**Using technology to help people live well with dementia**

Gwynedd Council
Galactig
North Wales Research, Innovation and Improvement Hub

With an ageing population, it’s more important than ever to find new ways to help people live well with dementia. This session will look at how new technology can help, from virtual reality training that gives carers a personal insight into what it’s like to live with dementia to ‘Wandersafe’ technology that makes a day out that bit easier for people with dementia and their carers.

**Transforming digital health and care services in Wales**

Paul Howells, Programme Lead, NHS Wales Infomatics Service
Helen Thomas, Interim Director, NHS Wales Infomatics Service

The digital revolution brings exciting changes to the delivery of health and care with what seems like unbounded potential for improvements and efficiencies.

This session gives an overview on where digital and AI are already having an impact on service provision in Wales and where Wales can lead the way through projects such as the pioneering national data resource, and the fertile landscape being created by Welsh Government’s Digital Transformation Plan.

**From saving lives to improving systems**

Amer El-Kerdi, Clinical Marketing Leader, Philips Healthcare
Dr Chris Subbe, Consultant Physician, Senior Clinical Lecturer, Betsi Cadwaladr University Hospital Board

This group have conducted research into the importance of routinely collected vital signs to improve safety in hospital. Implementation of Early Warning Scores has reduced rates of cardiac arrests by a third across the UK and lowered mortality from severe infections by 20%.

By using technology, the impact of adverse events in patients admitted to hospitals can be further lowered dramatically. But the same data has other applications – stable vital signs indicate an opportunity for patients to leave hospitals. From saving lives of patients at risk of catastrophic deterioration, data can be used to help healthcare organisations to survive.
BREAKOUT SESSIONS | DAY I

WEDNESDAY 25 MARCH 2020 | START TIME 11:45

#IYTH20

CREATING A CLIMATE TO DRIVE INNOVATION AND TRANSFORMATION – HOW DO WE ENSURE WE ARE FIT FOR THE FUTURE?

Helen Howson, Director, Bevan Commission

This panel session profiles the thinking and work of the Bevan Commission in helping to create a climate to drive the innovation and transformation needed for tomorrow’s health. Bevan Commission Director, Helen Howson will be joined by Bevan Commissioners and other senior leaders to identify how we can work together to overcome the barriers to change and take bold, disruptive and collective leadership to ensure health and care in Wales is fit for the future.

VALUE-BASED HEALTH CARE (VBHC) AS A FRAMEWORK TO SUPPORT THE DEVELOPMENT AND ADOPTION OF INNOVATION

Nick James, Strategic Account Manager, Pfizer
Dr Thomas Kelley, CEO, Sprink and Affiliate, Swansea University
Professor Hamish Laing, Professor of Enhanced Innovation and Engagement, Swansea University
Dr Sally Lewis, Clinical Lead for Value-Based and Prudent Healthcare, NHS Wales

A panel discussion which will begin with an overview of the global progress in the adoption of VBHC and how VBHC supports the development and adoption of innovation. This will then be followed by three perspectives on the enablers to the successful adoption of VBHC and how this supports innovation. Specifically: culture and leadership, collaboration and partnerships, skills and capabilities. There will then be time for facilitated discussion between the panel members and the audience.
BREAKOUT SESSIONS | DAY 1

WEDNESDAY 25 MARCH 2020 | START TIME 12:30

#IYTH20

TO BRIDGE CLUSTERS AND SCIENCE PARKS BY LEVERAGING EXPERTISE IN INTERNATIONAL ALLIANCES

Martine Courtemanche, Sherbrooke Innopole, Canada
Toshio Fujimoto, iPark, Japan
Ursula Hultkvist Bengtsson, Twins’ International Multihelix, Sweden
Joan Popolo, ACTION Innovation Network, USA

Twins’ International MultiHelix (TIM) members will together chair a discussion on how to bridge clusters and science parks by leveraging expertise in international alliances to improve ecosystems and peoples’ health and wellbeing.

