

CASE
STUDIES



Folium Optics

Folium Optics is developing “My Health Tags” - a prototype product to help improve medicine adherence.

Up to 50% of prescribed medicines are not used as the prescriber intended. Non-adherence and under-use represent a loss to patients, the healthcare system and society at large - it is a missed opportunity for health improvement and a waste of valuable resources.

Folium Optics, which has secured £1m contract from a Small Business Research Initiative (SBRI) Healthcare competition, has developed a smart electronic tag attached to medicine packaging, and a separate lightweight portable reminder unit. The tag has an ‘always-on’ vivid display that shows clearly which medicine should be taken and when. It logs when doses are taken and can share that information via the cloud with carers and clinicians. The reusable tags are lightweight and robust, will still work if the medication is taken outside the home and can be simply configured by the pharmacist, carer or user.



Mayden®

Mayden develops innovative, cloud-based applications that transform the way healthcare services are delivered by staff and experienced by patients. Founded 15 years ago by former healthcare professional and management consultant Chris May, Bath-based Mayden has doubled in size over the last two years and now employs over 60 staff. Today, a Mayden system is used in almost every NHS Trust in the country, and the company serves some 120 clients.

Mayden focuses on working with those clinical services that have historically been poorly resourced with healthcare IT and which have not enjoyed access to good data and analytics. Armed with this information, services are able to identify how and where they can improve their service to patients.

The company’s flagship product - the iaptus® patient management system - is used by 70% of England’s Improving Access to Psychological Therapies (IAPT) services. Mayden is currently pioneering a hub to seamlessly connect these services to online psychological therapies in order to enhance efficiency and access to services for patients, and to increase patient choice.

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Bristol Community Health

The not-for-profit social enterprise is the leading provider of NHS community healthcare services in Bristol, delivering over 35 different community health services. Since it spun out of the NHS in 2011, Bristol Community Health has enjoyed year-on-year success and business growth, with all surpluses reinvested back into patient care. In 2014-15, the organisation re-invested £1.6m surplus into its services – seven times more than the year before.

Bristol Community Health’s largest contract (the adult community healthcare contract) has been extended for a third time recently, until September 2019. It has also secured an interim

one year contract for the provision of children’s community health services in Bristol, as part of a regional partnership bid with Sirona care & health (prime provider) and Avon and Wiltshire Mental Health Partnership NHS Trust. As a result of this, the organisation’s turnover is expected to increase in 2016-17, from £46m currently to £57m. Its staff team will also grow, from 1,200 to 1,700, making it one of the largest healthcare employers in Bristol.

The organisation supports a third of over 65s in the Bristol area and makes some 30,000 contacts with patients each month. Its Rapid Response service also prevents over 4,600 hospital admissions per year, alleviating pressure on the wider health system.



WEST OF ENGLAND
IN THE BUSINESS OF HEALTHCARE

Published by the Health & Life Sciences Sector Group
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THE WEST OF ENGLAND - A HUB OF HEALTHCARE INNOVATION

“ When we think of the healthcare sector and its economic impact, naturally our view is more often than not focused on those who provide care - our hospitals, GP practices and community care services.

Whilst the region's healthcare providers generate significant jobs and GDP directly and indirectly through procuring services, the vibrant and burgeoning health economy here in the West of England is much more, including a significant hub of private sector businesses, social enterprises and Universities all focused on research and development, innovation and growth in the health and life sciences field.

So much so that the sector as a whole is one of the largest employers in the West of England, making it an area of great potential for those already located here, as well as for inward investors specialising in the technology and healthcare arenas who are looking for new market opportunities.

The following pages highlight the strengths of the West of England health economy and the opportunities. The region is in very good health and we hope you are as excited as we are by the potential for development and the opportunity to establish the area as a global leader in innovative healthcare delivery”.

Lars Sundstrom,
Chair of the Health and Life Sciences Group, West of England Local Enterprise Partnership and Director of Enterprise, West of England Academic Health Science Network (AHSN).

For more information on the health and life sciences sector in the West of England and the opportunities that exist, please visit:
www.westofenglandlep.co.uk/HLSSG

or email:
administrator@westofenglandlep.co.uk


West of England health sector in numbers

 **230**
health and life science companies
Source: *West of England AHSN*

 **80,000+**
employees
Source: *West of England LEP local sector skills statement 2016*

 **£3.5bn**
estimated local NHS budget
Source: *West of England AHSN*

 **£150m**
estimated revenue generated by healthcare social enterprises
Source: *West of England AHSN*

 **15,000**
University researchers in health and life sciences
Source: *Universities in the West of England*

Health & Life Sciences Companies	%
Medical Technology	78%
Pharmaceutical	9%
Industrial Biotechnology	7%
Medical Biotechnology	6%

THE HEALTH ECONOMY LANDSCAPE

The fast growing health economy is characterised by health service providers, private sector companies and social enterprises.

