

SUMMARY REPORT		ABM University Health Board			
ABMU Health Board		Date of Meeting 26 th January 2017 Agenda item: 5 (i)			
Subject	ARCH Portfolio Delivery Plan Report				
Prepared by	Peter Mannion ARCH Programme Manager				
Approved & Presented by	Siân Harrop-Griffiths Director of Strategy				
Purpose					
The Health Board is one of the three core Partners of “A Regional Collaboration for Health” (ARCH). The following paper provides the Health Board with a report on the ARCH Portfolio Delivery Plan. The Portfolio Delivery Plan sets out the areas of work the ARCH Partnership will be responsible for delivering in its next three year phase. The report requests that the Health Board agrees the Portfolio Delivery Plan ahead of it being submitted to Welsh Government.				Decision	X
				Approval	
				Information	
				Other	
Corporate Objectives					
Excellent Population Health	Excellent Population Outcomes	Sustainable & Accessible Service	Strong Partnerships	Excellent People	Effective Governance
X	X	X	X	X	X
Executive Summary					
<p>The University Health Board is undertaking A Regional Collaborative for Health (ARCH) with Hywel Dda University Health Board and Swansea University. The ARCH Partnership is required to produce a Portfolio Delivery Plan (PDP), which will set out: the long term aims and objectives for ARCH; the Projects that ARCH will be responsible for delivering in the next three years and the sequence with which those projects will be delivered.</p> <p>ARCH has four Programmes:</p> <ul style="list-style-type: none"> • Wellbeing; • Service Transformation; • Skills & Education; and • Research Enterprise and Innovation. <p>This strategic Portfolio will have a significant part to play in supporting the Health Board address our issues of improving patient access to high quality services and workforce, service and financial sustainability. The PDP requests appropriate support required to facilitate the delivery of the Portfolio Delivery Plan from Government. It is recommended that all three partner organisations support and approve the ARCH Portfolio Delivery Plan ahead of the Plan being submitted to Welsh Government.</p>					
Key Recommendations					
The Health Board is recommended to APPROVE the ARCH Portfolio Delivery Plan and its submission to Welsh Government.					

Main Report		ABM University Health Board
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PURPOSE

The Health Board is one of the three core Partners of “A Regional Collaboration for Health” (ARCH). The following paper provides the Health Board with a report on the ARCH Portfolio Delivery Plan (APPENDIX 1). The Portfolio Delivery Plan sets out the areas of work the ARCH Partnership will be responsible for delivering in its next three year phase. The report requests that the Health Board agrees the Portfolio Delivery Plan ahead of its submission to Welsh Government (WG).

INTRODUCTION

The ARCH Partnership is required to produce a Portfolio Delivery Plan (PDP), which will set out the long term aims and objectives for ARCH, the Projects that ARCH will be responsible for delivering in the next three years and the sequence with which those projects will be delivered.

ARCH has four Programmes:

- Wellbeing;
- Service Transformation;
- Skills & Education; and
- Research Enterprise and Innovation

This strategic Portfolio will have an important role in supporting the Health Board (and with Hywel Dda University Health Board) address our issues of patient access to high quality services, workforce, service and financial sustainability.

ARCH aims to deliver sustainable regional solutions to some of the **most significant** issues facing South West Wales. Working together, the three organisation can provide strategic solutions to longstanding issues in areas such as: how to better engage the public in maintaining and improving their health; ensuring there is a highly skilled and sustainable workforce and that there are safe and sustainable services throughout the region in locations which enables them to deliver services with high quality outcomes.

Not all clinical services for the Health Board population fall within the scope of ARCH. There are however a number of services where it is clear that planning at a regional level would best serve our population. Equitable access to care for patients from the across the region to current and newly planned services will be a key consideration.

In terms of ARCH, ABMU priorities echo those of our two partners. Key strategic priorities are:

- Improving the health of the population to reduce the incidence and extent of chronic disease and improve life expectancy and ‘healthy years’;

- Strengthening primary care and other out of hospital services;
- Ensuring there is sufficient workforce with the right skills;
- Embedding innovation and research in local service delivery;
- Improving Patient outcomes through access to digital technology and services;
- Ensuring services are sustainable and capable of delivering to agreed standards; and
- Delivering changes first identified within the Changing for the Better Clinical Strategy that to date we have been unable to implement alone.

There are a number of key service areas that the Health Boards have prioritised in the Portfolio Delivery Plan:

- Pathology
- Cardiology
- Ophthalmology
- Neurology
- Vascular
- Non-Surgical Oncology
- Stroke Services
- Orthopaedics
- Imaging and Interventional radiology
- Dermatology

ARCH will provide a mechanism to enable effective regional planning for these services. The PDP also sets out the intention for the Health Board to have combined Acute Medicine in Swansea in the next three years.

The PDP sets out to develop a series of Health and Wellbeing Centres in communities across the region. The first that is being developed is the Llanelli Wellbeing initiative at Delta Lakes, for which planning is well advanced. In addition to this ABMU is proposing three centres to be taken forward in the first tranche of ARCH – in our main population centres of Bridgend, Neath Port Talbot and Swansea. These will improve access to a range of services currently provided in Hospitals, and include a broad range of out of hospital care, wider wellbeing services such as leisure, arts and information services. Each will also have aspects of education and research facilities included.

Other key highlights relevant to the Health Board within the PDP are projects that will make a significant contribution to delivering a more stable workforce currently, and action that leads to a longer term sustainable workforce. This will include projects that:

- Increase preparation of young people widening access to careers in Health and Life Science;
- Increase numbers in relevant training and education within the region to meet the gaps across a number of our Health Professions, this will include working with Welsh Government so that we can recruit Welsh Domiciled students into these training and education opportunities; and
- Projects that promote the retention of staff

The PDP includes projects which will lead to the further establishment of Institutes of Life Science within ABMU, supporting research, and innovation whilst also providing additional reasons for staff to choose to live and work in ABMU Health Board. This work is closely

aligned to the Swansea Bay City Deal, on which the Board has received regular update reports.

The PDP also requests appropriate support from WG that is required to facilitate the delivery of the Portfolio.

The PDP delivers against many national and regional strategies including:

- The Welsh Government's "Programme for Government"
- The Wellbeing of Future Generations Act
- NHS Wales Collaborative
- Mid Wales Collaborative
- NHS Wales Health Delivery Plans
- Swansea Bay City Region Economic Regeneration Strategy 2013-2030

CONCLUSION

Significant progress has been made by the ARCH Programme since Welsh Government invested in the development of the programme in February 2016, (which was also match funded by the three partners). The ARCH Programme Board have approved the draft ARCH PDP which sets out a roadmap for delivering a range of projects across four interconnected programmes.

The delivery of these projects will support:

1. Improvements to the well being of our population across the region;
2. Creation of a healthcare system fit for the 21st Century and the lives we live today and into the future;
3. Driving investment into this region and create new job opportunities; and
4. Attracting, retaining and developing the next generation of health and life science staff.

The PDP provides action that will both support the Health Board's immediate sustainability requirements and its long-term direction, as set out in the Board's Clinical Strategy.

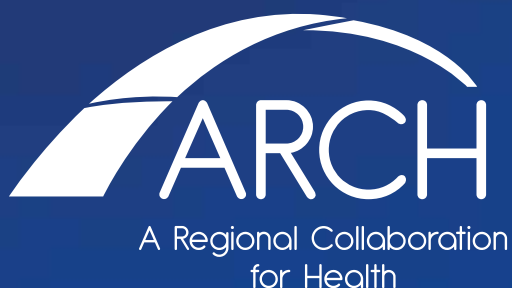
ABMU is ensuring that the interests of our citizens are fully represented within the four programmes of work within the ARCH PDP. The ARCH Portfolio has responded significantly to the challenges and guidance given by the three partner organisation in order to represent the current and future strategic direction of each organisation. The ARCH Portfolio has also responded significantly to the challenges and guidance given by Government and now reflects many of the key priorities set out in Welsh Government's 'Programme for Government'.

ABMU representatives raised the issue of patient and user representation and involvement in the ARCH Portfolio. This has been acknowledged and addressed through the development of the Portfolio Delivery Plan. There has been wide-ranging engagement across the region on the ARCH Programme, at a Project, Programme and Portfolio level and this will continue as the Programme further develops.

RECOMMENDATION

The Health Board is recommended to:

- **APPROVE the ARCH Portfolio Delivery Plan and its submission to Welsh Government**



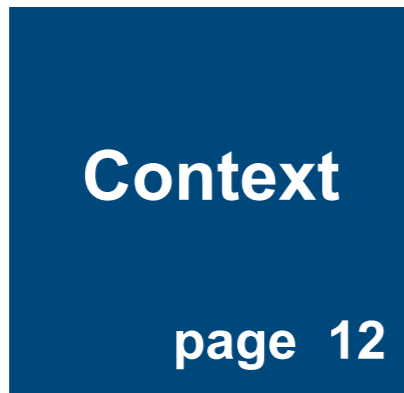
**ARCH Portfolio
Delivery Plan 2017:**
*A roadmap to improving the
health, wealth and wellbeing of
South West Wales*

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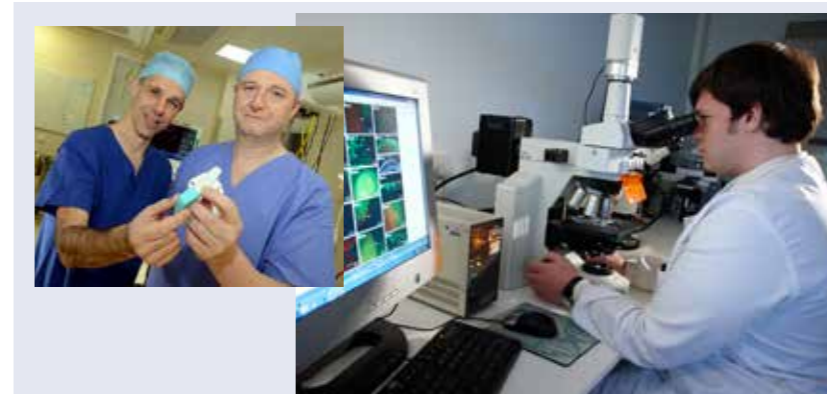
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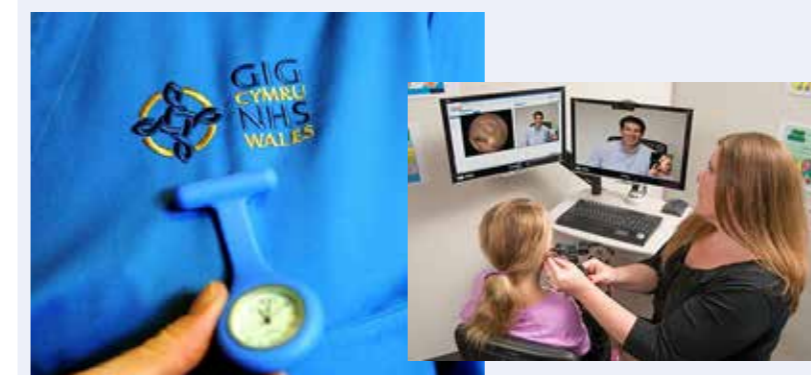


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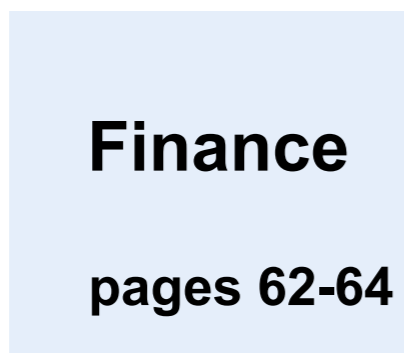
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foreword



Since 1948, the NHS has constantly adapted itself and it must continue to do so as the world and our health needs also change.

We are now able to treat people with new drugs and clinical care that wasn't available in the past. As life expectancy increases, so do the ailments of old age and there are now more people with chronic conditions. However, there are also big opportunities to improve care by making changes now to how the NHS works. With services feeling the strain, collaboration between organisations will give us the best chance of success.

This is why the ABM and Hywel Dda University Health Boards are formally collaborating with Swansea University as ARCH (A Regional Collaboration for Health). ARCH is a unique proposition, built on an ethos of collaboration - working together to find a regional solution to tackle enduring societal and economic challenges.

Well aware of the major challenges the health service faces on a daily basis, and the realisation that the status quo is untenable, our three organisations have chosen to come together to action significant change at scale - and at pace.

We truly see the ARCH partnership as our opportunity to not only develop long-term plans for regional transformation, but also allow us to take immediate action to tackle some seemingly unsolvable issues. We believe a joined up, regional approach is the only way we will be able to deliver meaningful change to help improve the health, wealth and wellbeing of South West Wales. As Abertawe Bro Morgannwg, and Hywel Dda University Health Boards with Swansea University, our three organisations are embedded in the lives

of one million people - a third of the population of Wales every single day.

ARCH is the vehicle which allows us to jointly plan our approach to the ongoing issues of:
-Recruitment, retention and workforce development;
-Service performance and configuration;
-Shrinking budgets and ongoing financial pressures;
-Economic decline; and,
-Improving the health and wellbeing of people living in our region.

As health boards we must focus on our core business and we are aware there are areas which must be improved today - as part of this approach ARCH is working with Hywel Dda as it develops its clinical strategy, the first draft of which is anticipated in Spring 2017. Part of the ARCH remit is to support the delivery of the health boards' current annual operational plan and future IMTPs. However, we also know there the need to plan for the future, based on the needs of our population and the lives we live today.

By partnering as university health boards and Wales's number one university in this way, ARCH gives us a clear path to find regional solutions in the short term, and also the opportunity to be able to lift our heads from the "coalface" and find a future path to sustainability.

Both health boards are facing unprecedented financial challenges which will need significant changes to clinical models of care leading to structural changes across the region. This will be one of the key elements to enable us to ensure sustainable services for the future. ARCH will play a central role in this, as well as the other work which will be undertaken in individual Health Boards.

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In terms of stabilisation, we see regional planning as key. ARCH already has the impetus, capacity and capability to develop some joint, regional solutions immediately.

We have agreed 10 service areas which could be delivered regionally and are progressing the development of Morriston and Singleton sites as improved health campuses as well as developing a regional network of health and wellbeing schemes.

We have the ambition to implement a whole system approach, moving away from an outdated demand side focus, to deliver a regional, population health model focusing more on preventative work in the community - putting strategies in place to keep people well and as independent as possible. This approach looks beyond integrated care to focus on improving the broader health of local populations, including the impact of the wider determinants of health. ARCH is working to cement a place-based approach to wellbeing and healthcare focusing on services being delivered in a defined area, taking a whole community rather than individual-level view - the aim being to deliver services which meet the unique needs of people living within a given 'place'.

We want people to be able to access health services in modern, fit for purpose environment in their local community where possible. The ARCH partnership has created a pipeline of projects, using technology, research and innovation to help our staff provide the best levels of care and make a real difference to people living in South West Wales. We are also working to address the immediate workforce challenges.

In the short to medium term, these relate to recovering and stabilising health board expenditure on flexible staffing arrangements, which not only contribute to a significant variable pay bill but also threaten continuity and quality of healthcare. ARCH can deliver some immediate regional steps to control this expenditure.