The workshop will present the benefits of international collaboration and how the network operates. TIM members will also highlight examples of ongoing work e.g. pre and soft landing tools, mapping of technology ecosystems as well as mapping cutting edge trends in start-ups globally. TIM was founded as an international supercluster in 2016 to facilitate strategic partnerships among companies, research organisations, and universities for the health and economic performance of the member regions in a trustworthy environment. TIM is present on three continents represented in 10 countries and is actively growing with new partners to expand the international footprint.

Life Science is our specialty domain due to the deep knowledge and relevant expertise of the TIM members. At TIM we join to accelerate the development and access of innovative solutions by fostering new collaborations in a multihelix format with multiple stakeholders.

ASSESSING AND EVALUATING THE EFFECTIVENESS OF NEW HEALTH TECHNOLOGIES

Matthew Prettyjohns, Principle Researcher, Health Technology Wales

This session will explore the key methods used in Health Technology Assessments (HTA) and increase understanding of the potential value to service users, providers and technology partners.

It will explore how to be critical about clinical and economic evidence and describe their importance to policy and commissioning decision-making. It will also explain the methods of economic evaluation used to assess the cost effectiveness of health and care technologies and how this allows decision-makers to make best use of limited resources.

The themes of the session will be topical and will touch on real examples of technologies appraised by Health Technology Wales, the national body responsible for producing Guidance to help evidence-informed decision-making by care commissioners.

This is a ‘taster’ session for the ‘Welsh Health Workshops’, held in collaboration by Health Technology Wales and Life Sciences Hub Wales. The workshops are thought-provoking and will teach transferable skills to apply to the workplace.
MEDIWALES – WELSH LIFE SCIENCE SHOWCASE

Deborah Laubach, Operations Manager, MediWales

The MediWales mission is the advancement of human life sciences in Wales. MediWales showcases some of the groundbreaking technologies and medical innovations that are developed and manufactured in Wales and exported to global markets. These companies include life sciences, medical technology, digital health and pharmaceutical organisations. They are a significant part of the Welsh economy, employing thousands of people in Wales and making products to improve patient care.

DRIVING INNOVATION FOR CANCER IN WALES

Tim Banks, Head of Research, Tenovus
Tom Crosby, Consultant Oncologist, National Cancer Clinical Director for Wales, Clinical Lead Transforming Cancer Services, Velindre Cancer Centre
Richard Erwin, Managing Director, Roche
Dee Puckett, Head of Health & Social Care Engagement, Life Sciences Hub Wales

A session to share the journey and opportunities of driving innovation to improve cancer outcomes in Wales. What happens when you work together? Come along and hear some of the experiences and opportunities which have developed through co-creation and working together, from Industry, Cancer Health Clinical Leads, patients and Tenovus.
WORKING TOGETHER TO BRING PATIENTS HOME

A seamless health and social care service is the goal of policymakers across Wales and beyond. In this session, find out how a detailed study of a single ward is transforming the experiences of patients, from hospital to home and how virtual reality can give professionals across the spectrum a personal insight into the lives of people living with dementia.

PROJECT YEMEN: LAUNCHING A VIRTUAL REALITY PRODUCT INTO A WAR ZONE

James Gough, CEO, One Shot Immersive

One Shot Immersive is a start-up established in 2018. It’s mission is to create virtual reality medical training experiences that empower people to save lives.

This workshop tells the story of the company, the people involved and how it created and launched a VR mass casualty training product in Yemen. It will also offer attendees the chance to explore why this is relevant to all of us, and what we can learn from the world’s most desperate places.

BREAKTHROUGH INNOVATIONS FOR TOMORROW’S HEALTH

In a healthcare system where driving improvements, in the here and now, to counter the pressures faced by patients and NHS professionals, whilst meeting clinical needs in the best ways possible, we can forget to look forward. This session is an opportunity to learn about new breakthrough innovations that could be everyday, mainstreamed approaches in ten (or less) years from now. Be prepared for a step into the future.