A major healthcare sector

The NHS in the West of England is represented by three acute trusts, four Clinical Commissioning Groups, a mental health trust and regional ambulance service.

Some 53,000 people are employed by health and social care providers, representing the largest component of the healthcare sector workforce in the region. The budget for local Clinical Commissioning Groups is around £3.5bn.

A hotbed of health and life sciences businesses and social enterprises

The West of England is home to a growing number of private sector companies and social enterprises which are focused on health and life sciences. A significant proportion are medical technology businesses, driving innovation in areas such as assisted living, diagnostics, electronics, clinical management, operational management and hospital infrastructure which present significant growth opportunities locally, nationally and globally.

They are joined by a burgeoning social enterprise sector within healthcare which now employs some 3,000 people – examples include Bristol Community Health, North Somerset Community Partnership and Sirona which manage large contracts for the NHS.



Innovation and technology hubs

The region boasts a vibrant innovation community including SETsquared, ranked the global number one university business incubator by UBI Global, the Engine Shed, the University of Bath Innovation Centre, the University of the West of England's Enterprise Zone and the Bristol and Bath Science Park.

These hubs are giving rise to a number of health innovations including:

- + Micrima, which has developed ground-breaking breast imaging technology using harmless radio waves to increase levels of information that can aid radiologists in the early and accurate diagnosis of breast cancer, particularly in dense tissue associated with younger women.
- + Bioinduction is a UK medical devices group manufacturing unique implantable neuromodulation devices including the Finetech-Brindley bladder control system and Picostim, the only general purpose skull mounted deep brain stimulator (DBS) platform. DBS is the standard late stage treatment for Parkinson's disease.
- + Cubik Innovation which has recently engineered a small device - Leocycle - with a local inventor to detect the risk of Legionnaires' disease. It attaches to pipes, underneath sinks and water basins in hospitals, hotels, offices and other public buildings, notifying building managers of increased risk of the legionella.

THE UNIVERSITY SECTOR - A RESEARCH AND INNOVATION POWERHOUSE

The Universities of Bristol, Bath and the West of England collectively have around 15,000 researchers in health and life sciences.

Several research centres have established national and international reputations including the Bristol Heart Institute, Bristol Robotics Laboratory and the Institute of Bio-Sensing Technology.

Major centres are supporting advances in treatments by translating science into clinical practice and improving healthcare delivery. These include the:

- + Wolfson Biomedical Imaging Centre
- + Clinical Research and Imaging Centre
- + Translational Biomedical Research Centre
- + Clinical Trials and Evaluation Unit
- + Bristol Surgical Trials Centre
- + Bath Centre for Health Innovation and Improvement
- + Research Institute for the Care of Older People
- + The Milner Centre for Evolution
- + Centre for Pain Research
- + Centre for Health & Clinical Research
- + Centre for Research in Biosciences

Bristol Health Partners is a collaboration between the Universities of Bristol and the West of England, Bristol City Council, three Clinical Commissioning Groups and the local NHS trusts, and has resulted in specialised Health Integration Teams (HITs) delivering research into practice. An example is Move HIT, which is delivering new precision surgical treatments using implantable devices for Parkinson's Disease, in collaboration with the engineering company Renishaw Plc.

The West of England AHSN and Collaborations for Leadership in Applied Health Research and Care (CLAHRC) West also link academia with businesses and health care providers to take innovation from research to clinical practice.

Exciting developments involving the region's Universities include:

University of Bath - a 'smart' medical dressing that changes colour when it detects infection. This has been designed to improve treatments for burns patients and help combat the global problem of antibiotic resistance by reducing the unnecessary use of antibiotics.

University of Bristol – the SPHERE (Sensor Platform for Healthcare in a Residential Environment) project brings together clinicians, engineers, designers and social care professionals as well as members of the public to develop sensor technologies that can monitor vulnerable people in their homes and detect problems such as falls or strokes.

University of the West of England - AmBeR[®] is a mass producible sensor that allows ammonia levels to be detected in breath. It has been designed to help patients with a number of chronic diseases and conditions who regularly need to check their ammonia levels through blood testing.