We are also working to establish new ways to widen access, provide increased opportunities for people living within the region to pursue a career with the NHS, alongside promoting South West Wales as the destination of choice to train, work, and live due to the exciting agenda being advanced by ARCH; as well as re-orientating the education system to deliver a workforce with the right skills to deliver next generation healthcare and increase opportunities and retaining a greater proportion of those who train in the region to work within our two health boards. The ARCH partnership will also provide the foundations for joined up business and investment proposals, to boost the economic growth of the area.

foreword



We are taking advantage of the strong and aligned local leadership ARCH has already brought together under various work streams, such as the Swansea Bay City Region City Deal bid, which was considerably driven by the expertise, talent and capability of Swansea University. The "powerhouse partnership" of ARCH has had a galvanising effect across many areas and as such is now at the heart of the region's economic growth plans.

We are excited about this partnership, because we believe it will help our region to become a place which sits at the heart of Wales, with the size, economic influence and, above all, skilled and healthy people to rival any other area across the UK. Put simply, skilled, healthy and independent people are crucial to bring jobs, investment and therefore prosperity to South West Wales. We know that people who have jobs, good housing and are connected to families and community feel, and stay, healthier.

We realise that now is the time to be bold to deliver against Welsh Government's ambitious agenda to create a Wales which is prosperous and secure, healthy and active, ambitious and learning, united and connected, and there is a real commitment from each of the partners to ensure our vision and aims are implemented and delivered. We also see this partnership as a trailblazing move for South West Wales, and also as an opportunity for government to test a regional planning delivery vehicle in terms of design, governance, implementation and effectiveness. The key principle of ARCH is improving people's lives.

We aim to reduce the cost to the public purse over time as a healthier population reduces pressure on health and social care services. ARCH offers a fantastic opportunity to grow and develop together, not least in respect of health care. We're starting from a strong place as a number of excellent processes for working collaboratively across the area are already in place. Through ARCH we will have greater opportunities to respond swiftly and effectively to the needs of residents and really transform services for them.

... This is just the start of the journey.

**ABM University Health Board,
Hywel Dda University Health Board
and Swansea University**

our vision

The vision for ARCH is to develop an integrated, open, collaborative health and life sciences regional economy here in South West Wales.

The ARCH partners are working together to ensure South West Wales is able to deliver high-quality patient care and ensure we have staff with the right skills to do so.

ARCH aims to improve population health by reducing variation and providing access to excellent care. We want to improve the wellbeing of the region through focused interventions to improve the engagement of the public with their own and health and wellbeing and also promote a vibrant economy through investment, innovation and sustainability of employment.

Skills & Education

Attract, retain and develop next generation of health & life science staff:

- We will implement a series of measures across the region to address immediate workforce challenges
- Re-orientate the education system to deliver a workforce with right skills to deliver next generation healthcare
- We will increase opportunities to support the retention of those who train within the region to work within our two health boards

Service Transformation

Create healthcare system fit for 21st Century and the lives we lead today:

- We will create a system built around prevention to help people stay well for longer and keep them out of acute healthcare settings
- We will be innovative and have a digital first approach to services
- We will improve access to high-quality inpatient care through our network of regional health campuses as appropriate

Wellbeing

Improving the wellbeing of our population across the entire region:

- We will contribute to the reduction of inequalities in health and wellbeing between population groups
- We will affect a tangible step-change in our approach to prevention and early intervention across all ARCH programmes
- We will reduce demand on services by influencing the key social determinants of health and supporting people to stay well in communities

R, E & I

Drive investment into this region and create new job opportunities:

- ARCH will capitalise on the growing health and life science sector
- We will develop and retain life science enterprises to create a local cluster of innovation & enterprise to attract investment to region
- Harness the region's one million population to become a testbed for research and development

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ARCH is our opportunity to challenge ourselves to deliver transformation.

As well as looking to find immediate solutions to some of the day to day struggles we face, ARCH also allows the three partners time to lift their heads and look to the future to find a long-term solution to providing sustainable solutions.

We will only find the answers by looking forward – and as a region we need to develop a long-term strategy not just about the next 12 months - ARCH has that vision.

ARCH is fundamentally trying to change the way “we do business” across the region.

ARCH has been built on the belief that by strategically integrating and regionally planning our approach to health service development, skills and education, and workforce development as well as research and innovation in the health and life science sector, we will deliver improved wellbeing for the population and increase the benefits.

We recognise that by jointly planning our approach across a region of one million people, we will amplify the advantages and provide solutions to persistent challenges that have vexed the region. This collaborative approach will demonstrate a new methodology which we

believe will become a benchmark for tackling enduring social challenges.

ARCH brings together four powerful strands:

- Skills & Education
- Service Transformation
- Wellbeing
- Research, Enterprise and Innovation

We will see significant improvement within all four of these areas, this in turn will lead to both direct and indirect benefit to the wellbeing of the population of the region.

We will develop a pipeline of talent to meet the future demands that the health and life science sector will face and develop new and enhanced roles to meet the workforce needs of new service models. Through ARCH the health and life science sector for the economy will be enhanced. This will increase the opportunities for people across the region to benefit from research and the translation of this research into economic growth. We can both attract more global investment into the regional sector and boost our own homegrown talent in the health and life science economy.

ARCH places wellbeing at the centre of our future service models and the use of digital technology as the defacto norm in future service design.

our vision

ARCH will deliver the following aims:

- Improve the health of our communities in the region by contributing to the reduction of health inequalities and empowering the population to manage their own health;
- Use technology and Big Data to improve the delivery of our services;
- Ensure services are integrated and easy to access with health, social care, public, private and third sector working together;
- Deliver a sustainable health system;
- Deliver a step-change for the medical and life sciences economy, by increasing research capacity, and its translation;
- Mobilise the NHS capacity to innovate and translate ideas for the economic benefit of the region;
- Create an open innovation environment and culture, co-locating class-leading science, practice & enterprise;
- Help stabilise the immediate workforce challenges within the NHS;
- Create a sustainable and fit-for-purpose workforce for the future;
- Create a multi-professional learning and training environment;
- Recruit, develop, inspire and retain the best talent including the promotion of increased opportunities for the population of South West Wales;
- Extend the interface between service provision and academia to drive improvement in our population's health.

the journey so far

Our vision and aims were set out in the ARCH Prospectus in 2015:



“ARCH aims to create an integrated, open, collaborative medical and life sciences regional ecosystem, delivering high quality patient care, developing doctors, health professionals and life scientists working locally with a global perspective to drive excellence for the sustainable benefit of the health, wellbeing and wealth of South West Wales”

“We should not underestimate how far we have come in a short space of time.

“It is less than a year ago we received funding from Welsh Government, the Programme Management Office was only fully staffed by April 2016 with our director joining us just three months ago. It is testament to the hard work and the ongoing meaningful collaboration of the

three partners that we have been able to make so much progress. This unique approach is a living example of how maximising partnership working can start to address some of the grand challenges we face as a sector and as a region. By tackling issues collectively we can work at pace and at scale.”

ARCH chairman Prof Andrew Davies

The ARCH partners came together in early 2015 to address - in a new and innovative way - the unprecedented financial, service and workforce pressures facing the NHS as well identifying an opportunity to expand life sciences as a key economic driver for the region.

Both health boards recognised the urgent need to create a transformative plan for an integrated health service which reflects the current and future needs of the region and saw a regional collaboration as a pro-active solution to seemingly unsolvable issues.

An already established partnership between ABMU and Swansea University through the Partnership Board, set up in 2012, had already delivered a Joint Clinical Research Facility (J-CRF), a common Intellectual Policy (IP) and Commercialisation Policy and collaborative education and skills development and following a decade of success in research, enterprise and innovation built by Swansea University's Institute of Life Science (ILS) - the health boards' collaboration with Wales's now number one Higher Education institution has created a power horse partnership designed to tackle regional challenges at scale and at pace.

Power of partnership:

Swansea University's Medical School, College of Human and Health Science, ILS and School of Management are all delivering world-class research, impact and education and ABMU and Hywel Dda saw the huge value a collaboration with a university of this calibre could bring.

In 2016, Swansea University was named the top university in Wales in The Times and The Sunday Times Good University Guide 2017 league table – and has also won the inaugural Welsh University of the Year title.



Swansea's top ranking reflects the university's ambitious campus development programme, with a £60million upgrade of the Singleton Campus less than a year after opening the spectacular new multi-million pound Bay Campus last September.

Applications to the university have risen dramatically by more than 60% in three years and the intake of undergraduate students is up 1,600 over the same period. The university's phenomenal achievement in the 2014 Research Excellence Framework (REF2014) is also recognised, where four-fifths of the work submitted for was assessed as world-leading or internationally excellent, with health subjects excelling.

Alastair McCall, Editor of The Sunday Times Good University Guide, said: “Swansea made a compelling case to be our first Welsh University of the Year. The opening of the Bay Campus has had a transformational effect on the university, offering students first-rate facilities in a great location – and attracting huge inward investment in the form of research projects. The new campus has also fuelled a considerable expansion of student numbers, making Swansea a hugely attractive options for students

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both within and from outside of Wales.” Growth in student numbers will also see a boost to the local economy and the wider Swansea Bay City Region will benefit as the university can use its enhanced reputation to help attract more companies and investment.

Designing the future:

Following the formalisation of the ARCH partnership in 2015, the ARCH Prospectus was submitted to Welsh Government in July the same year. This document laid out the aspirations of the collaboration and set out its main aims and what could be delivered through regional partnership working.

In terms of health, ARCH aimed to:

- ➔ Improve the health of the communities of South West Wales, reducing inequalities, empowering and building confidence in the population to manage their own health & resilience;
- ➔ Develop infrastructure and services recognised for their excellence at the forefront of defining standards, of the highest quality using technology and big data to deliver innovative services, knowledge and support prudent healthcare;
- ➔ Support integration of services so they are easy to access and with health, social care providers, public, private and third sector working together.

In terms of the economy, ARCH aimed to:

- ➔ Mobilise the NHS capacity to innovate and translate ideas for the economic benefit of region;
- ➔ Create open innovation environments and culture, co-locating truly world leading science, practice and enterprise;
- ➔ Harness, retain, nurture and adopt indigenous life science enterprises while attracting global innovators for sustainable economic and health benefit

In terms of skills and education, ARCH aimed to:

- ➔ Create a multi-professional learning and training environment to support a shaped and talented workforce designed to deliver and sustain ARCH ambition;
- ➔ Recruit, develop, inspire and retain the best talent including the promotion of increased opportunities for population of South West Wales;
- ➔ Design and deliver an integrated skills development framework to develop and channel the skills needed to sustain the ARCH ecosystem of service provision, science, translation and commercialisation.

Following the submission of the ARCH Prospectus, the collaboration quickly moved to establish six collaborative teams made up of key stakeholders. The six teams represented the areas of Service Transformation, Skills & Education, Rural Communities, Research, Enterprise & Innovation, Infrastructure and Wellbeing. These influential

the journey so far

In the ARCH Prospectus we laid out the following aims:

➔ Design, establish and maintain an effective, sustainable collaborative arrangement to lead and steer ARCH

See pages 23&24 on Portfolio Design and pages 46-54 on Implementation

➔ Ensure an excellent, fit for purpose physical and human infrastructure to meet current and future demands

See pages 34-37 on Service Transformation and pages 25-33 on Skills & Education

➔ Effectively communicate the benefits and impacts of ARCH to all stakeholders

See pages 48-51 on engagement

stakeholders were tasked with scoping potential projects to support and deliver the aims of ARCH and challenges assumptions about how health and social care is delivered, who delivers it and where it takes place; provide strategic direction and advice to the ARCH partners which enables the development of innovative, sustainable and efficient models for each of the core areas; ensure mechanisms are established to deliver agreed SMART targets noted in the ARCH Prospectus; seek ways to make the best use of resources which promote innovation; establish policies and procedures to facilitate collaborative strategies; and, be responsive to national strategy and policy that will inform portfolio development.

Creating the Wales we want:

Tremendous time, effort and energy by all the partners throughout 2015 resulted in support from Welsh Government in the form of £1.2million to resource a Programme Management Office (PMO) in February 2016, which created 11 new jobs.

The PMO was put in place to enable the ARCH partners to design, plan and deliver a coherent portfolio which could deliver their aspirational and complex aims. Through continuous engagement with Welsh Government, it was realised nothing of this size and complexity had been attempted in Wales before. Due to the transformational nature of the ARCH vision it was decided the development of a Portfolio Delivery Plan would be required to articulate the critical path of delivery such over-arching aims.

To support the work of the ARCH PMO, each of the three partners are still investing expert time, resource and funds from within their organisations to ensure ARCH is delivered. We believe this is a unique proposition and provides a pioneering

the journey so far

framework to deliver against Welsh Government policy and commitment to deliver a Wales which is prosperous and secure, healthy and active, ambitious and learning, united and connected.

Taking Wales Forward sets out the Government's programme to drive improvement in the Welsh economy and public services, delivering a Wales which is prosperous and secure, healthy and active, ambitious and learning, united and connected.

To deliver Welsh Government's key priorities ambitious measures are required, aimed at making a difference to everyone, at every stage of their life which will involve working across traditional boundaries. ARCH's ethos is based on collaboration to find innovative ways of working.

"We must work together, to take the whole country forward and contribute to delivering goals we share. The issues we face can only be tackled through new ways of working and joined up programmes"

**Carwyn Jones
First Minister of Wales**

In its *Taking Wales Forward* programme, Welsh Government sets out the following aims, listed in blue is the ARCH response to these priorities. All of these projects have been progressed significantly through ARCH in the past 12 months:

-Increase investment in facilities to reduce waiting times and exploit digital technologies to help speed up the diagnosis of illness:
→ Established the clinical model for Singleton and Morriston health campuses;

→ Prepared Strategic Outline Cases (SOCs) for Pathology, Orthopaedics;

→ Opened and first service users through the doors of the innovative Health & Wellbeing Academy led by the College of Human and Health Science at Singleton Campus;

→ Established ARCH (through the Internet of Health & Wellbeing strand) as a key component of the £500million Swansea Bay City Region City Deal bid.

-Invest in a new generation of integrated health and social services centres alongside the transformation of our hospital estate:

→ Agreed clinical model for regional network of health & wellbeing schemes with Strategic Outline Case (SOCs) in development for 6-7 schemes;



LOOKING TO FUTURE: ARCH Director Dr Robert Royce with (from left) Hywel Dda chair Bernadine Rees, Public Health Minister Rebecca Evans and Wellbeing Commissioner Sophie Howe.

→ Completed master site plans for Morriston and Singleton Health Campuses to enable the first phase of development.

-Take action to attract and train more GPs, nurses and other health professionals across Wales:

→ Established the new Physician Associate post-graduate qualification in Swansea University's Medical School - one of only two of its kind in Wales - and welcomed 15 students in October 2016;

→ Agreed need for nine regional service solutions for the following areas, with project boards set up or being established to drive work forward: Vascular; Cardiology; Neurology; Dermatology; Imaging and Interventional radiology; Stroke services; Ophthalmology; Non-Surgical cancer and Pathology.