This session will look at:

- VR in healthcare – pain distraction vs anaesthesia
- Can an improved walk prevent major conditions and surgery?
- How can we better identify and reduce time taken to diagnose cancer?
THE LARGE-SCALE CHANGE CHALLENGE

Junaid Bajwa, Global Lead for Strategic Alliances, Digital Centre of Excellence at Merck & Co
Jonathon Gray, Clinical Director, Life Sciences Hub Wales, Interim Director of Transformation and Digital, Cardiff & Vale University Health Board
Ruth Jordan, Head of Improvement and Implementation, Cardiff & Vale University Health Board
Sarah Kerruish, Chief Strategy Officer, Kherion

“Local innovation is essential, but it is not enough on its own. Good practice must scale up to regional and to national levels, in a systemic way, and at pace.” A Healthier Wales: our plan for health and social care, Welsh Government, 2018.

This interactive session will take you on a journey to piece together the puzzle that is spread & scale; introducing you to a number of experts and to the science of spread along the way. Together we will reflect and craft a way forward for spread & scale of innovation in Wales. It’s time to build a community that we can unleash on the system to identify and spread great ideas. We will learn, laugh and have fun whilst developing new knowledge and skills to support the transformation of health and social care.

“The Future is already here – it’s just not very evenly distributed” William Gibson, 1993

UNITING ON PRECISION MEDICINE - DRIVING ECONOMIC GROWTH AND CHANGING HEALTH CARE IN WALES

Mark Briggs, Head of Cell and Gene Therapy, Welsh Blood Service
Ian Weeks, Dean of Clinical Innovation, Cardiff University

In this session, a panel will discuss how Precision Medicine represents a shared agenda for the future between health, academia and industry. Looking at how collaboration can deliver health benefits for patients by enabling strides to be taken in the prediction and prevention of disease through new diagnostic tests, enabling earlier detection of disease and development of personalised treatments. The benefits go beyond health to economic development, by supporting and creating jobs in Wales.

The session will also discuss the creation of a Centre of Excellence for Precision Medicine and how this could confirm Wales as a world leader in this vital emerging industry with enormous growth potential.
ASPIRE AI PROJECT POWERED BY INTEL

Dr Emiliano Spezi, Reader – School of Engineering, Cardiff University
Costas Stylianou, Technical Specialist for Health and Life Sciences, Intel

In this breakout session, you will hear from Costas Stylianou, Technical Specialist at Intel, covering Health & Life Sciences, as he shares significant product updates across the Intel artificial intelligence portfolio and a glimpse into Intel’s vision for the future of AI hardware and software, before he hands over to Emiliano Spezi to talk about the specifics of the ASPIRE (AI Solutions for Personalised RadioTherapy) project.

ASPIRE focuses on the training and validation of Intel’s optimised hardware and software for the automated delineation of tumour volumes on anatomical and functional imaging modalities. The project aims to improve efficiency and accuracy of the clinical workflow making full use of anatomical and functional imaging modalities to guide personalised radiation therapy.

RADIOLOGISTS + AI: GIVING EVERY WOMAN A BETTER FIGHTING CHANCE AGAINST BREAST CANCER

Sarah Kerruish, Chief Strategy Officer, Kherion

If you’re a radiologist, this should reassure you that you’re not about to be replaced. For everyone else, this talk will introduce you to the potential of AI and how it could help give every woman a better fighting chance against breast cancer. Sarah will be sharing lessons from the frontline of deploying Mia, Kheiron’s AI solution, into NHS hospitals. You will also hear from a patient about why this really matters.

PATHWAY OPTIMISATION IN ORTHOPAEDICS & THE USE OF TECHNOLOGY TO TRANSFORM PATIENT CARE

Ruth Griffiths, UK Lead ZB Connect Solutions, Zimmer Biomet
Professor Oliver Pearce, Consultant Orthopaedic Surgeon, Milton Keynes University Hospital
Professor Blaine Price, Professor of Computing, School of Computing & Comms, The Open University

Are you experiencing challenges whilst delivering patient care? Are you looking to restructure your service delivery?
Are you clear on how technology can help you?

Optimising pathways can be challenging requiring a structured, sustained focus. There are a wide range of solutions to assist with orthopaedic pathway optimisation, resulting in improved clinical outcomes and enhanced patient satisfaction scores.

Technology has advanced with open access to all with the digital era, and now enables healthcare provision to be transformed. Delivery of pathway optimisation programmes together with the integration of technology creates greater opportunities for innovative service redesign and enhanced patient experience, along with opportunities for financial efficiencies and revenue generation.

