propositions in a digital world, including data from electronic patient records. Rather than waiting for a national digital strategy, regional digitised systems are being set up to measure the impact of interventions on patient outcomes, with patients agreeing to share their data for further research.

Putting out a call for innovation, like the Small Business Research Initiative for Healthcare[4] (SBRI Healthcare) model helps SMEs respond with targeted transformative innovation that is most needed. Digital is very fast paced, but innovators need to understand the current clinical pathway in order to see how it can be improved and with whom to have those conversations. Early convergence of the various regulatory bodies (eg MHRA and NICE) would allow companies to deliver a single package of evidence that would be reviewed at the national level both for licensing recommendations and for adoption by the NHS.

Investing in the UK within a global market place

[3] www.gov.uk/government/uploads/system/uploads/attachment_data/file/228984/0118404881.pdf

[4] www.sbrihealthcare.co.uk

There is a clear correlation between the quality of cutting edge research coming out of a country and how advanced the healthcare system is. Globally there are several innovation centres that are doing this well and eventually companies will choose to innovate elsewhere if their products are not being taken up in the UK. The NIHR has taken steps to reverse the previously decreasing trend to place global trials in the UK, however, if the standard of care falls behind in the NHS then companies will not be able to conduct clinical trials here. Being a relatively small market, the UK cannot change the global nature of development on its own, regional regulators such as the EMA and FDA must be involved.

Unpredictability of innovation
A key feature of innovation is a lack of predictability in overall clinical effect, due to the nature of human clinical experiments, and a lack of predictability of the financial outcomes for the company or cost to the healthcare system. The response has been to ask for ever increasing amounts of clinical data in the hope that this will reduce uncertainty. However, the trade off for this additional information means delaying patient access, so the NHS needs to learn how better to handle uncertainty and accept the risks that innovation brings. Co-development between the NHS and innovators can reduce the risk and share the benefits, however, it was agreed that nationalisation of innovation was not the answer.

Connectivity
There needs to be greater connectivity between all stakeholders to make the system more efficient, but different parts of the system are moving at varying speeds – innovation moves fast, clinical application can be slow and the implications of that application can be even slower to manifest. Innovation is a non-linear process, and all the parts need to be developed concurrently from the outset rather than trying to correct deficiencies later on when the burden of any delay is born by the patient. There are modelling techniques that could help to identify how the patient care pathways operate now and how they can be improved.

There is a mismatch of understanding of unmet need between patients, clinicians and bioscientists. Patient groups and medical charities are in tune with what patients want and where the science is going, they already fund their own clinical research. This could be an operating model that the NHS might help to scale up.

Repurposing
There was a debate about the role independent researchers can play in repurposing drugs that have shown a clinical benefit. Companies already agree to many investigator-led studies and academics working in partnership with the company, believing this provides a good opportunity for innovation. The biggest problem for independent academics undertaking off-label research is the potential exposure to liability. The Medicines Innovation Bill[5] is considering this, but will not address the problem in its entirety. The UK's Early Access to Medicines Scheme[6] could be used for applications for repurposing, it isn't only for promising new medicines. A designated medicine under this scheme is not yet a licensed medicine, but the prescriber may be protected from litigation by the National Regulator (MHRA) declaring that the medicine shows legitimate promise based on careful scientific appraisal of the available data. It is important that developers of new medicines or medical devices seek advice from the MHRA early in the development programme, and it is possible to arrange meetings jointly with MHRA and EMA and NICE.

Helping the NHS adopt innovation
In order for patients to benefit from innovation it requires demonstration of effectiveness, replicability of application and diffusion within the healthcare system. The AAR needs to recommend operational instruments that will make this happen at the systemic level within the next 2-3 years. These should include strengthening the role of AHSNs and AHSCs in the local adoption of innovation and improving both the patients' and clinicians' experience of using innovation.

Clinicians are trained in a set and formalised way from the beginning and therefore may develop a mindset that is averse to change. For example, the National Information Board[7] has laid out a digital plan for the NHS. The sum of the recommendations would have a huge impact but the main issue is change management and how clinicians will assist in the change management process. Arms-length bodies don't know how to help, it is the clinical practitioners who will make it happen.

[5] http://services.parliament.uk/bills/2014-15/medicalinnovation.html

[6] www.gov.uk/guidance/apply-for-the-early-access-to-medicines-scheme-eams

[7] www.gov.uk/government/organisations/national-information-board

A move to patient care pathways would remove the primary, secondary and tertiary care silos that prohibit the wider system implementing innovation, for example, primary care and pharmacists will need to play a larger role in the application of precision medicine.

Post-NICE there are a significant number of hurdles before innovation is locally adopted. The incentives within the NHS are wrong as local delivery is focused on annual budgets rather than long term improvement in patient outcomes. Once innovation has been adopted, there should be a transparent process to judge if patient outcomes have been improved. This would be benchmarked internationally to help NHS England identify priority areas to invest in and allocate resources where outcomes can be most improved.

The NHS is preoccupied with affordability and has become paralysed in its ability to deal with the wave of oncoming innovation. There are some parts of the system that want to innovate, but don't know how to go about it. The ambition of the Accelerated Access Review is to explain why the UK cannot afford to wait for change and to make recommendations that will help it embrace innovation that will transform patient lives and sustain the future of the NHS.

Nicky Lilliott

Useful URLs – save the document (right click) and open with Adobe Reader outside the browser and click on the URL to go to the site.

Accelerated Access Review
www.engage.dh.gov.uk/acceleratedaccess/

Association of British Healthcare Industries
www.abhi.org.uk

The Association of the British Pharmaceutical Industry
www.abpi.org.uk

AstraZeneca
www.astrazeneca.co.uk

Cambridge University Hospitals
www.cuh.org.uk

Centre for the Advancement of Sustainable Medical Innovation, University of Oxford and UCL
www.casmi.org.uk

Department of Health
www.gov.uk/government/organisations/department-of-health

The Francis Crick Institute
www.crick.ac.uk

GSK
www.gsk.com

Medical Research Council
www.mrc.ac.uk

National Institute for Health Research
www.nihr.ac.uk

NHS England
www.england.nhs.uk

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