-Invest in training NHS staff and provide training and education for all healthcare professionals, especially the primary care workforce to support the work of GPs:

→ Established advanced administrator project – pilot role based within clinical setting to free up clinical time of clinical staff – role piloted within Bronglais Hospital, (job spec developed etc.) and case study in development to allow for regional scaling up;

→ Formed an initial project investigation team formed to develop integrated working roles across NHS/ Local Authority boundaries;

→ Set up an Apprenticeships project team and terms of reference agreed to develop appropriate clinical and non-clinical apprenticeship role across the region;

→ Developed and rolled out a Staff Nurse Development Programme – module developed to improve the basic skills of newly registered nurses

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the journey so far

→ First student intake on the bespoke Further Education Talent Bank programme aimed at encouraging local 16+ youngsters into STEM study

→ Established Wales's first Fujitsu Innovation Hub at Swansea University's School of Management at the new £450million Bay Campus and secured investment from Fujitsu and Intel for Talent Bank Student Ambassador Programme

→ Designed and established ARCH-i as a regional service improvement mechanism. Project team and plan developed to provide an online forum for Improvement science practice, research, teaching, engagement, spread of ideas and best practice.

-Work to ensure good industrial relations in the interests of staff and patients;

→ Secured £13.5million of investment, including £6.7million from Welsh Government, for the Agor-IP project aimed at opening up a pipeline of untapped research into products and services for the commercial market. Recruitment of IP team in progress and appointments due soon. This will allow greater expansion as Singleton and Morriston grow, supporting development of joint IP policy;

→ Established project board to deliver Health Technology Centre and appointed a project manager to run the project. Applications being accepted and waiting list for expansion is being managed. WEFO funding applied for to enable expansion;

→ Joint Clinical Research Facility (J-CRF) Regional expansion– Established unit on Singleton site and scoping expansion on same site and potential at Morriston.

-Work with schools to promote children and young people's activity and awareness of the importance of healthy lifestyle choices:

→ Agreed clinical model for regional network of health & wellbeing schemes with Strategic Outline Case (SOCs) in development for 6-7 schemes;

→ Designed and planned the multi-million pound Llanelli Wellness and Life Science Village in Carmarthenshire

-Introduce a new Wales Wellbeing Bond aimed at improving health and to reduce sedentary lifestyles, poor nutrition:

→ Strategic Outline Case in development to establish a regional wellbeing bond

-Support, prevention and de-escalation, including a pilot Social Prescription scheme:

→ Designed and planned the multi-million pound Llanelli Wellness and Life Science Village in Carmarthenshire

-Build a shared understanding of the challenges facing local government and wider public services, and on the need for innovation, to develop a wider conversation about the reform needed, the models and pace of delivery and the pace of change:

→ Welcomed The Bevan Commission to Swansea University's School of Management at Bay Campus;

→ Established ARCH (through the Internet of Health & Wellbeing strand) as a key component of the £500million Swansea Bay City Region City Deal bid.

The Wellbeing of Future Generations Act offers Wales a unique opportunity to work collectively as a region in a meaningful way and with a long-term view. ARCH sees itself as the vehicle to deliver this pioneering legislation and each of the three organisations are seizing the opportunity to work differently and engage with others to develop innovative solutions to the challenges that we face.

The ARCH partners are committed to using the Wellbeing of Future Generations Act in our decision-making to improve our part of Wales, now and over the long term.

We recognise that using the Act effectively to make Wales more sustainable means doing things differently. As stated in *Taking Wales Forward*: **"this will not happen overnight, but requires a significant realignment in the way we address the stubborn issues that our communities face, issues which are often complex, long-term and require a multi-partner approach to resolve"**.

The act sets out five ways of working when making decisions which could impact people living in Wales in the future. They are: **Long Term; Prevention; Integration; Collaboration; and, Involvement.**

We are ensuring the ARCH portfolio is following these ways of working to help us work together better, avoid repeating past mistakes and tackle some of the long-term challenges we are facing. By looking to the long-term, taking an integrated and preventative approach, and involving and working with others, we will be able to understand better how we can maximise our contribution to the wellbeing goals of Government. ARCH is working creatively with all colleagues and partners across South West Wales to find solutions to the challenges that face us and make the most of opportunities which can help maximise our impact in these uncertain times, helping to build the South West Wales we want.

context

The ARCH region of South West Wales covers the six local authority areas of Swansea, Neath Port Talbot, Bridgend, Carmarthenshire, Ceredigion and Pembrokeshire.

There is a complex set of boundaries across these different sectors, but ARCH will deliver benefits across all six local authority areas.

Welsh Government has established the Swansea Bay City Region and is supporting the City Deal. This new regional approach to economic regeneration aims to deliver;

- Larger and more efficient labour markets;
- Scope for better planning;
- Better prospects for attracting investment, innovation and value added economic activity.

The Swansea Bay City Region brings together business, local government and a range of other partners, working to a common goal of creating economic prosperity for the people who live and work in our City Region.



ARCH interprets and applies the vision and aims of the City Region for the wider Health Economy including service delivery, education, and the Life Sciences and Health economic sectors.

All ARCH programmes, have taken care to ensure that their activities and projects support the delivery of the ARCH portfolio aims, and focus on enhancing delivery rather than duplicating those of existing partnership arrangements.

We recognise there are already effective partnerships across the region, of particular importance are the Western Bay and Mid & West Wales Health and Social Care Collaboratives and the Mid Wales Collaborative which the Service Transformation Programme are co-ordinating planning with.

Of particular importance in the context of the Wellbeing Programme, are the new partnership arrangements including Public Service Boards (PSBs). For a full list of partnerships (*annex 18*).

Effective regional collaboration in action:

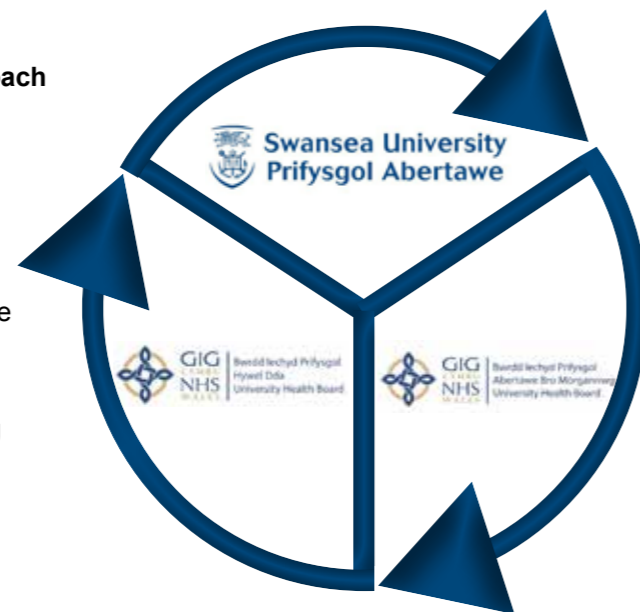
The Welsh Government has made Prudent Healthcare (including embracing the approach of co-production) a key principle of the nation's healthcare strategy.

ARCH takes this philosophy a step further, embracing service delivery, education, skills and talent development, research, innovation, translation and economic development within one integrated health & life science economy.

This innovation will allow new solutions to challenges have proved insurmountable using traditional approaches.

ARCH seeks to capture the opportunity to re-engineer disparate activities into one integrated innovative strategy to enable co-production in a much broader domain.

ABMU & Hywel Dda University Health Boards along with Swansea University are already significant actors, innovators, employers and influencers over the health, wellbeing and wealth of the region, which is manifested in a number of ways.



There are already examples of collaborative work delivering measurable benefits in terms of service delivery, education, research, innovation, and enterprise. These are now being built on within the ARCH portfolio.

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executive summary



“ARCH is a unique proposition. Nothing of this scale or complexity has been attempted in Wales before.

“A Regional Collaboration for Health is bringing together health and science to transform the NHS as we know it in this region.

“The university and health boards have chosen to collaborate to

create an innovative and fresh way forward for the provision of healthcare and health and wellbeing services for the population of South West Wales.
“Once you understand the ARCH aims - it seems so unbelievably simple.”

ARCH chairman Prof Andrew Davies

The ARCH partnership was formed to deliver significant change across South West Wales, based on the realisation that the status quo was untenable.

Many change programmes have historically failed to deliver real transformation in part due to their lack of ambition and vision and because they have worked in silos without meaningful collaboration.

The ARCH partnership sets out in this Portfolio Delivery Plan (PDP) a road map for how it intends to deliver change immediately and over the medium and long term. The resultant Portfolio Delivery Plan is not therefore a traditional service planning document, which focuses on just one problem and one sector (health, healthcare, workforce, economy etc) but rather attempts a synergy of inter-related responses.

This Portfolio Delivery Plan sets out a series of projects which will contribute to both Health Boards recovery and stabilisation plans and sets out the medium to longer term Projects that ARCH will be responsible for delivering and the sequence with which those projects will be delivered.

ARCH has four Programmes:

- ➔ Skills & Education,
- ➔ Service Transformation
- ➔ Wellbeing

➔ Research Enterprise and Innovation.

This PDP sets out projects that the ARCH Partners will deliver current recovery and stabilisation and lead to a sustainable Health & life science economy.

In each of the four Programmes there are schemes that ARCH is clear that it wishes to pursue over the next three years and others which require further work in 2017 before a costed, fully developed solution can be taken to Welsh Government for approval.

The PDP however, is not a traditional Strategic Outline Case (SOC), rather it provides a roadmap for the three ARCH partners from which specific business cases will be produced, it also provides the flexibility to encompass the output from Hywel Dda's clinical strategy which is due to be completed in 2017.

The Portfolio Delivery Plan is support by a Technical Document which provides significant detail across the all four programmes and the crosscutting supporting information.

ARCH response:

The ARCH region faces major health and wellbeing challenges. The population is living longer but living with co-morbidities. Across the region there remains a

persistent gap in healthy life expectancy between the least and most deprived communities.

Our health services are under considerable pressure, with performance not meeting the high standards the health boards set themselves.

The projected demand for services is set to increase year on year, outstripping any planned increase in resource.

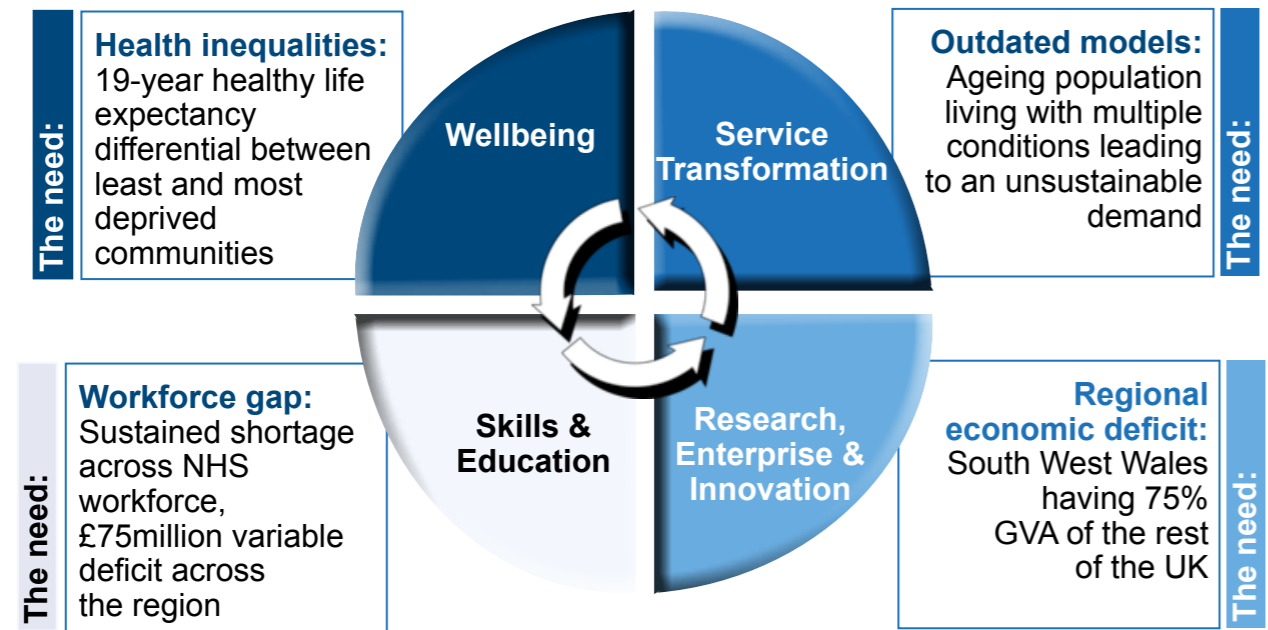
The South West Wales area as a whole is recognised to be underperforming economically and failing to reach its full potential. Overall Gross Value Added (GVA) growth has been consistently below that of the remainder of the UK and Wales over the past two decades. The ARCH region has too few high value businesses and we are not growing our business base quickly enough, our unemployment and economic inactivity remain too high and the physical fabric of the region, and current infrastructure is not meeting our needs.

The workforce in healthcare is aging with significant gaps in many professional groups. There are currently high numbers of vacancies across the health boards and this workforce gap which is predicted to grow, leads to lower quality care and financial deficient. We need to deliver a stabilised solution to the

executive summary



Interlinked programmes of work:



current workforce challenges and take action to retain our current workforce.

At the same time we need a regional solution to widening access, creating an environment where more young people (particularly Welsh domiciled young people) have the appropriate qualifications and the right opportunities to join health and life science workforce.

ARCH is a joint commitment from three organisations to meet these challenges, Welsh Government has made embracing the approach of co-production a key principle of healthcare strategy.

ARCH takes this philosophy a step further, embracing service delivery, education, skills and talent development, research,

innovation, translation and economic development within one integrated health & life science economy.

Through the four ARCH Programmes we aim to:

- 1. Tackle the underlying causes of ill health and long standing issues in the region's primary care provision through:**
 - The creation of a regional network of health & wellbeing schemes;
 - Through the development of a wellbeing social impact bond
- 2. Address the growing shortage of NHS staff by:**
 - Support the recovery and stabilisation of the current NHS Workforce improving continuity and quality of healthcare;
 - Develop initiatives which will help reduce our historical reliance on expensive temporary staff;

-Create new future-proofed, fit-for-purpose roles to help deliver new models of care.

4. Widen access through creation of a pipeline of local talent which can feed directly into the health & life science sector by:

- Supporting sector-linked apprenticeship schemes;
 - The rollout of the Talent Bank Further Education programme aimed at encouraging 16-19 year olds into STEM A-levels or equivalent vocational qualifications with NHS and industry placements;
 - Grow new undergraduate and postgraduate courses which fulfil the needs of the health service such as the development of the new Physician Associate qualification
- 3. Make significant investment in research & innovation capacity**

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and capability and translate it into regional economic benefit:

- Expand AgorIP - the IP Commercialisation Framework project to capitalise on the innovation taking place in the NHS;
- Create a wider Health Technology Network across the region and indeed Wales.

5. Establish a culture of regional planning and delivery of health services:

- Within the next year establish 10 regional service models including dermatology, neurology, stroke, pathology and orthopaedics.

6. Deliver the Singleton and Morriston Health Campus developments:

- Singleton Health Campus will become increasingly focused on providing services to avoid admission to hospital and we will create new space to teach our future doctors, nurses and Allied Health Professionals;
- Morriston Health Campus will further develop as a regional centre of excellence delivering: South West Wales Cancer Centre, Obstetrics and Gynaecological Services, Hyper Acute Stroke Unit (HASU), a number of regional pathology services, a dedicated gastroenterology rota and a new elective orthopaedic unit.