Presenters from industry, leading healthcare professionals and technology researchers from academia, will share their view of the challenges and successes they have experienced along with their vision for the future of healthcare provision.
FROM LONGER LIFE EXPECTANCY TO HEALTHIER LIFE EXPECTANCY

One of the most pressing challenges presenting itself to the NHS is that of an ageing population, who often have multiple co-morbidities and complex care needs. The population over 65 is due to be at least 700,000 by 2030.

This presents a challenge to health services with opportunity to address by innovation in service delivery and technology adoption, and for businesses, social enterprises and researchers who can help people to stay active and productive as they age.

This session will reflect on the need to reconsider attitudes to what it is to age, how we can do it better and the innovative thinking and solutions which can support the health and care system, and utilise resources through improved wellbeing and healthy life expectancy.

A GOOD START IN LIFE: IMPROVING PERINATAL MENTAL HEALTH SERVICES

Professor Ian Jones, Director of the National Centre for Mental Health (NCMH)
Dr Sally Wilson, Training Coordinator at Action on Postpartum Psychosis (APP)
Dr Sarah Witcombe-Hayes, Senior Policy Researcher at NSPCC and Maternal Mental Health Alliance Wales (MMHAW) Coordinator

Join Professor Ian Jones, Director of the National Centre for Mental Health (NCMH), Dr Sarah Witcombe-Hayes, Senior Policy Researcher at NSPCC and Maternal Mental Health Alliance Wales (MMHAW) Coordinator and Dr Sally Wilson, Training Coordinator at Action on Postpartum Psychosis (APP) to learn more about perinatal mental health problems, which affect up to 20% of women during pregnancy and the postnatal year, and how much still needs to be done to improve the support for all parents affected by mental illness during this time.

During this session, you will hear about the research taking place at NCMH to improve treatment and reduce the stigma associated with mental illness, as well as learning about new interventions being created to support women with postpartum psychosis. In her dual role with NSPCC and MMHAW, Sarah has explored the perinatal mental health services provided in Wales and the changes needed to ensure fair and equal access to all. You will also hear from Sally, who has used her own experience of postpartum psychosis to support others through her work with the national charity Action on Postpartum Psychosis (APP).
BREAKOUT SESSIONS | DAY 2
THURSDAY 26 MARCH 2020 | START TIME 11:30

INNOVATION BY DESIGN @ BANGOR UNIVERSITY

Andy Goodman, Senior Lecturer in Design, Bangor University
John Parkinson, Head of School, Head of Psychology, Bangor University
Dewi Rowlands, Senior Lecturer in Education, Bangor University
Paul Spencer, Dean of College Environmental Sciences and Engineering, Bangor University

This session will showcase the university’s existing ‘innovation’ strategy and will cover the continuum from underlying theory, to concept to delivery. Bangor University has collaborated with organisations for many years and this session will share experiences of what has been learned in understanding how best to systematise the innovation process. It will address the way in which innovative teams can be built and how the process can take account of factors such as complexity and scale.

HOW VR & AR IS REVOLUTIONISING HEALTHCARE

Academy of International Expanded Reality (AIXR)

What was once a dream to immerse the user in video game worlds has quickly become so much more than that. VR & AR are revolutionising healthcare in more ways than one: how we train staff, treat patients, and market solutions. We will explore these three pillars of VR & AR in Healthcare, and look to the impact they may create going forward.

AIXR is the not for profit Academy organisation for the immersive industries whose remit is to support and enhance the growth of immersive technologies. Part of this is achieved through our Insights Live scheme, where we feature leading Academy members to educate the public on their story and the benefits of utilising XR technologies. For Tomorrow’s Health 2020, we will bring together some of the Academy’s top talent working in the healthcare industry to educate on the impact they are making and the potential for XR to revolutionise healthcare entirely.

