What does the future hold for life sciences in the UK?

JOY OGDEN

The Association of the British Pharmaceutical Industry (ABPI) annual conference was held in London in April, in the 70th anniversary year it shares with the NHS. Joy Ogden reports on some of the highlights of the conference, which focused on the future of UK life sciences over the next 70 years.

Introduced by Jonathan Dimbleby, with a host of experts and top executives from across the UK’s pharmaceutical industry, together with two politicians and the Chief Executive of NHS England, the ABPI conference theme was ‘Securing the future for UK life sciences: looking ahead to the next 70 years’.

The recurring topics of the day were ‘reflecting back’ and ‘looking ahead’. The former often related to the trials of old age besetting the NHS – whether from its own increasing funding ailments or the growing number of people living into old age, often with co-morbidities and putting unprecedented demands on the health service. The latter focused on the pharmaceutical industry’s innovations in drug development, technology, research and data collection.

Meanwhile, the prospects for the next 70 years of the NHS and the pharma industry, as well as UK opportunities post-Brexit, were never far from the minds of speakers, panellists and audience. Sessions on an acclaimed collaborative project in Greater Manchester, illustrated with case studies, were enthusiastically received and panel discussions were interspersed with presentations throughout the day.

The Bible allots us “three score years and ten”, said ABPI Chief Executive Mike Thompson, opening the conference, but life expectancy has increased to the point today where 15,000 people are over 100 years old and, of the total UK population, 10 million can expect to become centenarians. These extra years create one of the “grand challenges” the ABPI has set itself to tackle in its industrial strategy. But there is progress: the UK is a world leader in the life sciences industry, cures are being found for some diseases and, even with cancer, people are twice as likely to survive at least 10 years after diagnosis than in the 1970s, said Mr Thompson.

Innovation, past and future

Professor Nancy Devlin, Director of Research at the Office of Health Economics, spoke on the ‘Celebration of innovation’, reflecting on the last 70 years and possible progress during the next 70 years. Professor Devlin said the ABPI had commissioned her organisation to review medicines’ contribution to the NHS during the past 70 years, in terms of health and economic outcomes. Three-quarters of expert respondents to
the research interviews identified eight innovations in particular as having had a major or exceptional impact during that time. These included: immunosuppressants, which made the first heart transplant possible; oral contraceptives; tamoxifen for breast cancer treatment; and the first drugs to treat depression and high blood pressure.

She predicted that major innovations will be needed in the next five to 10 years to address significant areas of unmet need. Big data will bring big dividends in the future and other fascinating options are opening up, such as ingestible microchips, doctors prescribing apps as part of healthcare plans, and remote monitoring devices. Who knows where technology will take us in 70 years? mused Professor Devlin.

Keith Thompson, Chief Executive Officer of Cell and Gene Therapy Catapult, discussed ‘Evolving technology and medicines’, from the first kidney transplant in 1960, via the invention of monoclonal antibodies in the 1980s and the first gene therapy in 2002, up to “the big buzz” of the modified T-cell therapy applications in oncology, which “will be in an NHS specialist centre very, very soon”.

Some new cell and gene therapies, particularly in blood cancers, in ophthalmology, in rare diseases and in haemophilia are producing potentially life-saving treatments, he said. “These interventions make things happen. Our objective is to try to make the industry – or at least a large proportion of it – stick in the UK, rather than treatments being invented here and exported somewhere else.”

Chris Carrigan, Expert Data Adviser at use MY data introduced his talk on ‘Embracing the data opportunity for better patient care’ by playing a video from Margaret Grayson, a patient advocate, giving her experiences in breast cancer care and her reasons for wanting to share her healthcare data.

Ms Grayson said she wanted to acknowledge the role of clinicians and researchers in improving patient care. She felt a responsibility to the rest of society to permit her data to be used and to demand that clinicians and researchers use it for the purposes of audit, comparison and ethical research, to find answers for her and other patients like her. She concluded: “I want you to be careful with data Margaret, but I don’t want that data to be locked in a box.”