ARCH Portfolio:

ARCH is a broad and complex portfolio of work it requires:

GOVERNANCE: We have established an ARCH Portfolio Board (PB) in order for effective management and accountability across the portfolio this meets monthly.



The PB is supported by the Delivery Leadership Group (DLG) which is chaired by The Portfolio Director.

ENGAGEMENT: The ARCH partners have adopted an "engaged approach" throughout the development of the portfolio.

ARCH is already implementing some of the changes we need across the region. Our engagement builds on the work already carried out through strategic programmes such as Changing for the Better in ABMU and the current development of Hywel Dda Clinical Strategy.

We are working across the three partner organisations to ensure:

- Key stakeholders are clear on the direction and aims of the ARCH partnership;
 - We engage early to produce higher-quality outcomes
- Involve the right people at the right time;
- Use the right channels and tools to create constructive conversations and as the portfolio moves forward demonstrate impact to show stakeholder involvement has been influential in the evolution of the portfolio.

PORTFOLIO MANAGEMENT:

The effective management of the ARCH portfolio requires clear accountability between partners and our appropriate stakeholders. This has required the management of the overall portfolio to have sufficient, suitably skilled leadership, in order to recognise risk, understand interdependencies and manage the critical timeline that is set out in this document. An appropriately resourced PMO,



led by a Portfolio Director has already enabled the programme to progress with effective management, co-ordination and delivery within the ambitious and appropriate timescale.

ROADMAP: Within the final part of the implementation section of the PDP we set out the ARCH roadmap. Our roadmap shows when we plan our projects to complete the different stages of development, and when the project will be handed over to "business as usual". It also shows where projects are interdependent on each other and the sequence with which projects will be delivered in order to meet the September 2018 gateway.

The aim of this section is to provide a high-level indication of the extent of benefits likely to emerge as a result of the ARCH programme, using the four strands as the basis for such an analysis.

Since the submission of our prospectus in July 2015, the ARCH Board has already been successful in securing funding for some of its projects, a number of these projects have been smaller in size but have demonstrated a flexibility across the collaboration to enable them to take place. There is no doubt ARCH is an ambitious portfolio of work. ARCH will make a significant contribution to supporting the health economy through recovery and stabilisation set the foundation for a transformed health and life science landscape in South West Wales.

We are seeking support and continued partnership with Welsh Government to deliver this vision.

the case for change

Our region faces major health and wellbeing challenges. The population is living longer but living with co-morbidities and across the region there remains a persistent gap in healthy life expectancy between the least and most deprived communities.

Much of this mirrors the rest of Wales but South West Wales has the highest proportion of elderly people and also faces significant issues relating to rurality and pockets of social deprivation.

Our health services remain under considerable pressure, with projected demand for services set to increase year on year, outstripping any planned increase in resource. New models of healthcare delivery are urgently required. The South West Wales area is recognised to be underperforming economically and failing to reach its full potential. The primary indicator used to measure this is Gross Value Added (GVA). Overall GVA growth has been consistently below that of the remainder of the UK

and Wales over the past two decades. The ARCH region has too few businesses and we are not growing our business base quickly enough. Our unemployment and economic inactivity remain too high.

The workforce in healthcare is ageing with significant gaps in many professional groups, many young people do not have the appropriate Science, Technology, Engineering & Maths (STEM) subjects to be able to train to fill these gaps. We must create an environment where more young people have the appropriate qualifications and the right opportunities to join health and life science workforce. We must also deliver a stabilised solution to some of the current workforce challenges we face.

The ARCH region is a large diverse area containing both urban and rural populations, with distinctive, though interconnected, economies & communities. We recognise our region faces many challenges, which require a collaborative approach to resolve.

Key statistics	Wales	Hywel Dda	ABMU
Total population	3,099,100	383,200	525,500
Population aged 75 and over (%)	9.0	10.4	8.8
Life expectancy at birth – males (years)	78.3 years	79.2 years	77.4 years
Life expectancy at birth – females (years)	82.3 years	82.9 years	81.7 years

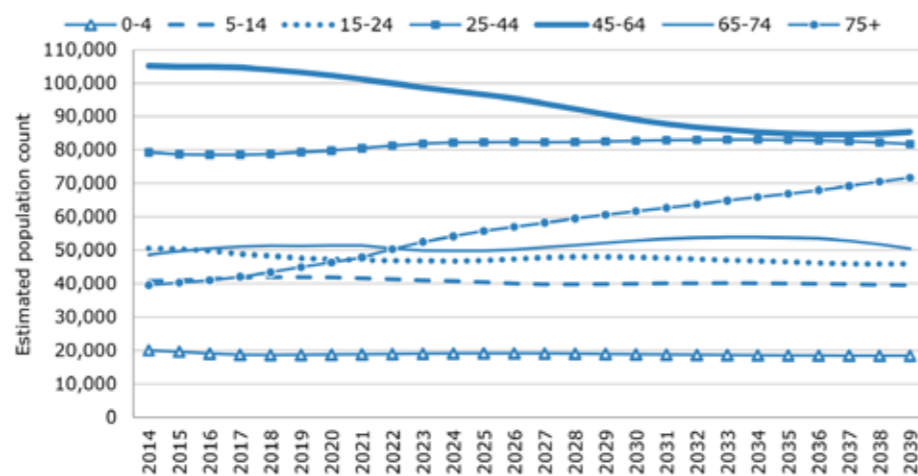
*Produced by Public Health Wales Observatory, using MYE, PHM & PHB (ONS), WHS (WG), COVER annual report (PHW) & PEDW (NWIS)

Case study: The changing population in Hywel Dda 2014-39:

This diagram shows Hywel Dda Health Board projected population over the next 25 years.

This is an example which shows that across this part of the region there will be lower numbers of 45 to 64 year olds (a significant element of our working population over the next 25 years).

This demonstrates there will be fewer people to draw on in the indigenous population to sustain our current workforce and service models going forward. Population changes are one of the drivers behind future bed numbers and we will face a situation



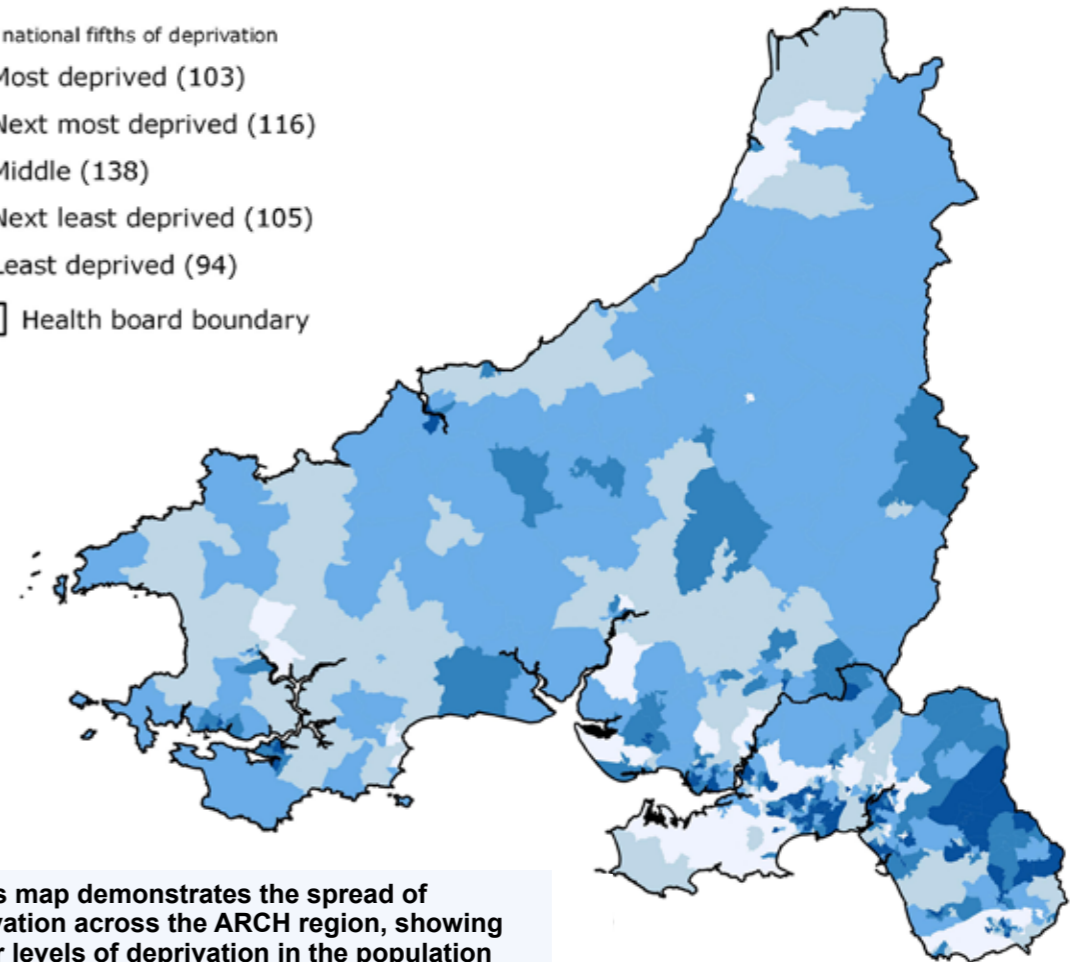
where more beds will be required that we can either staff or afford if we don't transform the way we deliver services. Much of this is mirrored in the ABMU area.

*Produced by Public Health Wales Observatory, using 2014-based population projections (WG)

the case for change

Welsh Index of Multiple Deprivation across the ARCH region, 2014:

- LSOA, national fifths of deprivation
- Most deprived (103)
- Next most deprived (116)
- Middle (138)
- Next least deprived (105)
- Least deprived (94)
- Health board boundary



→ This map demonstrates the spread of deprivation across the ARCH region, showing higher levels of deprivation in the population centres in the south of the region. It also shows levels of deprivation associated with rural need.

Economic context:

One of the key factors behind this spread of deprivation is that the South West Wales area as a whole is recognised to be underperforming economically and failing to reach its full potential.

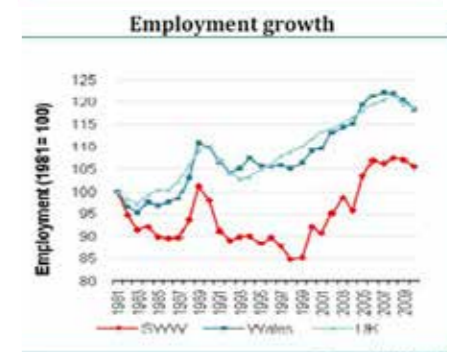
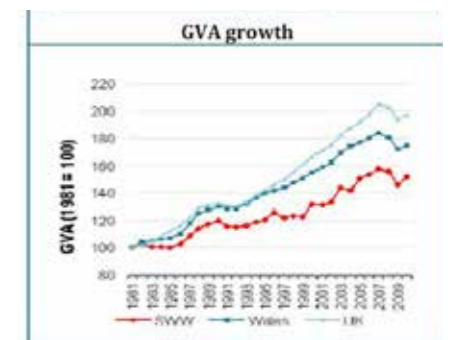
The primary indicator used to measure this is Gross Value Added (GVA). Overall GVA growth has been consistently below that of the remainder of the UK and Wales over the past 2 decades.

The table (below) shows GVA and employment growth 1981-

2010 across South West Wales, Wales and the UK. The GVA growth underperformance became most pronounced in the aftermath of, and longer-term recovery from, the 1990/91 recession.

This trend was the polar opposite to what was happening nationally, where employment levels increased.

Employment growth in the region did return by the end of the 1990s, and continued to rise until the downturn/recession hit, nationally, in 2008.



Source: SQW 2013

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the case for change

However, too much of the employment created over this period was in lower value sectors and occupations. As traditional employment was lost, with, for example, over 30,000 fewer jobs in manufacturing in 2010 than was the case in 1990, a major productivity gap has emerged between the region and the UK.

GVA per employee in the region was £28,500 in 2010, against a comparable figure of £36,800 in the UK, 77% of the UK average. By contrast in 1990, our GVA was 90% of the UK level as had been the case in 1981. Collaboration across the region will help ensure history is not repeated as we recover from more recent economic shocks.

Other key economic issues facing our region include:

- ➔ We have too few businesses and we are not growing our business base quickly enough. There are fewer firms to generate the wealth we need and provide employment for local people.
- ➔ Our unemployment and economic inactivity remain too high. The economic activity in particular is now well below national levels – at 71% compared to 76% in the UK.
- ➔ Jobs are all too often in those occupations which tend to pay relatively low wages; the average weekly salary £366, compared to £404 in the UK.
- ➔ Our current regional infrastructure, is not meeting the needs of modern businesses and communities.

Our belief is that growing the health and life science economy will provide a significant contribution to these challenges.

The life science and health sector in Wales employs 11,000 high-value jobs in more than 350 companies. Overwhelmingly, these companies are Small, Medium-sized Enterprises (SMEs) with a modest number of large global enterprises creating significant employment.

The majority of economic activity is in a sub-set of life science called medical technology (often referred to as medtech or healthcare technology).

Life science, and particularly medtech, is also characterised by the fact that it integrates with other key sectors, particularly Information & Communications Technology (ICT) advanced manufacturing and tourism.

We aim to build upon the existing Institute of Life Science (ILS) which in the first 10 years of its existence has supported the creation 800 new high-value jobs within the sector, as well as supporting the creation of 50 new enterprises, actively assisting 425 enterprises and attracted more than £50million of incremental inward investment.

We already have a proven track record of

23%
GVA per employee in the region is 23% lower than the UK average. If we do not act, by 2030 each worker in the rest of UK will on average produce £10,000 more than each worker in Swansea Bay Region in GVA terms

Swansea Bay City Region Economic Regeneration Strategy 2015

innovation, translation and entrepreneurship within the life science sector, and we want to expand this for the benefit of our population. One of the ways we want to bridge the productivity gap is through improving the skills of our population. There are still

County	% of working age people with NVQ2	% of working age people with NVQ4+	% of working age people with no qualifications
ARCH Region	72.0	30	12.4
Wales	72.5	33.2	10.0
England	73.4	36.8	8.4

too many people in our region with no qualifications and too few people with NVQ level 4. Both the UK and Welsh governments are clear that having a skilled population is vital to maintaining the international competitiveness of our economy and creating high quality jobs.

The Organisation for Economic Co-operation and Development (OECD) evidence suggests that that the UK's intermediate and technical skills lag behind our major competitors such as Germany and the US. The Leitch Review of Skills (2006) has suggested that one to one fifth of our productivity gap compared to such countries can be attributed to a lack of skills.

230,000
Projected shortage of doctors in Europe in 2020

*European Commission, "Feasibility Study on EU Level collaboration on forecasting health workforce needs, workforce planning and health workforce trends"

There is a clear demand for these skilled workers (see the table on page 16). To meet this demand there needs to be a pipeline established that ensures that our young people from Primary School

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the case for change

Staff group	Budgeted headcount	Current FTE	Vacancies/oversupply
Administrative & clerical	3856.13	3775.65	-80.48
Allied health professionals	1411.88	1357.62	-54.26
Estates & ancillary	2383.15	2253.12	-130.03
Healthcare scientists	476.92	455.62	-21.30
Medical & dental	2229.61	1893.13	-336.48
Nursing & midwifery registered	7668.55	7054.19	-614.36
Total:	18026.24	16789.33	-1236.91

through secondary school and into Further and Higher education are continuing their learning in STEM subjects and that new pathways are developed for them to be able translate their learning into careers across the health & life science sector. This was recognised by the Regional Learning Partnership in their strategy "Life Science – Skills for Life 2013" In a series of recommendations they set out the need in increase the number of young people maintaining their learning in STEM subjects and increasing appropriate pathways into this growing sector.

