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Bringing medicines to life
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Cymru | Wales

Velindre Cancer Centre and Bristol Myers Squibb Pharmaceuticals Limited Immuno-Oncology Joint Working Project

An example of the increased joint working opportunities with industry in delivering better outcomes for people in Wales and improving services for patients.

It is widely accepted that cancer centre environments and the experience of treatment can affect patients' anxiety levels – which directly impacts on their experiences and outcomes. Patient feedback has led the Velindre Cancer Centre (VCC) to consider how to better utilise available data to redesign services to improve its patient experience.

Recognising that the physical environment in which patients are cared for is becoming increasingly busy, and with the incidence of cancer rising in the Welsh population, VCC teamed up with Bristol-Myers Squibb (BMS) to find a solution for how to maintain patient experience and quality in the face of growing service delivery. A project was developed alongside BMS to undertake a service redesign specifically looking at patient flow through the Systemic Anti-Cancer Treatment (SACT) service. By entering a Joint Working Agreement there was an opportunity to pool resources, skills and expertise from both parties to examine the issues. This included access to data, service modelling and project management (provided by IQVIA on behalf of BMS) which would help support the drive for continuous improvement and deliver the best possible care for patients.

Main Image:
Sam Otorepec, Project Manager – Pathways Effectiveness UK, Integrated Engagement Services, IQVIA; and Phil Webb, Associate Director of Planning, Performance and Innovation – Velindre NHS Trust at the Pharmaceutical Field Award Ceremony

Continued overleaf

Project design supported by an IQVIA project manager included mapping the patient pathway. This delivered a powerful visual tool that identified the management, routine investigation and process of administration of treatment. By process mapping with key stakeholders it was possible to highlight inefficiencies within the pathway. A key area uncovered was the duplication of effort by healthcare professionals, thus creating a discussion point for the clinical team to see the case for change and engage HCP stakeholders.

Through stakeholder workshops, the project team could analyse information and make key recommendations for improvement. This innovative approach was shared with the SACT service and the wider organisation.

The project delivered excellent outcomes, including a piloted service model aimed at reducing the burden on treatment assessment clinics and benefiting patients by reducing both the time spent in outpatient clinics and the frequency of hospital visits. In parallel an assessment of potential future patient demand was provided by BMS's Demand Assessment Model, informing the modelling of revised pathways and resources.

As a result, next steps have been to pilot an interim pathway that is more streamlined, creating a single point of contact throughout the pre-treatment process to provide continuity of care and test the concept. The project closed in February 2018 and VCC and Bristol-Myers Squibb have reflected that working together and delivering the project yielded great experience for both parties.

The project exemplifies how NHS and industry collaboration can impact on patient outcomes as well as providing significant insight and learning for both VCC and BMS, plus the opportunity to share what has jointly been achieved both at national and international conferences. In addition, the project has recently come runner-up in a Pharamceutical Field Award (see picture).

Superbugs: *the end of modern medicine as we know it?*

As part of the Wales Festival of Innovation, ABPI Cymru Wales supported Cardiff University to present 'Superbugs: the end of modern medicine as we know it?' – an evening of lectures and interactive exhibits aimed at the general public. The evening, held on June 28th, showcased the world-leading research from Cardiff University and explored a range of common medical misconceptions including those around vaccines, the use of antibiotics and decoding the early signs of sepsis.

To great interest and acclaim, ABPI Cymru Wales used our new virtual reality experience, to explore how the technologies being researched today may transform the treatment of tomorrow, with over 70 volunteers ranging from primary school children, parents and professors at the university.

Following the event, Dr Rick Greville, Director of ABPI Cymru Wales said: *"Antimicrobial resistance is a global public health issue requiring multiple solutions and a sustained co-ordinated response. Working with our colleagues across research and healthcare, we are at the forefront of efforts to tackle the issues and events like 'Superbugs' ensure that the public is part of this journey too. We look forward to building on this event, working to build an environment that is both attractive and predictable for companies to invest in antibiotic development."*

"Superbugs: The end of modern medicine as we know it?"