Use MY data is an effective movement for patients and advocates to give them a voice, with no head office and no director in charge, explained Mr Carrigan. It supports the protection of individual choice and privacy in the sharing of healthcare data to improve patient outcomes. He said that technological advances have made the interconnectivity of data less of an issue, adding: “If we’re going to use patients’ data for research, we tell them what we found or didn’t find. I think they deserve that respect – you bind them into the process.”

In the panel discussion that followed, Richard Stephens, survivor of cancer and a heart emergency, and participant in four clinical trials and seven other research studies, said the trouble was that patients’ choice is limited because they don’t know what is available throughout the NHS, and clinicians either don’t know or don’t have time to tell them.

Keith Thompson told panellists and the audience: “We talk about the NHS – everyone thinks it’s a big whale that’s bobbing along – it’s actually a big shoal of fish, and about 30% are going in the other direction, so actually effecting system changes is difficult.”

Post-Brexit challenges
Talking about UK opportunities post-Brexit, Baroness Rona Fairhead, Minister of State for Trade and Export Promotion at the Department for International Trade (DIT) acknowledged the challenges and uncertainty created around our EU exit but said the government was working to get the best deal and find new opportunities.

She said: “We aim to continue to be the host of start-up and world-leading multinationals and we want to make sure that our regulatory standards, which are hailed around the world as leading edge, are taken and embraced, and we still continue to be seen as the regulatory champion.”

Nathalie Moll, Director General of the European Federation of Pharmaceutical Industries and Associations (EFPIA), which represents the pharmaceutical industry operating in Europe, spoke about the future from a European Industry perspective. She said there were two “incredible” revolutions happening now, in biotechnology and in IT, which were “extending in Mexican waves all the way down to the patients through the healthcare system”.

She added: “In some cases we’re curing, so suddenly we are disrupting the entire healthcare system, which gives us a great opportunity to rethink how we manage the system.” The impact of a cure on patients and on society transforms care and it is vital that this is managed properly, she explained, which means measuring outcomes or results to evaluate the effectiveness of therapies.

Sir Mark Walport, Chief Executive of UK Research and Innovation (UKRI), focused on the subject of building a thriving UK clinical research environment. He pointed to environmental changes, including those in climate, driven by the high density of the human population, and while he celebrated the successful prolongation of people’s lives, he noted that until morbidity was addressed, costs would continue to rise.
He added: “There are lots of questions and they require interdisciplinary solutions: unless you combine biology with engineering, with data science... with social science, we’re not going to be able to answer the key questions.”

Equality, diversity and inclusion of skilled people from all over the world was an important function of UK clinical research and innovation, and that needed to be built into the infrastructure and the culture. Sir Mark explained: “We have good models for paying for the disease, we have very poor ones for the economics of paying for people to remain healthy. That’s a challenge for the health system and a particular challenge to reduce morbidity in elderly people.”

He concluded: “We are only going to be successful in building a thriving UK clinical research environment if we work in partnership – if we can provide that environment where academia works closely with industry.”

Innovation in Greater Manchester

Jon Rouse, Chief Officer, Greater Manchester Health and Social Care Partnership and Ben Bridgewater, Chief Executive Officer, Health Innovation Manchester outlined their progress in pioneering a transformation of Greater Manchester healthcare by integrating health and social care, after Westminster granted their request for devolved powers in 2016.

The request to control decisions about the healthcare of its local population, explained Mr Rouse, followed the revelations of an independent study, showing very clear evidence that the poor health of Greater Manchester’s population was acting as a major drag on the city’s economic development: too many had varying co-morbidities preventing them from working and contributing. Key objectives included effective observation and transformation of the system: to move resources into prevention and early intervention to cut costs in chronic disease and emergency admissions.

Speaking after the conference, Ben Bridgewater said: “Greater Manchester’s devolution with delegated financial control has allowed us to set up structures within the city region, which enable us to do things very differently to meet the needs of the city’s 2.8m people. That has led to greater integration between health and social care, and better relationships across all the providers in Greater Manchester. That is an area we want to develop as fast as we possibly can to ensure better outcomes for our citizens.”

Professor Martin Gibson, North West E-Health Chief Executive Officer, Alison Mursell, Director of Devolved Health at GSK, and Dr Binita Kane, Consultant Chest Physician, Manchester University NHS Foundation Trust, told the ABPI conference about a programme to improve the health of people with chronic obstructive pulmonary disease (COPD) across Greater Manchester.