We recognise that we now have significant undersupply of skilled workers and therefore a pressing requirement to develop our own population to meet these needs. For the health boards these workforce gaps are a fundamental challenge. They result in unstable services, restrict

service change, compromise quality and are a major driver of the financial deficits both health boards face due to the reliance on high-cost temporary staff to plug gaps. Through ARCH we want to transform this cycle of decline into a virtuous cycle of growth (see diagrams below), where we develop our future and existing workforce to meet the known and latent demand in the health and life science economy.

Developing our future workforce is also central to how we want to transform our services. Currently our services are under considerable pressure.

The population is living longer but living with co-morbidities. The projected demand for services is set to increase year on year, outstripping any planned increase in resource. Therefore we must develop new models of healthcare delivery.



the case for change

Health & wellbeing context:

The state of the economy is not the only factor important to wellbeing. Rather, there are many aspects of people's lives that have been found to be linked with their level of wellbeing.

The European Commission's report *Beyond GDP* calls attention to indicators that are more inclusive of environmental and social aspects of progress – indicators that we see reflected in the Wellbeing of Future Generations (Wales) Act 2015.

The rich diversity of the ARCH region – not least its mixed rural-urban landscape and growing and increasingly ageing population - reflects this multiplicity of factors that influence wellbeing.

The ARCH region, and Wales more broadly, faces considerable challenges to health and wellbeing that are likely to increase in the coming years if we do not change the ways that we tackle them. We have already noted that the population is living longer but often with a burden of ill-health, and that there are geographical pockets of deprivation upon which we can map persistent gaps in health outcomes and healthy life expectancy.

There is a strong case for exploring the relationship between health and wellbeing, and how improved wellbeing might reduce demands on the healthcare system and wider public sector. This is because adverse wellbeing underpins many physical diseases, unhealthy lifestyles and social inequalities in health which are damaging to individuals and society.

Good self-reported health is a strong predictor of how people perceive their wellbeing. National data demonstrate that self-reported general health is associated with self-reported limiting illness and with age: self-report of poor general health increases with self-reported limiting illness and its severity, and also with increasing age. This latter finding is particularly noteworthy in the context of population ageing.

Health behaviours are important for general health, and there is a well-established positive relationship between higher wellbeing and adults' self-report of the five main healthy lifestyle behaviours (physical

activity, not smoking, eating at least five portions of fruits and vegetables each day, drinking alcohol within guidelines, and having a healthy body weight). However, what we see in the ARCH

5 healthy lifestyle behaviours:

- ✓ Not smoking
- ✓ Not drinking alcohol above guidelines
- ✓ Eating 5 or more portions of fruit & vegetables a day
- ✓ Healthy weight
- ✓ Physically active on 5+ days

35% of people in ARCH region report having only two behaviours

3% of people in ARCH region report having all five behaviours

Dixon, J. 2016

region suggests much room for improvement. Most people (35%) report having only two healthy lifestyle behaviours. Only a very small proportion (3%) report having all five behaviours, matched by the same proportion which reports having none of the healthy lifestyle behaviours at all (3%). These figures compare unfavourably with those for Wales overall, which show that the largest proportion (32%) report having three (not two) healthy behaviours, and that a marginally higher proportion report having all five (5%).

£70million

is the cost to taxpayers every year due to fact more than half of us are overweight or obese

Public Health Wales, Creating a Healthier, Happier and Fairer Wales strategic plan 2015-2018

The table (below) provides a breakdown of adults' self-reported lifestyle behaviours – that is, what they report in a survey about their own behaviours. Data are presented at both health board and local authority levels.

Observed percentage of adults who reported key health-related lifestyles, persons' aged 16+, Hywel Dda UHB and Abertawe Bro Morgannwg UHB and local authorities, 2014-15

	Wales	HDda HB	Ceredigion	Pembrokeshire	Carmarthenshire	ABMU HB	Swansea	NPT	Bridgend
Smoker	19.9	17.1	15.2	15.5	18.9	18.7	17.7	18.2	19.9
Drinking above guidelines	40.0	37.5	37.5	36.2	38.3	41.3	45.8	38.6	19.9
Binge Drinking	24.2	20.5	21.0	18.7	21.5	26.7	30.1	24.9	19.9
Consumption of fruit and vegetables meets guidelines	32.1	35.8	38.2	35.9	34.8	29.1	29.7	30.2	19.9
Active for more than 150 mins	58.2	60.5	64.7	63.4	56.7	57.3	61.3	52.5	19.9
Active for more less than 30 mins	30.2	28.8	21.0	28.0	32.8	32.1	28.9	34.1	19.9
Overweight or Obese	58.5	60.1	53.8	62.6	61.1	57.4	61.6	58.5	19.9
Obese	22.8	22.2	18.1	23.5	23.1	23.1	25.9	22.9	19.9

Produced by Public Health Wales Observatory, using WHG (WG)

the case for change

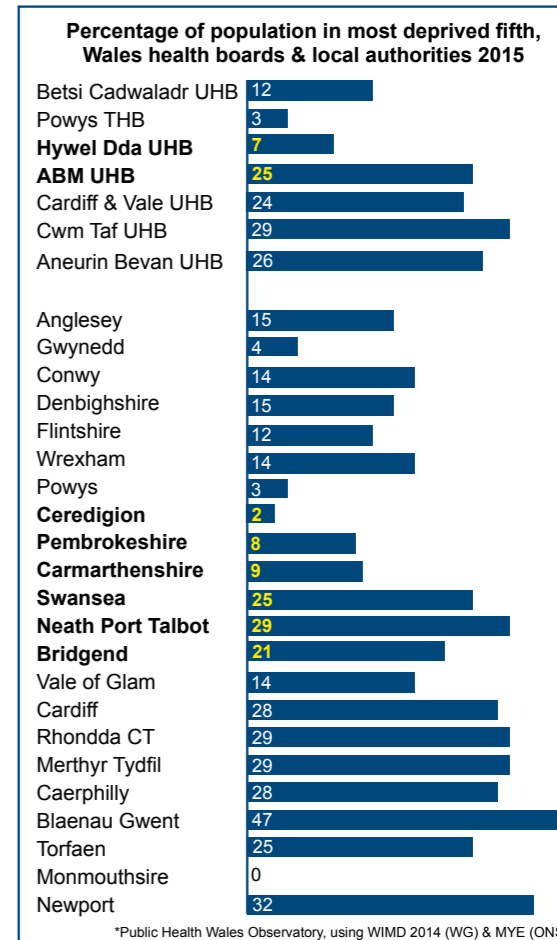
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There are positive findings: for instance, fewer people in the ARCH region smoke compared with Wales average. However, looking at the ARCH region overall masks important differences between the constituent health boards' performances in terms of lifestyle behaviours. For example, the data shows ABMU lags behind both Hywel Dda and Wales in terms of daily consumption of five fruits and vegetables, physical activity that meets current guidelines (more than 150 minutes/day), drinking alcohol above guidelines and binge drinking.

This data also demonstrate important differences within health boards, at local authority level. For example, looking at alcohol consumption in ABMU in further detail, highest rates of drinking above guidelines and of binge drinking are reported in Swansea compared with Neath Port Talbot and Bridgend. Also, while Hywel Dda performs better than the Wales average for physical activity, people in Carmarthenshire are less likely than their Hywel Dda counterparts in Ceredigion and Pembrokeshire – and in Hywel Dda overall - to be physically active compared to current guidelines. These data demonstrate why ARCH moves away from a 'one-size-fits-all' approach and toward locally-tailored solutions for health and wellbeing.

People's financial circumstances can have a huge impact on their lifestyle behaviours, and living in an area of high deprivation can often adversely affect wellbeing*. The graph (right) demonstrates that a quarter (25%) of residents in ABM UHB live in areas categorised among the most deprived in Wales.

Health and wellbeing are complex and can be influenced by different factors, in different ways, and at different times of life. The interplay of health and wellbeing



suggests that the health service cannot work in isolation but needs to take a collaborative and whole-system approach – exactly the approach taken by ARCH.

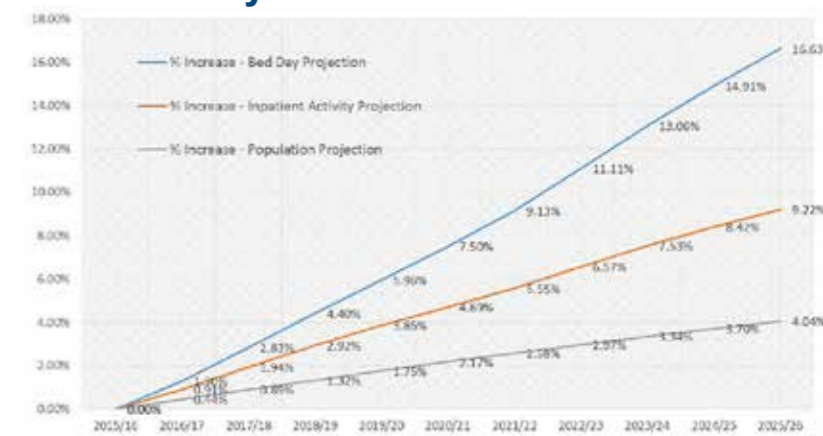
Demand pressure on ABMU activity over life of ARCH Portfolio:

Our models of care are assisted on new roles in the workforce and ICT-led solutions.

This will enable us to develop new regional service models and more care closer to home we will require a workforce with new skills working in multi-professional teams at their 'top of their licence enabled by technology.

Nuffield Trust (*'Reshaping the Workforce to Deliver Care the Patients Need' May 2016*) notes that there is an urgent need to reshape the workforce and provide relevant skill sets.

Patients also need to play a much more active role in their own care. In both cases the use of digital technologies is seen as a skill set and enabler that should be



*Capita: Projects demand pressure on ABMU activity over the life of ARCH Portfolio

improved. This is supported by Informed Health & Care – A Digital Health Strategy of Wales (*Welsh Government Dec 2015*) which identifies '...any skills gaps in the use of digital tools are addressed for the current and

future workforce and cultural change is addressed to ensure new ways of working using technology. This better use of technology is also noted as key by the Primary Care Workforce Commission (2015), which states that

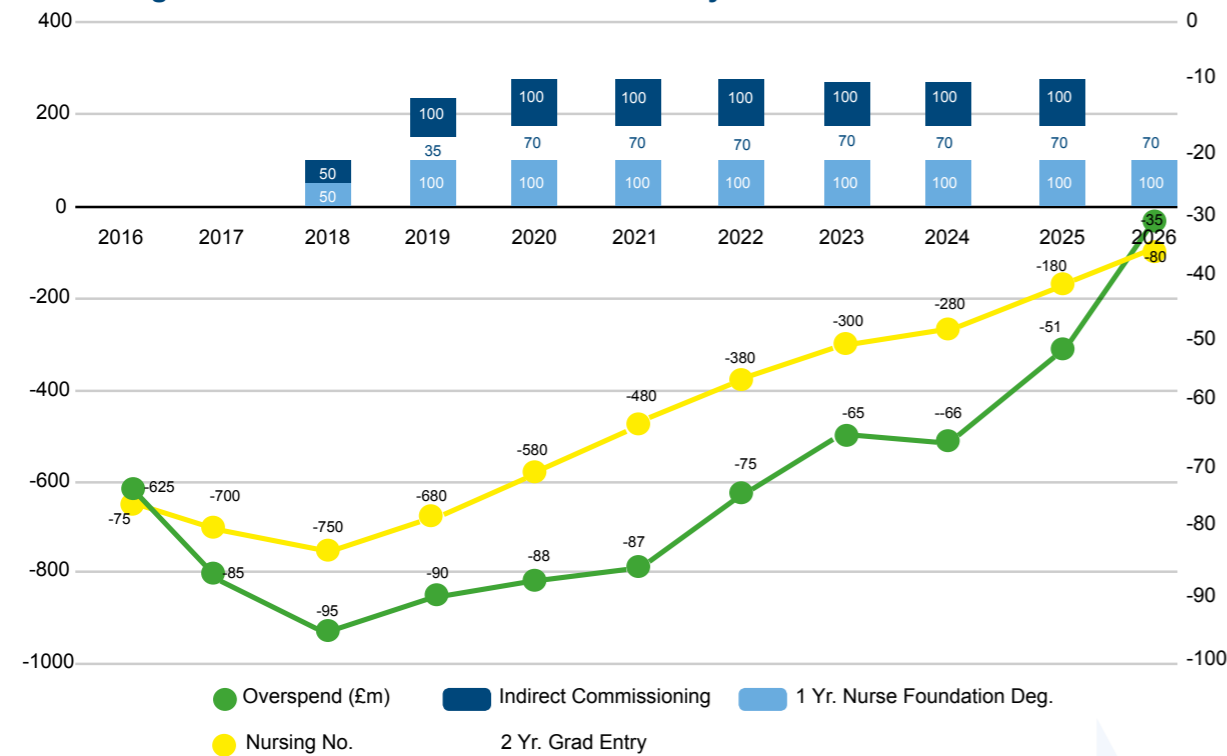
the case for change

creating 'learning organisations' is of paramount importance. Both health boards are under considerable and sustained financial pressure. One key contributing factor is the current vacancy rate across a range of health professions but this is particularly pronounced for medical and nursing staff, these vacancies lead directly to high levels of variable pay.

The Skills & Education programme has developed projects to stabilise current levels of vacancies and over time reduce these levels. This graph (below) demonstrates how if these projects are successful, the amount of funding which could be used for alternative purposes is considerable.

£73m
will be spent by both our health boards this financial year in variable pay

ARCH Region Nurse Recruitment and Variable Payrates:



The traditional hospital structures and models of care have needed to change to reflect the changes in rural and more remote communities.

For these small, communities flexible service model need to be developed which are client focused, responsive to community needs and offer better integration of services and connected to clinical networks extending into secondary and tertiary care and where relevant related to R&D and commercial opportunities and wealth creation.

ARCH offers opportunities across our two health boards to integrate a range of health spanning primary through to quaternary

care levels including acute care, sub acute care including respite and palliative care emergency, allied health, oral health, primary health and wellbeing and community services, informed robust service planning and community support to best meet the needs of smaller communities in a sustainable way.

Similarly, caring for health cannot be confined to singular interactions within the walls of the health care system but must fully engage powerful determinants within other systems such as education, housing, employment, justice, and transport.

Professor John Wyn Owen
ARCH Rural Assurance Chair

Rural communities



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portfolio design

The ARCH portfolio is made up of four programmes of work.