The Welsh NHS Confederation NHS@70 – *supporting celebrations at the Senedd*

On 5th July 1948, the NHS was launched by the then Health Secretary, Aneurin Bevan. For the first time, hospitals, doctors, nurses, pharmacists, opticians and dentists were brought together under one umbrella to provide services for those who needed them, free at the point of delivery.

Over the last 70 years, the NHS has transformed the health and wellbeing of the nation and become the envy of the world. The NHS, together with partners like the pharmaceutical industry, has delivered huge medical advances and improvements to public health, meaning we can all expect to live longer, healthier lives.

Along with colleagues across the United Kingdom, the Welsh NHS Confederation organised a commemoration of the achievements of the last 70 years. The event, which also looked forward at what health and social care services will look like in the future, took place at the Senedd on the 5th July 2018 and provided an opportunity to celebrate the NHS 70th birthday with leaders from across the NHS, the Welsh Government and to hear from Aneira Thomas, the first baby born in the NHS.

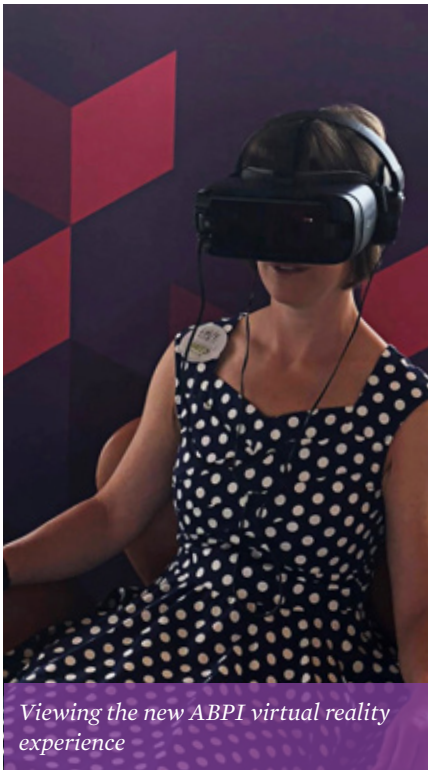
Speaking in the Senedd Chamber during the NHS@70 celebrations, the Cabinet Secretary for Health and Social Services, Vaughan Gething, AM said:

"Last year in Wales there were some 20 million patient contacts, more than 700,000 first out-patient appointments, more than 600,000 in-patient and day cases, more than 479,000 ambulance calls and more than 1 million people seen in our accident and emergency departments, whilst some 82,000 adults and around 16,000 children depended on support from our social care services. Between them, these services have a combined budget of over £9 billion and employ a workforce of over 170,000 staff. And all this for a population of just over 3 million.

"As we reflect on and celebrate our past, we have choices to make for our future. More of the same cannot be the answer. We cannot allow our NHS to be changed by service failure. We have to empower and enable change to improve services and outcomes."

ABPI Cymru Wales was delighted to be invited to participate at the Welsh NHS Confederation's NHS@70 event, where we demonstrated our new virtual reality experience, which explores how the technologies being researched today may transform the treatment of tomorrow. Amongst the other exhibitors, drawn from across NHS Wales partners, was ABPI member Pfizer, who took the opportunity to demonstrate elements of their 'Science in a Box' schools programme to attendees (see over).

Cabinet Secretary for Health and Social Services, Vaughan Gething, AM cuts the Welsh NHS 70th Birthday cake at the Welsh NHS Confederation Celebration



Viewing the new ABPI virtual reality experience

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Science in a Box

An interactive science-based programme for students in year 9 (13–14 years of age) who are keen to learn more about medicine development and the role of the pharmaceutical industry.

Science in a Box is a collection of resources with associated activities for Pfizer-employed Science Industry Partnership (SIP) ambassadors and Science, Technology, Engineering & Mathematics (STEM) ambassadors, whose role includes helping to inspire young people to consider a career in science.

The interactive programme consists of eight modules and an overarching introduction.

Introduction
To provide an overview of the complete Molecule to Medicine Pathway and consisting of an overarching Molecule to Medicine puzzle with associated information cards.