Professor Gibson talked about the digital strategy built around the first ever “real-world” trial data structure used to deliver the Salford Lung Study together with sponsor GSK, linking primary care, hospitals and local pharmacies. The Salford Lung Study was a late phase 3 clinical trial examining the safety and effectiveness of fluticasone furoate/vilanterol in a novel dry-powder inhaler (Relvar Ellipta) for COPD in patients in Salford and the surrounding Greater Manchester Area. It was the world’s first pragmatic randomised trial of a prelicensed medicine to use linked electronic health records to monitor safety and outcomes.1

“its legacy is a new everyday tool that means we can find people earlier, treat them sooner and do the preventive kind of work we’ve been talking about,” said Professor Gibson. And that’s good for patients, who will get the drugs sooner, for industry, who should have reduced costs, and for payers, who might be able to afford the drugs, he added.

Ms Mursell said Greater Manchester has launched a new COPD programme using results from the Salford Lung Study to help accelerate its implementation in all 10 localities across Greater Manchester. The work in Greater Manchester has the potential to be an exemplar of what is possible nationally: a new transformational partnership that delivers better access to medicines to patients and a fair value return to pharma, she said.

Dr Kane reported a case study of Phil, a former patient with severe COPD, whose hospital admissions grew from “relatively few” between 2012 and 2014, to 22 in 2015 and 13 in 2016, when he died. She said: “Apart from being incredibly inefficient and costly to the health service, it is an horrific way to spend the last two years of your life and it’s a very typical picture – in Greater Manchester we want to do this differently.”

Greater Manchester’s “very ambitious plan” is to move from an episodic, crisis-managing system to a more holistic approach, by partnering with public health and promoting physical activity and stopping smoking as well as addressing mental health problems, all with the help of apps and digital technology that will allow clinicians and patients to manage COPD better, explained Dr Kane.

Addressing variations in care

Angela McFarlane, Market Development Director of IQVIA, a human data sciences company, began her presentation by saying that the Life Science Strategy, as it improves NHS England’s collaboration with the pharmaceutical industry,
will “make quite a seismic shift in culture within NHS England, one which will require buy-in from the top”.

She added: “I really encourage anyone who is sceptical about NHS collaboration with industry to look towards Greater Manchester and see for yourselves the benefits that can be realised for patients, quickly and in collaboration.”

Ms McFarlane, together with Robert Duncombe, Director of Pharmacy at The Christie NHS Foundation Trust, Manchester, set out the results of the challenge by the NHS Cancer Vanguard to the pharmaceutical industry in June 2016, to collaborate on medicines optimisation to improve outcomes for patients with metastatic colorectal cancer.

IQVIA, in partnership with the Cancer Vanguard, which is jointly led by three top cancer hospitals in the UK – University College London, The Christie and The Royal Marsden – completed all its analysis in June 2017. Key research questions were designed in collaboration with Merck, a long-term partner in colorectal cancer research and treatment, to answer questions about: how patients with colorectal cancer are treated in the ‘real world’; variations in approach to treatment between hospitals; patients’ experience; and the financial consequences of variation for the NHS. The key aim of the collaborative route, explained Ms McFarlane, was to ensure clinicians could easily understand researchers’ insights. IQVIA identified 13,000 different treatment pathways in cancer patients, for instance in the use of chemotherapy, in the partnership cancer hospitals and analysed 600 variables.

Ms McFarlane said: “It shone a light on unwarranted variation in metastatic colorectal cancer, with a view to understanding what’s happening, then taking steps to addressing it.”

Mr Duncombe, speaking from the NHS perspective, said that pooling of data prompted interesting questions about variance in oncology drug use and its impact on patients, potentially on their length of stay and the cost of treatment. But the thing that convinced him about its value was the uMotif app that patients could download to their phone to record how they felt. More than 111,000 data points of symptom tracking were recorded over the 35-week long project, with one patient using the app on 188 days out of 200.

He said: “We were capturing in real time how the patients felt on a day-to-day basis. The clinicians were excited by it and recognised the unique opportunity to gather information by overlaying patient experience measures and patient symptom measures on top of all the other data they were examining and analysing.”