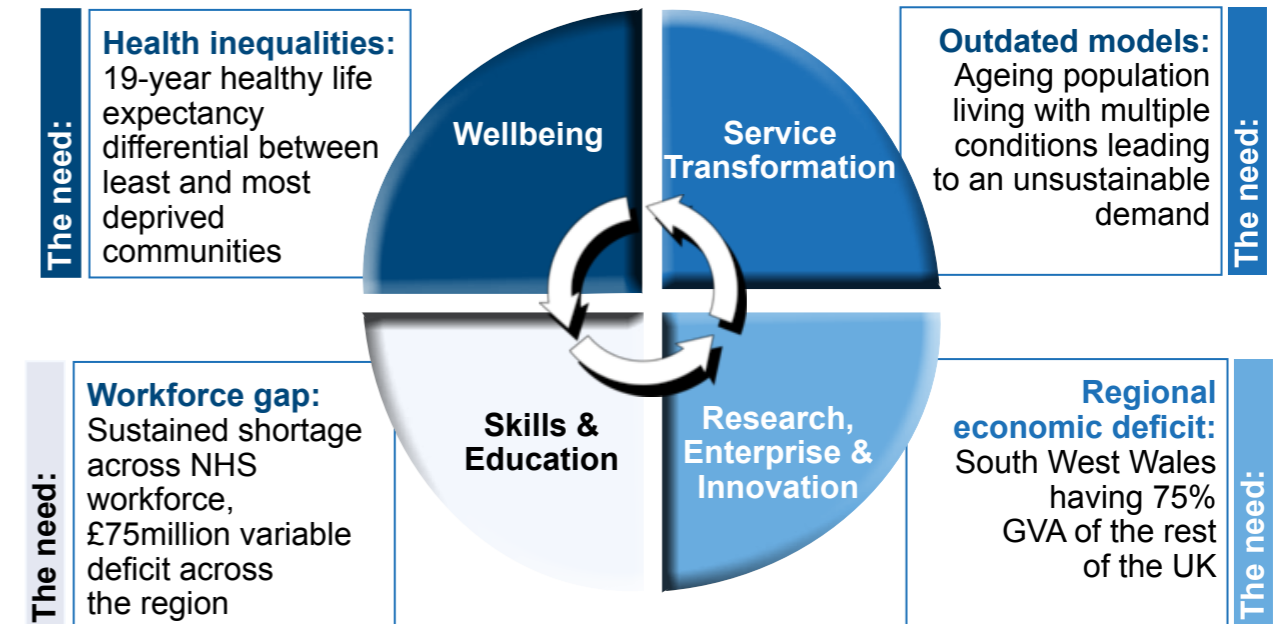
Each of our programmes is made up of 12 to 20 projects. Through the delivery of these projects we will begin to address many of the challenges set out in the case for change.

- The four programmes are:
- Wellbeing
 - Service Transformation
 - Skills & Education
 - Research, Enterprise and Innovation
- We recognise that our programmes are highly

interlinked, many projects deliver benefits across more than one programme and some projects deliver benefits across all the four programmes.

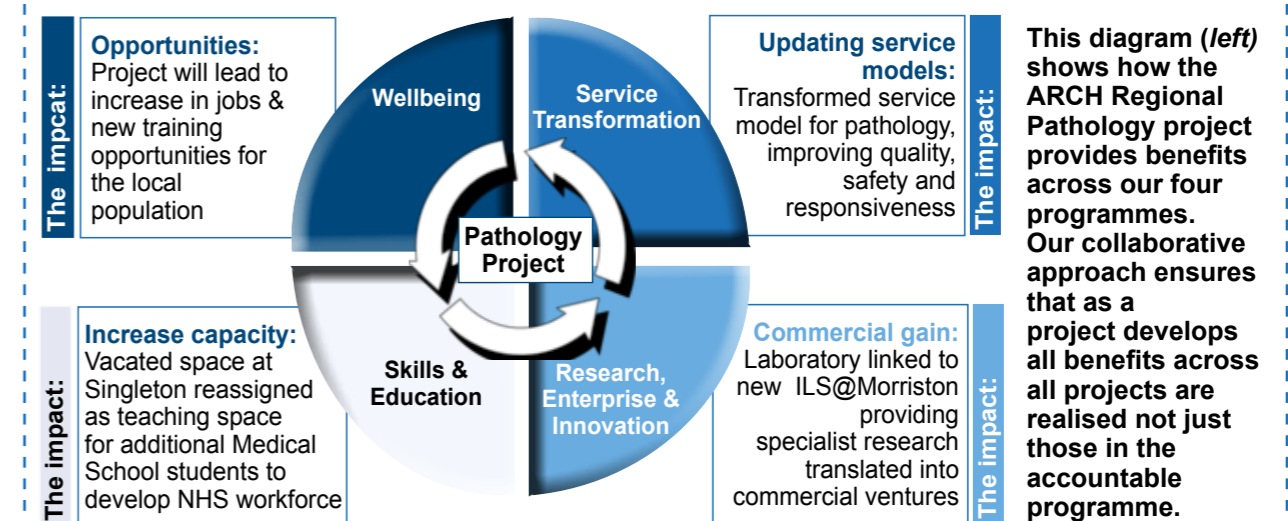
The challenges that each of the programmes is designed to address are interlinked. Therefore our solution is not just to collaborate between partner organisations but design projects that are themselves a collaboration, providing solutions that have a multiplier effect delivering benefits across the programmes. We have designed our governance (see pages 38&39) and portfolio infrastructure to enable this approach.

Interlinked programmes of work:



Case study: Regional Pathology Project

Demonstrates how the four programmes interlink through projects:



portfolio design

The ARCH collaboration will deliver against the Wales Programme for Government (*Taking Wales Forward Nov 2016*). Through the portfolio we aim to demonstrate a measurable improvement in the wellbeing of our population. We have developed ARCH as a vehicle to enable us to deliver our parts of this mandate.

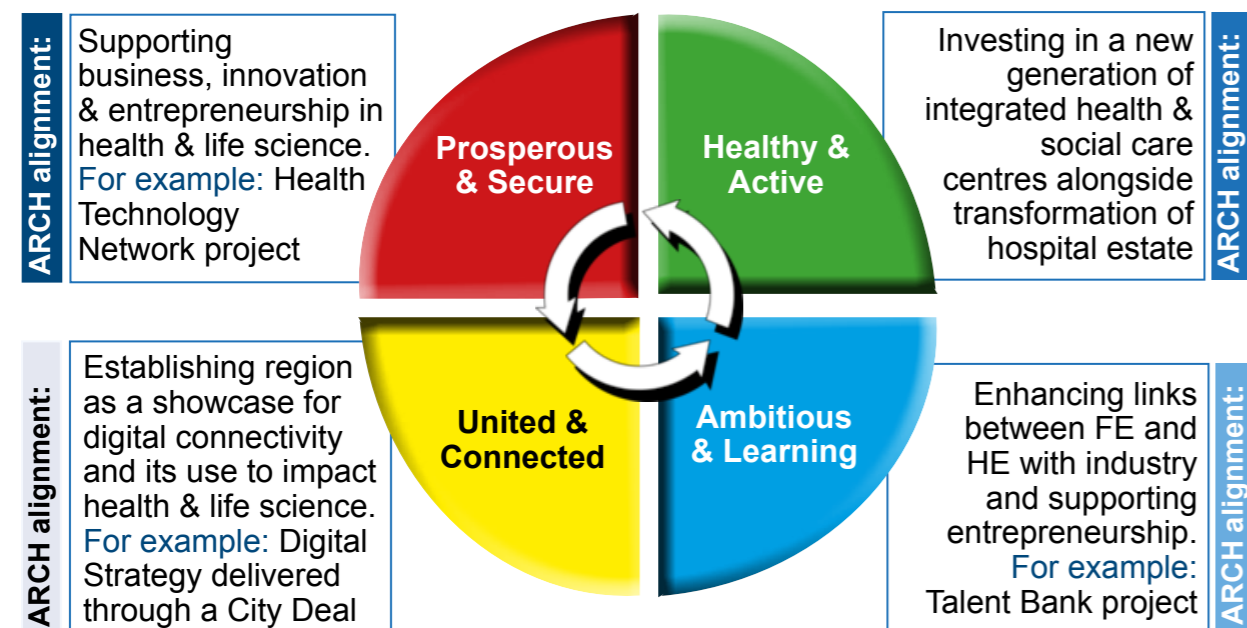
Taking Wales Forward is the Welsh Government's programme for the next five years. *Taking Wales Forward* sets out the Government's programme to drive improvement in the Welsh economy and

public services, delivering a Wales which is prosperous and secure, healthy and active, ambitious and learning, united and connected.

The Government's priorities for delivering those improvements are ambitious, aimed at making a difference for everyone, at every stage in their lives.

Alongside the programme, the Government has set out its wellbeing objectives which set out how the Wellbeing of Future Generations Act 2015 will help deliver this programme for government.

ARCH alignment with Wales Programme for Government:



Portfolio Design: rural assurance

Health and wellbeing outcomes for people living in rural West Wales should as a result of ARCH be better for most and much better for some than if the project had not been established with the capacity to:

→ Respond to opportunities and build on significant achievements made in recent years to develop capacity, deliver excellence and make transformational change in health, care ser-

vices and wellbeing for rural communities.

→ Provide infrastructure which includes capital infrastructure as well as service development, research and innovation taking account of the fundamental elements in providing effective quality health and care services for health and wellbeing for rural communities.

→ Mobilise, with Higher and Further Education, a step-change in the development of network of centres

of excellence for research and develop the health and care workforce for the rural communities.

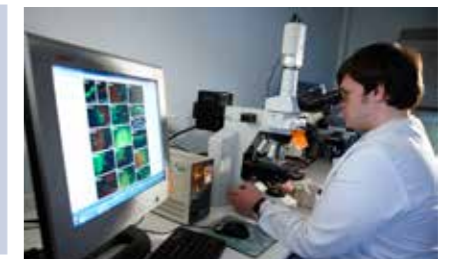
We recognise the need to consider and adapt to the needs of rural populations when designing solutions for our region. The ARCH portfolio has been scrutinised by a Rural Assurance Board to ensure ARCH has considered rural needs and is taking action to provide better health and wellbeing outcomes.

Rural communities



skills & education

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"The Health Professions Education Investment review recognised that workforce planning had been, at best, sub-optimal with very little thought and attention given to the process over and above an incremental approach, which has done little, if anything, to consider and embrace strategic changes and develop professional roles in line with re-modelled service requirements. "It advocated that the process required significant adaptation to bring it into line with policy directions, the Prudent Healthcare agenda and the future requirements of NHS Wales. "The need to improve workforce planning was a

common theme that emerged during evidence gathering sessions, with organisations across the spectrum highlighting the need for a workforce planning mechanism that reflected service planning in place to address the health and social care needs of the population. "The CMO indicated that "workforce planning needs to be better aligned to the competencies required rather than numbers of specific professionals".

Health Professions Education Investment Review February 2016

The Regional Learning & Skills Observatory Data & Intelligence Report: 10th Edition notes the importance of the health, public administration and education sectors to the region (and key sectors for ARCH).

Specifically the report states that the health sector will be the second largest employer across South West and Central Wales with 36,900 employees by 2030, while health, public administration & defence and education sectors respectively will be second, third and fourth largest contributors to regional GVA.

The region currently has a range of, workforce issues which include significant vacancies (that have to date been unable to be recruited) within nursing and midwifery registered along with medical and dental staff groups.

The specific recruitment issues for the health boards within the ARCH region are circa 4.2% down across both Health Boards and all staff groups, however significant issues in key staff areas namely:

- 25% down in planned 'Medical and Dental' roles/ numbers within Hywel Dda UHB;
- 9.2% down in planned 'Medical and Dental' roles within ABMU;
- 9.6% down in planned 'Nursing and midwifery registered' roles in Hywel Dda UHB;
- 7% down in planned 'Nursing and midwifery registered' roles in ABMU
- -13.1% down in planned Band 5 (Nursing & midwifery registered) roles in Hywel Dda UHB;
- 11.6% down planned Band 5 (Nursing & midwifery registered) roles in ABMU.

Issues regarding recruitment not only contribute to a significant variable pay bill but also threaten

continuity and quality of healthcare. Workforce instability is a significant contributor to weakened performance which includes the health boards financial deficit of which variable pay contributes circa combined £73million deficit (total across both Health Boards).

Issues regarding health board hitting targets can also in part be attributed due to workforce recruitment problems.

ARCH is a pro-active response to the urgent requirement to reshape and upskill the workforce to be fit for purpose with changing service models, patient expectations and overall needs.

Both ABMU & Hywel Dda have identified common skills, workforce and education action required in order to stabilise and produce a sustainable workforce. Specifically these include:

1. Initiating Regional/ Collaborative Planning of the Workforce
2. Action on widening access
3. Action on recruitment
4. Action on retention
5. Action on developing new and extended roles
6. Action on re-designing primary care workforce
7. Action on leadership and management development

ARCH aims to establish a pipeline which builds on the University's success to date by making the most of the opportunities to train future staff to meet the need articulated by the health boards.

The ARCH partners realise the vital need to plan and build a workforce with the right numbers and mix of skills to meet the majority of peoples planned and unplanned needs at the right time, by the right

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skills & education

person, closer to home in flexible ways and flexible facilities. ARCH also recognises it is imperative that the regional health and social care workforce is talented, skilled and an aligned workforce to deliver organisational strategies and objectives that will impact upon the health and wellbeing of individuals within the region.

To achieve this, short and long term strategic interventions need to be developed that are creative and aspirational. It is clearly evident that the model currently utilised for workforce planning is not sustainable and does not deliver the expectations of the health boards within the region.

The pipeline that ARCH is developing creates both short term strategies which are aimed to achieve stabilisation, to meet the significant deficits in the current workforce numbers.

While also delivering long-term strategies aimed to achieve sustainability within the workforce so that health boards regionally are proactive and responsive to the changing health and wellbeing needs of the local population.

Aligned with the Welsh NHS Confederation (*Building a Vision for NHS Wales, 2016*), the ARCH partners are developing the strategies to support both health boards to change from an illness-based, provider-led system towards one which is patient led, preventative in focus and offers care closer to home.

Specifically, the ARCH Skills and Education Programme aims to tackle the key strategic issues of either stabilisation or sustainability, or in some cases projects will aim to tackle both agendas as these are not mutually exclusive issues.

Stabilisation and Recovery: The partners are working together with the purpose to address the immediate workforce challenges that relate to recovering and stabilising their expenditure on flexible staffing arrangements, which not only contribute to a significant variable pay bill but also threaten continuity and quality of healthcare.

Stabilisation activity will address the current risks to health services due to workforce recruitment issues (i.e. high levels of vacancies) and ways of working. This may include:

- ➔ Faster implementation of new optimal and electronic rostering systems;
- ➔ Exploring pan region programme to improve employee motivation and decrease unwarranted absence;
- ➔ Exploring regional negotiation to strike a better deal with agency staff;
- ➔ Exploring establishment of a regional nursing bank which aligns to the recommendation from the independent review, commissioned by Welsh

65%
increase in spend by
NHS Wales on
agency medical staff
since 2014-15

Government and chaired by David Jenkins into NHS Wales workforce, which reported in February last year.

Sustainability: Focuses on widening access to the Health and Life Science sector, recruitment to current roles in the health service and wider sector and workforce redesign alongside education and skills development to maximise the value and

Case study: Talent Bank



ON THE WARDS: Talent Bank students at Morriston Hospital during their induction week.

Talent Bank, is being delivered through the ARCH partnership, it is a full-time education programme for young people aged 16+ wanting to study STEM A-levels or vocational and technical qualifications.

The project is a partnership with FE and the ILS at Swansea University, and is a bespoke education and skills programme specifically designed to support the evolving life and health science sector in the region.