1. **Pre-discovery**
   To provide an understanding of what types of information are considered when initially exploring the pre-discovery elements of medicine development

2. **Discovery**
   To understand the work involved in searching for the right molecule within a specific disease area

3. **Molecule development**
   To provide students with an understanding of how a molecular formula can have various chemical structures and how this will then impact on effectiveness, stability and reproducibility of its effect

4. **Medicine development**
   To understand the process of developing the experimental molecule into a medicine, including an understanding of medicine formulation

5. **Clinical trials**
   To understand the clinical trial process and what is involved in the various stages

6. **Access**
   To understand how the results of clinical trials are scrutinised by regulatory agencies before a medicine can be approved for use and then to understand how medicines are further evaluated to assess appropriateness for use after licensing

7. **Manufacturing**
   To understand what needs to be considered when manufacturing a medicine and the associated regulatory requirements

8. **Supply**
   To understand what needs to be considered when supplying and transporting medicines. To understand some of the issues related to counterfeit medicines

We believe it is important to share our expertise and educate students about the pharmaceutical industry, as currently there isn't anything that takes students through this particular element of Science.

(PP-PFE-GBR-1409 September 2018)

Janssen working in partnership with Welsh Government and NHS Wales to improve outcomes for patients

In this year of the 70th anniversary of the NHS, it is only right that we celebrate the heroes of the service: the doctors, nurses and other frontline staff who have been delivering high-quality care for decades. At some point, we all rely on these people to help us and our families through life-changing events and we owe them a great debt.

Behind the scenes, there is a huge infrastructure helping frontline workers to deliver the best possible outcomes for patients. At Janssen, a pharmaceutical company of Johnson & Johnson, we are working collaboratively with healthcare systems and providers everywhere to advance medical innovation and help improve patient care.

Our most recent partnership with Welsh Government and NHS Wales is aimed at improving outcomes for cancer patients. From this summer, we will begin collecting patient outcome data, as well as patient experience and preference information from Welsh patients with myeloma and eventually other blood cancers. This data will be safely stored and made available to doctors, nurses and other relevant healthcare professionals, so that |they can analyse which treatments are working for each and every patient, in order to personalise care. The new NHS Wales Haematological Malignancy Data Solution should mean that each patient in Wales has access to the most effective treatments.

In an era of societal developments, disease progression and innovation in medicine, needs have changed enormously. By partnering with industry, the NHS and other key stakeholders, we hope to build our understanding of what brings genuine value to the health system and to patients, so that together we can create sustainable solutions to help improve access and funding for transformational medical innovations.

While people in Wales and across the UK may know little about the work our scientists and researchers are doing to help fundamentally alter how diseases are managed, they are aware of how important it is for companies like ours to continue to invest in pioneering new treatments. In a recent national survey by the global polling agency YouGov for the ABPI pharmaceutical industry body, 95 per cent of people in Wales said medicine and medical technology had improved in their lifetime, and 89 per cent of local people said it was important to them that Britain continues to be a global leader in health and science innovation.

At Janssen, we want the UK to remain at the forefront of this innovation and to work with us to bring novel approaches to some of the country's most significant healthcare challenges. Last year, our company was shortlisted for the Oxford Academic Health Science Network (AHSN) Partnership Award for ongoing collaborative work in the field of health and wellbeing, including mental health, inflammatory bowel disease and digital innovation – and we do not intend to stop here.

Businesses like ours have a unique opportunity to help people live longer, healthier lives, while bringing much-needed value to the health system – and this is what we care most about. We are dedicated to making a difference by embracing new ways of working in Wales and across the UK, and we encourage industry, the NHS and other relevant stakeholders to continue joining us.

If we all work together, the potential is limitless.

Main Image:
Lee-Ann Farrell – Government Affairs Manager, Wales & Northern Ireland, Janssen-Cilag Ltd.

From Molecule to Medicine

Following the recent publication of an Office of Health Economics (OHE) report on the ten most important medicines over the life of the NHS, Dr Sheuli Porkess outlines how the pharmaceutical industry takes a substance from molecule to medicine and how this process requires persistence.

A recent report from the Office of Health Economics (OHE) shows the amazing impact medicines have had on the NHS and more widely. The antipsychotic chlorpromazine, first used in the NHS in 1954, paved the way for deinstitutionalisation and community-based care for people with mental illness. In 1948, there were almost 400,000 cases of measles in England and Wales, and 327 people died. By 2015 the number of cases of measles in England and Wales had fallen below 1,200.