Commenting after the conference, Mr Duncombe said: “I think the project with IQVIA and Merck demonstrated it is possible to work co-operatively with the pharma industry. We need to be clear about what’s happening, then taking steps to addressing it.”

Mr Duncombe, speaking from the NHS perspective, said that pooling of data prompted interesting questions about variance in oncology drug use and its impact on patients, potentially on their length of stay and the cost of treatment. But the thing that convinced him about its value was the uMotif app that patients could download to their phone to record how they felt. More than 111,000 data points of symptom tracking were recorded over the 35-week long project, with one patient using the app on 188 days out of 200.

He said: “We were capturing in real time how the patients felt on a day-to-day basis. The clinicians were excited by it and recognised the unique opportunity to gather information by overlaying patient experience measures and patient symptom measures on top of all the other data they were examining and analysing.”

Commenting after the conference, Mr Duncombe said: “I think the project with IQVIA and Merck demonstrated it is possible to work co-operatively with the pharma industry. We need to be clear about what’s happening, then taking steps to addressing it.”

Mr Duncombe, speaking from the NHS perspective, said that pooling of data prompted interesting questions about variance in oncology drug use and its impact on patients, potentially on their length of stay and the cost of treatment. But the thing that convinced him about its value was the uMotif app that patients could download to their phone to record how they felt. More than 111,000 data points of symptom tracking were recorded over the 35-week long project, with one patient using the app on 188 days out of 200.

He said: “We were capturing in real time how the patients felt on a day-to-day basis. The clinicians were excited by it and recognised the unique opportunity to gather information by overlaying patient experience measures and patient symptom measures on top of all the other data they were examining and analysing.”

Looking ahead to the next 70 years

The subject of ABPI President Lisa Anson’s speech, ‘Looking ahead: The NHS and industry, the next 70 years’, seemed particularly apt as she said she had announced that week that she would be stepping down as President and moving to a new role.

She said: “We are pioneers of science, who make innovation happen,” citing targeted gene treatment for haemophilia B patients, progress in immunology, artificial intelligence and synthetic biology to treat malaria, HIV and hepatitis, and gene-editing technology.

As Brexit continues to dominate the news, the ABPI has made its case to government about the need for a deal to prioritise patient safety and secure certainty of medicines supply for the benefit of patients, the NHS and ‘vibrant’ life sciences ecosystems.

She concluded: “As we stand at a critical juncture, we need to deliver our priorities – reputation, a thriving scientific ecosystem and patient access to innovative medicines – and to deliver them with the NHS. I ask each of us to build on our natural partnership – industry and the NHS – and deliver real change and benefits for patients in the UK in the decades to come.”

NHS England Chief Executive Simon Stevens commented that the 70th anniversary year of the NHS was a moment not just for looking back, but also for “putting fuel in the tank for the journey ahead”. He made headlines when he made his own bid for extra ‘fuel’ in the NHS coffers from Theresa May’s government at the NHS Providers’ annual conference last November.
Back in 1948, when the NHS began, there were 23,000 deaths a year from tuberculosis (TB) in the UK but the challenges now come mainly from an ageing population with multiple morbidity, and the way that healthcare funding works needs to be “re-devised” to create an integrated system that joins up primary care with specialist services, and connects physical and mental health services, he said.

NHS England took over responsibility for negotiating deals for individual products with the pharma sector in 2017, and Mr Stevens said there had been “very constructive negotiations... and some genuine win-wins” for the industry, the NHS and patients.

He indicated that chimeric antigen receptor T-cell (CAR-T) therapy (a “ground-breaking” approach to treating cancer), could be available in the autumn in the UK. He stressed that the therapies are expensive and manufacturers would need to set fair prices to ensure they were both affordable and sustainable in the long term, but added that the NHS was not going to wait until it was settled before gearing up the system with specialist treatment centres.

The 70th anniversary of the NHS is the date the government has set out the medium-term funding position of the NHS, linked to health improvement goals for the population over the next decade, said Mr Stevens. The size of the settlement and the strings attached will play a major role in the good health of the NHS and the UK pharmaceutical industry as it starts the next 70 years of its journey.

Reference

Declaration of interests
None to declare.

Joy Ogden is a freelance journalist