ARCH has fostered relationships between Talent Bank and Fujitsu and Intel to ensure the local students who are part of the project can be immersed in an innovation-rich environment working with leading industry, health and life science partners. Education needs collaboration and support from the industry to ensure the right skills development for young people, to lead to future employment opportunity. Fujitsu have supported the project by setting up an Innovation Hub to provide students with digital skills development.

The project will ensure young people in Swansea graduate with the necessary skills to progress in the life science and health sector.

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contribution of the staff currently within the health service.

Sustainability activity aims to generate the pipeline of the future – this will be an end to end process that will deliver against the identified workforce requirements of the region by educating the health professionals of tomorrow in a way that ensures that those nurtured and trained are likely to stay and work within the region. This will include:

- ➔ Widening access, providing increased opportunities for people living within the region to pursue a career with the NHS, alongside promoting South West Wales as the destination of choice to train, work, and live due to the exciting agenda being advanced by ARCH;
- ➔ Re-orientating the education system to deliver a workforce with the right skills to deliver next generation healthcare; and
- ➔ Increasing opportunities and retaining a greater proportion of those who train in the region to work within the two health boards.

Therefore a cross-cutting theme throughout the programme is the retention of the workforce (within the sector and region) and as such there is an understanding and expectation that this is built into all projects within the programme.

The retention of the workforce within the region is of paramount importance and as part of the wider ARCH engagement it is planned that outreach

skills & education

activity take place within communities to outline the opportunities that exist within the wider healthcare sector.

Although the programme will be looking to either stabilise and/ or sustain the workforce the programme has been split into manageable project areas which include:

1. Planning/ strategy
2. Workforce redesign
3. Workforce pipeline
4. Upskilling
5. Workforce stabilisation



BESPOKE EDUCATION: Talent Bank students at Morriston Hospital during their induction week.

Case study: Health & Wellbeing Academy



The College of Human and Health Science has opened its Health and Wellbeing Academy at the Singleton campus.

in Wales that can make a real difference to young people who have suffered a family bereavement.



The unique facility opened its doors in January making this the first service to be delivered as part of the ambitious ARCH portfolio proposed for the region.

This is just one service which will be delivered through the Academy, others include audiology, osteopathy and maternal health.

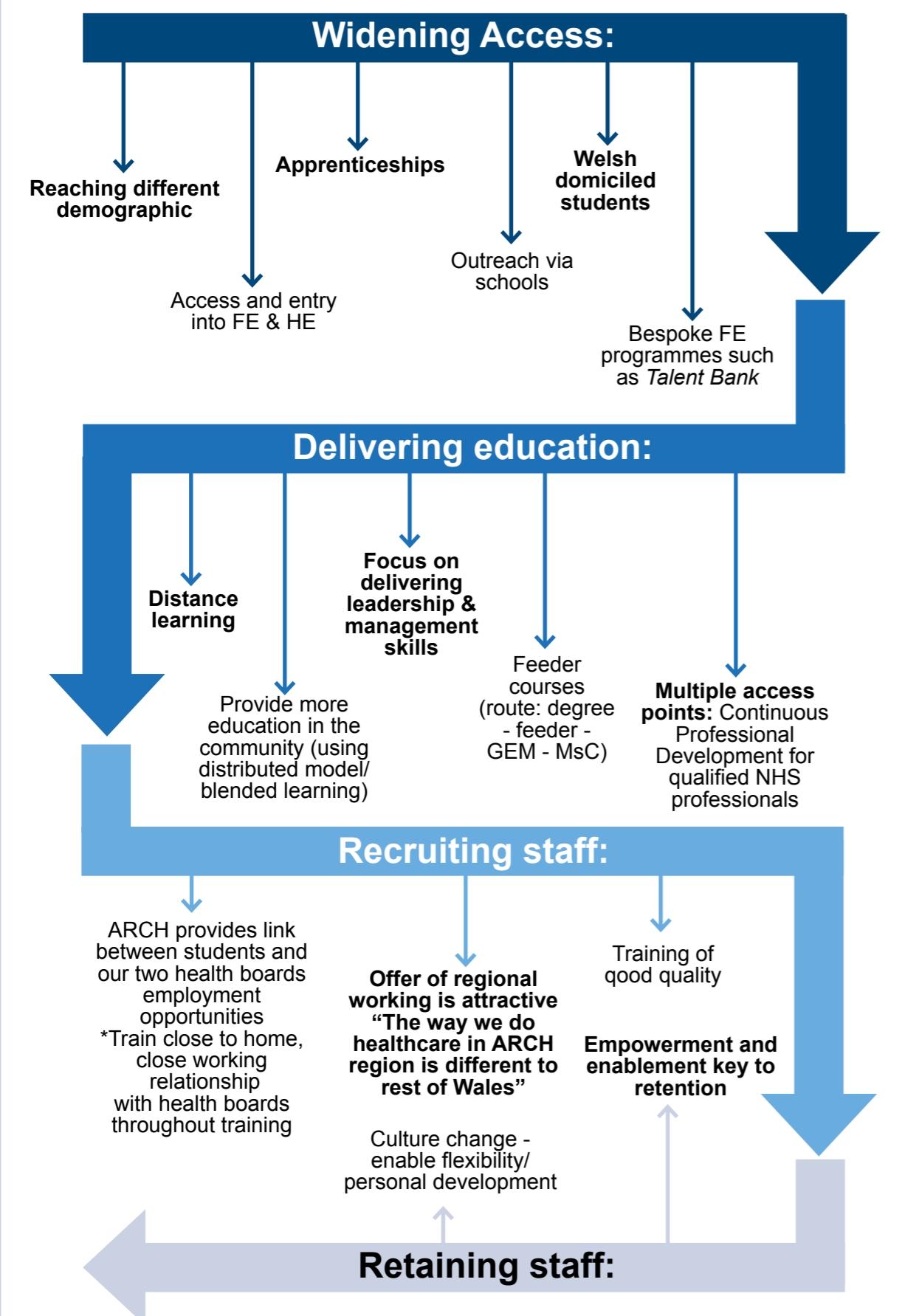
Their first wellbeing clients were young adults aged 11-16 from the Swansea area. They attended a workshop delivered by Cruse Bereavement Care, in collaboration with the department of nursing and three student nurses from the child field undergraduate nursing programme. The ARCH partnership has resulted in the provision of a unique service

Professor Ceri Phillips, Head of College for Human and Health Science said: "The Academy aims to ease pressure on the health service, particularly for our GPs and A&E departments. "It is a unique approach aimed at improving health & wellbeing across the region through a range of complementary treatments and alternative ways for patients to manage their health and care."

NEW APPROACH: The Health & Wellbeing Academy is up and running.



ARCH is working to create pipeline of future workforce by maximising partnership working which will widen access through multiple entry points, diversify the education offering and deliver action which recruits and retains staff:



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skills & education

Skills & Education Vision & Aims:

The programme is creating a pipeline developing both short term stabilisation and recovery to meet significant deficits in the current workforce numbers while also delivering sustainability:

- Initiating regional & collaborative planning of the workforce;
- Establish policies which facilitate strategic collaborative recruitment which stabilise and reverse the current trends in staff vacancies in the South West Wales health economy in the short and medium term;
- Widen access through collaboration with FE to implement pathway programmes for 16-18 year-olds into sector in the medium to long-term;
- Develop our workforce to ensure we use the benefits of ICT in delivering care;
- Develop new and extended roles for advanced and changing professional roles;
- Develop new and expand undergrad & postgrad courses.

What approach will we take?

We aim to transform skills, education and workforce in the health economy of the region. Therefore appropriate planning principles have been used to design our projects, which have been aligned with the following:

- The Wellbeing of Future Generations Act 2016;
- Swansea Bay City Region (SBCR) helping to develop the existing and future workforce of the region;
- Informed Health & Care – A Digital Health Strategy for Wales (Welsh Government) Ensuring skills gaps in the use of digital tools are addressed;
- The Future of Primary Care: we recognise primary and community care services now face major challenges; with an increasing workload, an ageing population, and increasingly complex medical problems being diagnosed and managed in the community;
- The relationship between the public & health professionals is changing – with increasing focus on giving people information and involving them in their care;
- Fully aligned our Skills and Education programme to Life Science Skills for Life strategy;
- Welsh Government Innovation Wales Strategy seeks to build upon this infrastructure by creating and accelerating new skills opportunities;
- NHS Wales workforce review an independent review commissioned by WG and chaired by David Jenkins;
- Changing demographic & workforce drivers as evidenced in the recent Health Foundation report (October 2016);
- An NHS workforce that has to change from an illness-based, system towards a patient led & preventative focus.

What have we already done?

- ✓ Establish the first phase of the Physician Associate project, which has seen 15 funded place students begin their training as

- Physician Associates in 2016;
- ✓ Established the first phase of the Talent Bank project, which is establishing a pathway;
- ✓ Established the first phase of the health board apprenticeship projects approximately 40 FE students beginning in range of careers across the health boards;
- ✓ Established the Singleton Health and Wellbeing Academy;
- ✓ Completed first phase of the administrative assistant project;
- ✓ Establish a regional process for workforce modelling & planning;
- ✓ An increase the number of relevant training programmes developed & offered in our region.

What does success look like?

- An agreed workforce plan for the whole health economy of South West Wales;
- A stabilised workforce with a significant reduction in the number vacancies in the region;
- More domiciled Welsh students studying in the appropriate health & life science courses in region;
- Widened access demonstrated through increase in number of 16-18 year olds studying/training on health and life science courses;
- Exploiting life science training opportunities in bioscience, pharmaceuticals and tech such as those in the human genome and genetics;
- Innovation in diagnostics and treatment, in robotics and tech;
- An increase in the number of relevant qualifications obtained in health & wellbeing economy;
- An increase in the amount of relevant research commissioned/completed in the region.

What do we need to do next?

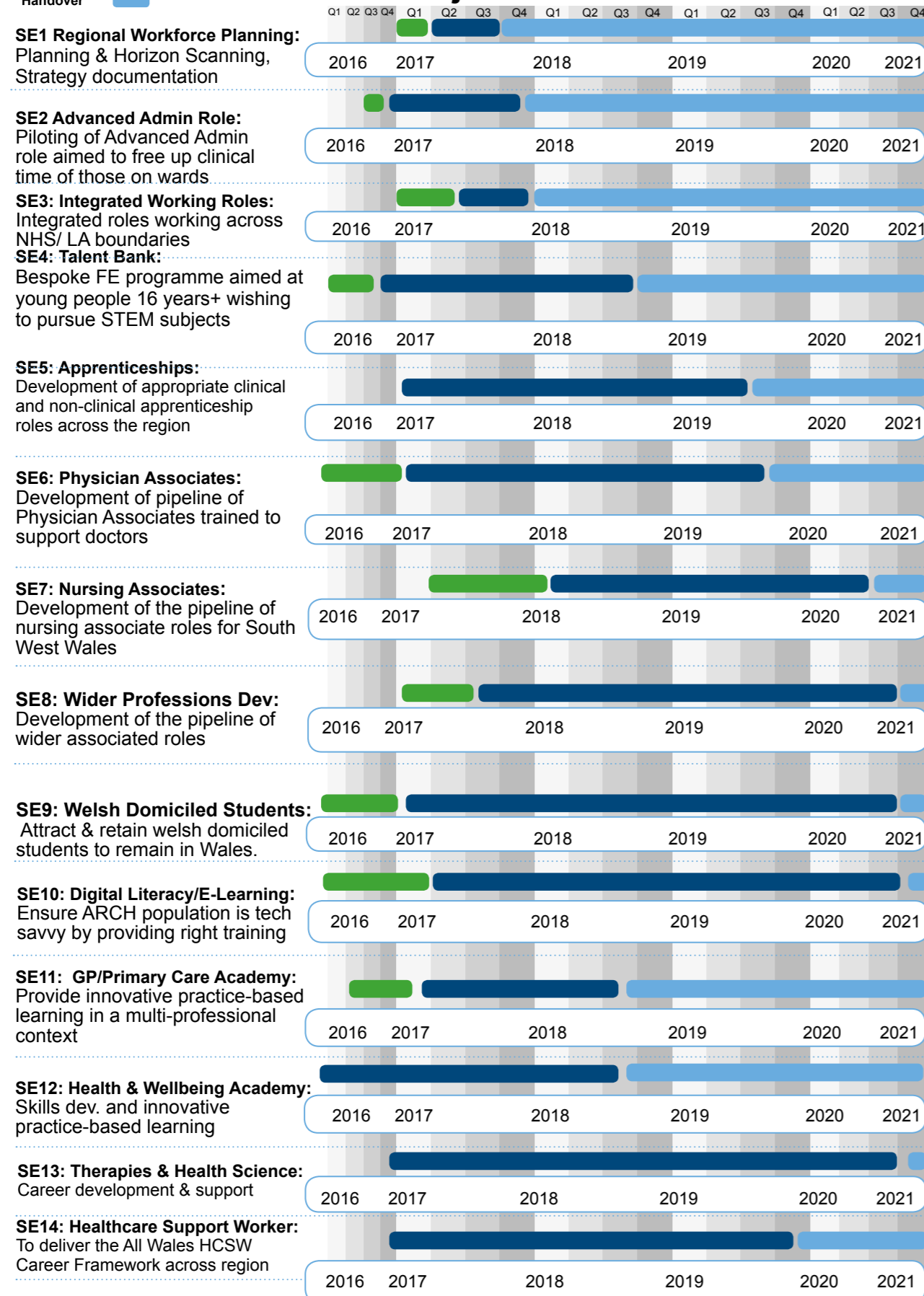
- Stabilisation:** → Faster implementation of new optimal and electronic rostering systems;
- Explore pan-region programme to improve motivation & decrease unwarranted absence;
- Explore regional negotiation to strike better deal with agency staff;
- Explore establishment of a regional nursing bank which aligns to the recommendation from the

- independent review into NHS Wales workforce.
- Sustainability:** → Building on success of university to date to take opportunity to train future doctors, though the Graduate Entry Medicine (GEM) where graduates can be ready to work in the NHS in 4 years;
- Establish a project where health boards can indirectly commission nurse training placements;
- Establish phase two of the Career Progression for overseas nurses;
- Establish phase two of the Talent Bank project;
- Establish phase two of the Apprenticeship project;
- Establish a GP Academy at Singleton Health Campus;
- Integrate the Health & Wellbeing Academy model into each health & wellbeing schemes.