These medicines, and others, had a variety of benefits including better clinical outcomes, saving lives, improving quality of life, greater health service efficiency and wider societal impacts. But making medicines is a complicated and costly business. It costs billions of pounds and can take decades. Successes can change the world; failures are an inevitable part of the discovery and development process. But when medicines get through the development process, they can clearly change millions of lives.

There are broadly three stages to creating a new medicine: research, development and approval. Here's how it works:

- **Drug discovery and development**

The process usually starts with chemical compounds or biological molecules. With advances in technology over the last few years, we can screen compounds that have the potential to become treatments faster than ever before. AstraZeneca – a British pharmaceutical company – launched a new screening robot in 2016 called 'NiCoLA-B' which is able to test 300,000 compounds a day. Its job is to find those chemicals that show the slightest potential of being useful as a medicine.

- **Research**

The research stage benefits hugely from collaborative partnerships between the pharmaceutical industry, charities and universities, all working together to find a potential medicine. This stage can take 4–5 years and about 22% of the total budget needed to find a treatment. Each compound has a less than 0.01% chance of success.

Preclinical research

From a batch of about 10,000 compounds screened in the drug discovery phase, only about 10–20 go into the pre-clinical phase, where scientists determine how safe a medicine might be through testing in cells and animals as well as using computational models.

Clinical research

If any of those 10–20 compounds show real potential of being turned into something useful, they are developed into a medicine that will move into the clinical trial stage. Now there are three steps: Phase 1 involves about 20–100 volunteers. If medicines are successful here, they will move onto Phase 2 where they are tested in people with the disease.

Phase 3 can include up to 5,000 patients. Going through the three phases can take 6 or 7 years. Over half, or about 65 per cent, of the money required to make a medicine is spent in the development stage.

Phase 4 clinical trials are after the medicine has a licence and are there to help monitor the medicine's safety and to help clinicians better understand how the medicine works in everyday life, not just in clinical trials.

- **Approval**

The final stage is when regulators review the medicine and it can get 'market authorisation' – which shows the medicine is safe and effective. By this point, the manufacturing of the medicine has been scaled up. Only 1 medicine out of 5,000–10,000 compounds discovered will make it to this stage.

The approval processes last anywhere from 6 months to 2 years. The medicine is continually monitored once it starts being prescribed for patients.

Researching and developing medicines takes a lot of time and work along the way; there is no guarantee that any particular medicine will make it through the various stages of this highly regulated process. The process is fascinating and once medicines get through this system, their impact can be huge. Of course, the pharmaceutical industry is pioneering new ways to find treatments. The future looks exciting and how we detect, diagnose and treat disease is set to change significantly.

Advances in medical technology and the miniaturisation of diagnostics, wearables and devices will have a huge impact on our lives and could help people with chronic diseases to remain out of hospital.

Advances in understanding how cells monitor and repair damaged DNA enables us to develop game-changing treatments for cancer. Progress in immuno-oncology sees patients' own immune cells used to attack cancer cells, and stem cell therapy is treating rare sight conditions.

We see Artificial Intelligence and synthetic biology used for treating malaria, HIV and hepatitis. Gene-editing technology is happening in labs right now, identifying new disease targets, accelerating the discovery of novel treatments. Passionate pioneers, such as those who invented the ground-breaking treatments in the report, have always been at the heart of our industry and it's exciting to imagine what their successors could achieve in the next 70 years.

Erik Nordkamp, Managing Director, Pfizer UK

Pharmaceutical industry and NHS working together to transform patient care – the priority for the new ABPI President

Erik Nordkamp, Managing Director, Pfizer UK has been confirmed as the new President of the Association of the British Pharmaceutical Industry (ABPI).

The appointment sees Erik take over the role vacated by Lisa Anson. In his role he will lead on overseeing both the ABPI, the ABPI Board and the ABPI's Code of Practice, which is administered by the Prescription Medicines Code of Practice Authority (PMCPA).

Setting the focus for his Presidency, Erik said his main priorities would be helping to transform patient care through improving access to new medicines and vaccines and ensuring that Britain holds on to its status as a world leader in global medicines discovery now and post-Brexit.