JOINT WORKING IN PRACTICE

Jason Carroll, Medicines Management Pharmacist, Powys Teaching Health Board
Alun Griffith, Evidence Generation Manager, GSK
Dee Puckett, Head of Health & Social Care Engagement, Life Sciences Hub Wales
Judy Thomas, Director of Contractor Services, Community Pharmacy Wales

This session will share the experiences of the Joint Working Project – Asthma Annual Reviews – with GSK, and three Health Boards in Wales, Aneurin Bevan University Health Board, Hywel Dda University Health Board and Powys Teaching Health Board. From project development to signature and into implementation – what are the key lessons, what are some of the top tips and what does it feel like from the inside?
In a fast moving world of constantly evolving technology it is easy to fixate on solutions instead of the problems that need solving. Those implementing strategy for new technologies within healthcare require a deep understanding of the needs of staff and patients. These needs lie at the heart of healthcare delivery challenges and must be understood before identifying appropriate solutions.

This session will present simple but robust human-centred design techniques to identify:

• Root cause problems as opposed to symptoms of problems
• What needs to be learnt about the people who have the problem and techniques to do this
• Which stakeholders are involved and how changes will affect them
• Approaches to start developing solutions based on identified needs

We’ll demonstrate how to use these techniques to maximise your impact by ensuring your innovation work remains focused on making a real and effective change that is meaningful and measurable.

The session will be particularly relevant to:

• Those seeking to develop new products and services to improve healthcare delivery
• Those setting overall strategy for innovation within the healthcare sector
• Those with an interest in design research methods
THE INNOVATION JOURNEY; A SCIENCE PARK PERSPECTIVE

Menai Science Park (M-SParc)

Menai Science Park (M-SParc) discuss how they created an environment designed to ensure innovation thrives. M-SParc will share stories from tenant companies who are there to support innovation growth, and those who’ve developed products and devices in the health sector to tackle real issues.

CLINICALLY LED PREDICTIVE ANALYTICS IN ACTION

Justin Kennington, Chief Executive, Lightfoot Solutions
Alun Tomkinson, Clinical Board Director for Surgery Clinical Board, Cardiff & Vale University Health Board

As a follow-up to the plenary led by David Meates, CEO, Canterbury District Health Board and Len Richards, Chief Executive, Cardiff & Vale University Health Board, this session will look at how Cardiff & Vale University Health Board have localised and implemented two examples using their principles and predictive analytics to inform and redesign models of care to improve outcomes and enhance patient experience. This method of using predictive analytics applies across the whole health and social care system to engage with staff to get the best possible outcomes.

INNOVATION CENTRES WALES

Simon Barry, National Respiratory Health Clinical Lead, Cardiff & Vale University Health Board
Professor Keith Harding, Professor of Wound Healing Research & Medical Director, Cardiff University & Welsh Wound Innovation Initiative

The chance to hear about the exciting opportunities in Wales to drive innovation in respiratory and wound care.

TRANSLATING THINKING TO PRACTICE FOR TOMORROW’S HEALTH

Siôn Charles, Deputy Director, Bevan Commission

This workshop is a chance to find out more about the type of impact that programmes such as the Bevan Exemplar Programme can have and the crucial part they play in driving and supporting innovation. Looking at the Bevan Exemplar Programme’s activity from the last four cohorts, this session will draw upon a number of Bevan Exemplars to highlight their projects, experiences and views on the future and what needs to happen to deliver tomorrow’s health.
Advanced therapies, such as cell and gene therapies, are set to transform current care pathways, potentially offering durable and curative outcomes where acute unmet medical need exists. These therapies are already a reality with NICE guidance published on several products and more in process. This ranges from products for knee cartilage defects, to those for immunodeficiency, and CAR-T therapies. Such treatments often manipulate the patient’s own cells to fight these diseases. However, healthcare services are not configured to accept, adopt and deploy these therapies on a broad and regular basis. These revolutionary therapies will impact across many chronic condition treatment pathways, oncology drugs and ‘regenerative medicines’ by exploiting techniques and methods to repair, replace, regenerate and re-engineer human genes, cells, tissues or organs in order to restore or establish normal function. This includes cell therapies, tissue engineering, gene therapy, gene editing and biomedical engineering techniques, as well as more traditional treatments involving pharmaceuticals, biologics and devices.

We will also discuss some of the ongoing initiatives within Wales to maximise the benefits that these new treatments offer, covering the NHS, academia and commercial organisations.