He said: *"Today, we are able to prevent, manage and even cure diseases in ways we couldn't have imagined in years past. Healthcare is transforming, and much of the transformation is being made possible by medicines.*

"The pharmaceutical industry is proud to have been a partner to the NHS throughout its 70-year history. The industry's collaboration with Government in producing the Life Science Industrial Strategy has set the right tone of partnership and agenda setting. Now, as we look to the health challenges of the future, our industry must play an integral role in long-term planning for the NHS.

"Our dedicated scientists and academics can contribute solutions and demonstrate how new technologies and medicines can improve patient outcomes, transform services and deliver the efficiency and productivity so urgently needed.

"By being involved at the earliest possible stage in strategic planning, we can work with the NHS and Government to make sure that UK patients receive world-class care at the cutting edge of what is possible today and in the future.

"Recognition of the role of medicines and new technologies, as well as a commitment to encourage the discovery of innovative medicines and their use in the UK, would be transformational for patients, the NHS and the British economy. This must be our goal."

For the first time in its history, the ABPI will appoint a Vice-President, with Haseeb Ahmad, Managing Director UK & Ireland, Novartis Pharmaceuticals UK, taking the role. The two appointments took effect from 1 August 2018.

Welcoming the appointments, Mike Thompson, Chief Executive of the ABPI, said:

"I'm delighted that Erik is taking up the role of President. He starts at arguably the most challenging period for the pharmaceutical industry in the UK as Britain continues to negotiate its withdrawal from the European Union, implement a modern industrial strategy and agree a deal on UK-branded medicines policy for the next five years.

"The new position of Vice-President will work with Erik and ABPI staff to ensure the benefit of new medicines and vaccines is fully realised in Government and the NHS. Haseeb will bring a wealth of experience to the role. On behalf of everyone at the ABPI I welcome them both to their new roles."

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Medicines Knowledge Base
– joint event on Brexit with the Welsh NHS Confederation

27th June 2018 saw the 25th meeting of the Medicines Knowledge Base at the National Assembly for Wales and, for the first time, ABPI Cymru Wales jointly hosted the session with a partner organisation – the Welsh NHS Confederation.

The ABPI is a member of the NHS Confederation Brexit Health Alliance, which brings together the NHS, medical research, industry, patients and public health organisations and has set five priorities for the negotiators:

- Maximum levels of research and innovation collaboration
- Regulatory alignment for the benefit of patients and population health
- Preservation of reciprocal healthcare arrangements
- Robust co-ordination mechanisms on public health and wellbeing
- A strong funding commitment to the health and public health sectors

Vanessa Young, Director of the Welsh NHS Confederation, discussed the work of the Brexit Health Alliance, the implications for Wales and how the Welsh NHS Confederation and their partners have been considering and assessing the scale of the impact for Welsh health and social care services post-Brexit. A lively discussion followed among the attendees, led by the sponsor of the event, Bethan Sayed AM, which focused on some of the challenges and opportunities of leaving the European Union.

Coinciding with the event, the Welsh NHS Confederation Policy Forum published its views on Brexit in a briefing, which can be accessed at:

https://www.nhsconfed.org/media-centre/2018/07/impact-of-brexit-on-the-welsh-health-and-social-care-system

Bethan Sayed, AM and Vanessa Young at the Medicines Knowledge Base event

Lively discussion at the Medicines Knowledge Base

Who we are

The Association of the British Pharmaceutical Industry (ABPI) represents innovative research-based biopharmaceutical companies, large, medium and small, leading an exciting new era of biosciences in the UK.

Our industry, a major contributor to the economy of the UK, brings life-saving and life-enhancing medicines to patients. We represent companies who supply more than 80 per cent of all branded medicines used by the NHS and who are researching and developing the majority of the current medicines pipeline, ensuring that the UK remains at the forefront of helping patients prevent and overcome diseases.

Globally our industry is researching and developing more than 7,000 new medicines.

The ABPI is recognised by government as the industry body negotiating on behalf of the branded pharmaceutical industry for statutory consultation requirements including the pricing scheme for medicines in the UK.

For further information about any of the issues in this Bulletin or about ABPI Cymru Wales, please contact:

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