skills & education

Key
 Scoping ■
 Project Live ■
 Handover ■

Skills & Education Programme: Projects & Timelines

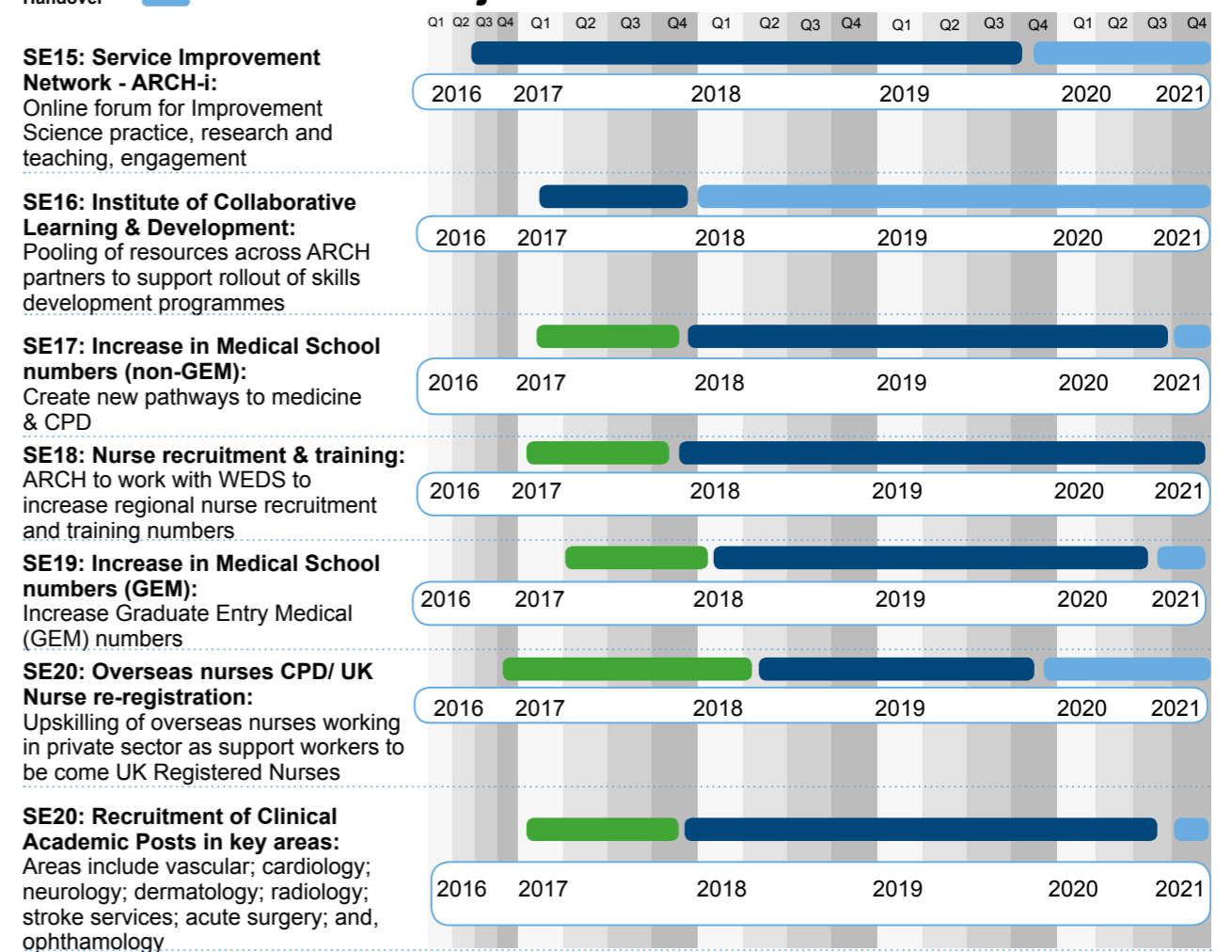


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skills & education

Key
 Scoping ■
 Project Live ■
 Handover ■

Skills & Education Programme: Projects & Timelines continued



Other Skills & Education-linked projects:

- Llanelli Wellness & Life Science Village (R,E,&I component) - see page 24
- Talent Bank (R,E,&I component) - see page 24
- Health & Wellbeing Academy (wellbeing component) - see page 24

City Deal case study: The Swansea Bay City Region is working together to put a proposal together for UK and Welsh Government to secure a funding package in excess of £500m over 20 years.

The City Deal will accelerate projects within ARCH such as Talent Bank.

Global tech firm Fujitsu has opened its new Education Innovation Hub at Swansea University's Bay Campus. The technology-focused hub is supported by Talent Bank.

Talent Bank, which is led by Gower College in a partnership with the ILS through ARCH, is a bespoke FE programme designed to support the evolving life and health science sector in South West Wales.

The project will ensure young people in Swansea graduate with the necessary work-based skills to progress to university, go on to work-based learning or directly into employment.

ARCH recognises the rising demand for STEM subject students across all sectors and this industry-led programme is

designed to grow local talent and skill supply across the region.

Students across South West Wales will be able to get hands-on, world-class exposure to industry experts from across the UK. Talent Bank will provide a dynamic learning experience which will help us ensure we are creating our workforce of the future.

Fujitsu director Joe Durran said: "By using technology and harnessing innovation we can redesign the future of healthcare. ARCH is an exciting vehicle to help deliver this."



live, work, train



Developing plans to ensure the stabilisation and sustainability of our NHS workforce is a key element of ARCH. However, the region itself can be used as an attractor to recruit new staff.

The power of the ARCH partnership brings many added value factors for all three partners. By working together, the university and health boards can help create an area which can attract encourage new partnerships and investment, become a leader in innovation and research, work across many sectors in an integrated way to meaningfully help improve the health and wellbeing of every person living here. we are also lucky to be able to showcase the unrivalled setting that is the South West Wales.



The world is now driven by rapid innovation, and these changes demand dynamic talent which can be rapidly configured and reconfigured. What is really important in this new era — is access to talent — and more importantly ownership of that talent. As a region we must be able to draw talented people in.

Personal mobility, connected markets, social media, mobile technology, and analytics are already the global forces which affect almost everyone in every industry. Doing business as if these forces don't exist is like operating by gaslight. This means it's time to reframe the way we do business.



We are entering a future where businesses will relocate to where the talent is – it is a complete shift in the way we must operate and communicate as a region. Wales has never faced this kind of challenge before – the “new world” is about attracting talent and retaining that talent right here in the ARCH region.



People, talented people, will be prepared to live here because of the quality of life. The place - and what it can offer - will attract talent. And South West Wales really is a great place to live!

Just think about our outstanding coastlines, Areas of Outstanding National Beauty, National Park – just some of our exceptional natural assets. This place ... this region, is the magnet for talent – but how can we offer them even more?

ARCH and the City Deal bid:

The unique ARCH collaboration which brings together health and science along with the Swansea Bay City Region City Deal bid, can be this region's tools to attract - and keep talent not only within the NHS but across many sectors. If we are to transform our economy we must secure talent.

The City Deal bid will kick start a new digital industry for the region focusing on a growing world market. We want the region to become a “living laboratory” – essentially a test bed for 5G Broadband and even beyond 5G.



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The university offers us an amazing opportunity. With the fantastic new Swansea University Bay Campus now open for business and the plans to create a £31 million Computational Foundry at the Fabian Way site as well as the University of Wales Trinity St David's SA1 Innovation Zone well underway, we are in a prime position to start creating the future right here in South West Wales.

ARCH through the City Deal is working to create a new era of ambition, capability and experience - fit for this ever demanding health and life science landscape and in an ever changing digital age. Any proposition such as this must always start with a compelling set of human issues – how can we make our region healthier, richer, more connected - and ultimately happier?

One of the main aims of the City Deal is to accelerate growth in our region for the benefit of the people who live here. We aim to create more well-paid jobs, more opportunity, deliver pioneering world-class healthcare, and ensure a better quality of life for you and your family.

People make any community work – we want to create an environment where everyone has the opportunity to realise their ambitions. We really do believe, that with a lot of hard work, some blue sky thinking and by working together, we really can start to create the future – right here in South West Wales.

Why work in ARCH region?

The region is characterised by an already vibrant life science sector and the close alignment of education, research, innovation and clinical care, puts us in an ideal position to compete in recruiting and retaining staff who can capitalise on opportunities for significant career progression in their chosen fields.

Both health boards are highly ambitious and are driven to deliver excellence. Staff will work and train in a highly innovative health service, with great opportunities for professional development and collaboration, and the support to drive innovation and service improvements for the benefit of patients.

Staff will benefit markedly from the full integration of primary, community and hospital care and the close co-operation with our local authorities and third and private sector partners, enabling a 'whole clinical pathway' approach that accounts not only for high-end interventions but also opportunities to get involved at the interface between healthcare and local communities in the form of prevention and early intervention.

ARCH builds substantially upon these solid foundations to transform further the way its staff

live, work, train



delivers care, promotes wellbeing and develops its skills-set. It is fully committed to bringing care closer to people's homes, to developing the next generation of doctors, nurses and healthcare workers, and to partnering first-class health, research and life science, with innovative approaches from our partners in leisure, the voluntary sector and beyond, to help people live healthy lives and to support our staff in delivering high-quality, multidisciplinary care.

ARCH brings together the region's two University Health Boards and Wales's number one university to create a future of unprecedented innovation and excellence, aimed at delivering better health, skills and economic outcomes for its population and excellent employment, training and research opportunities for its staff.

Tapping into the decade of success delivered through Swansea University's Institute of Life Science (ILS) and the establishment and future expansion of the Joint Clinical Research Facility (J-CRF) staff with will have unmissable opportunities to undertake world-class medical research and to work alongside a growing cluster of innovative life science and healthcare companies, and for our doctors to develop portfolio careers.

The development of the Service Transformation Programme will establish a culture of regional planning providing staff with opportunities to practice and develop appropriate service models for a population of a million people.

While over time ARCH will enable a planned investment in our Health Campuses which will also ensure clinical staff are provided with state-of-the-art infrastructure. ARCH enables service delivery, research and innovation to be intertwined, so all staff with the ideas or concepts that will improve outcomes for the people of the region, the nation and further afield have a structure to support them to achieve their ideas.

This way ARCH will emphasise that South West Wales is a great place to develop your career and retain staff who want to work in the region.



Service Transformation Vision & Aims:

The ARCH Service Transformation Programme will take a whole system approach to implement new service models based on population needs:

- Health and social care wellbeing schemes across the region. This network will capitalise on digital advancements to help people access advice and connect to virtual support and treatment. It will support people to care for themselves and transform the way they access services, maximising the ability to receive their care at home or in the community;
- This new model will be based on GP cluster networks where a number of GP practices will work with a whole range of services (health, social and third sector) to bring care closer to peoples' homes and encourage greater personal responsibility for health;
- Digital exclusion will be addressed through the rollout of innovative healthcare solutions to allow people to monitor their own care at home and receive advice from healthcare professionals;
- Our regional network of local hospitals will provide the right level of care in the right setting;
- Establish Morrision Health Campus as the regional centre for acute and critical care;
- Develop new regional models for a number of fragile services;
- Develop elective facilities which can deliver higher throughput and drive down waiting times;
- Streamline patient pathways throughout the region, to become more efficient, patient-focused, as well as reducing variability and improving sustainability of services.

The Service Transformation Programme will focus on what, when and how our population requires health and care support.

Services need to be based on what our populations need and with the least intervention possible using the principles of Prudent Health. This requires a different approach to how we currently deliver health and care services, and the organisational boundaries about who delivers that care and where. We need to change our system to provide services to meet the needs of local people and deliver better outcomes.

This means our plans have to be built around the current and future needs of the people who live in our communities. Hywel Dda and Abertawe Bro Morgannwg Health Boards have voluntarily come together and agreed to collaborate on several areas for regional solutions.

The need to change the way many of our clinical services are delivered are determined by five key weaknesses in the current infrastructure:

1. An inability to adequately cope with the rise in unscheduled demand – as manifested in long waits for treatment in Emergency Departments, overloaded services, long lengths of stay in hospital (often due to a lack of services out of hospital) and an ageing population with a high incidence of chronic disease who sometimes struggle to access the right service at the right time.
2. The rise in demand for elective services outstripping capacity, leading to longer waits for elective treatment.
3. Longstanding shortages in health personnel for certain specialties that drive up costs by having to use premium rate temporary staff and threaten the

“There is the risk of always focusing on the day to day struggles we face and not finding time to lift our heads and look to the future to find a long-term sustainable solution. We will only find the answers by looking forward – we need a long-term vision. ARCH has that vision”

**NHS Director General
Dr Andrew Goodall**

viability of services.

4. Service location reflecting historical decisions and patterns of working which are not always relevant to the needs of the population in the 21st Century
5. The current service provides sub-optimal outcomes in some areas but overall is also spending more money than the budget allocated by Welsh Assembly Government.
6. Many services being operated from outdated infrastructure.

These challenges are vast and cannot be tackled overnight, nor can they be resolved by a series of “tactical” responses.

ARCH aims to ultimately deliver a strategic programme across the whole system which encompasses networks of care provided by multi-professional teams. This approach will give us the best chance of tackling these issues.

The projects included in this programme aim to build on the progress to date and support both health boards to deliver against key aims priorities outlined in their current and future clinical strategies and IMTPs.

It is important to recognise that significant service change is needed and it is not simply a case of moving beds between hospitals or even building new facilities.

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service transformation

What approach will we take?

It is recognised new services, models and pathways will underpin much of the wholesale service change required. Through the Service Transformation Programme, a number of underlying service planning principles have been agreed that will need to underpin new service models. These include the need to:

- ☑ Address rurality and accessibility issues;
- ☑ Provide care as close as possible to home where practical;
- ☑ Help people take more responsibility of their own health and wellbeing;
- ☑ Target prevention as a presumption rather than waiting for health problems to appear;
- ☑ Digital solutions first;
- ☑ Unlock innovation in the NHS;
- ☑ Develop and maximise research excellence;
- ☑ Services must be safe and sustainable;
- ☑ Regional perspective where this is required to deliver a practical solution;
- ☑ Actively involve people and communities;
- ☑ Be able to attract talent and ensure the region takes ownership of retaining that talent;
- ☑ Reflect population needs;
- ☑ Work as a whole system.

We have shaped the programme to ensure it meets the main commitments set out in a number of key national strategic documents.

What will we do?

- Improve health and wellbeing and planning on the basis of our regional one million population, to support people to care for themselves and transform the way they access services, maximising the ability for them to receive their care at home or in the community, through digital solutions;
- Accelerate, across the entire

region, new models of integrated care - across all settings to meet population needs and enable people to live healthier, independent lives which also allows us to stabilise and sustain primary care services;

- Enable our network of local hospitals to provide the right level of care in the right setting, supported by access to specialist advice and care from the regional acute centre of excellence;
- Develop a regional base for specialist services that provides a high class training environment for doctors, nurses and Allied Health Professionals leading research, innovation and training.

What have we already done?

- Agreed the need for and are working towards regional service model solutions for the following service areas:
 - Cardiology
 - Stroke
 - Non-Surgical Cancer
 - Vascular
 - Pathology
 - Imaging (Especially interventional radiology);
- Agreed the need to explore further regional service model solutions for:
 - Ophthalmology
 - Dermatology
 - Orthopaedics

The rationale for developing these service models is driven either by service vulnerability or the benefits of planning on a regional basis.

- Established clinical model for Singleton Health Campus, enabling the site to fulfil its role as part of the region's local hospitals
- Established the clinical model for Morrision Health Campus, enabling the site to fulfil its role as the regional acute centre for South West Wales;
- Agreed the clinical model for the regional network of health &

wellbeing schemes.

What does success look like?

- Putting the patient first and not letting organisational barriers get in the way;
- Stabilisation and then improvement of core clinical services throughout the region;
- Improved waiting times in Emergency Departments;
- Improved waiting times for elective procedures;
- Delivery of cancer wait times standards and improved outcomes;
- Improved access to primary care and more clinical care delivered locally rather than in hospitals;
- Reduction in unscheduled care admissions;
- Reduction of stay in hospital once acute care completed;
- Co-ordinated, evidence based care making use of technology and doing ‘what works’;
- Moving the two health boards back to financial sustainability;
- Ultimately an improved health & wellbeing status for the population.

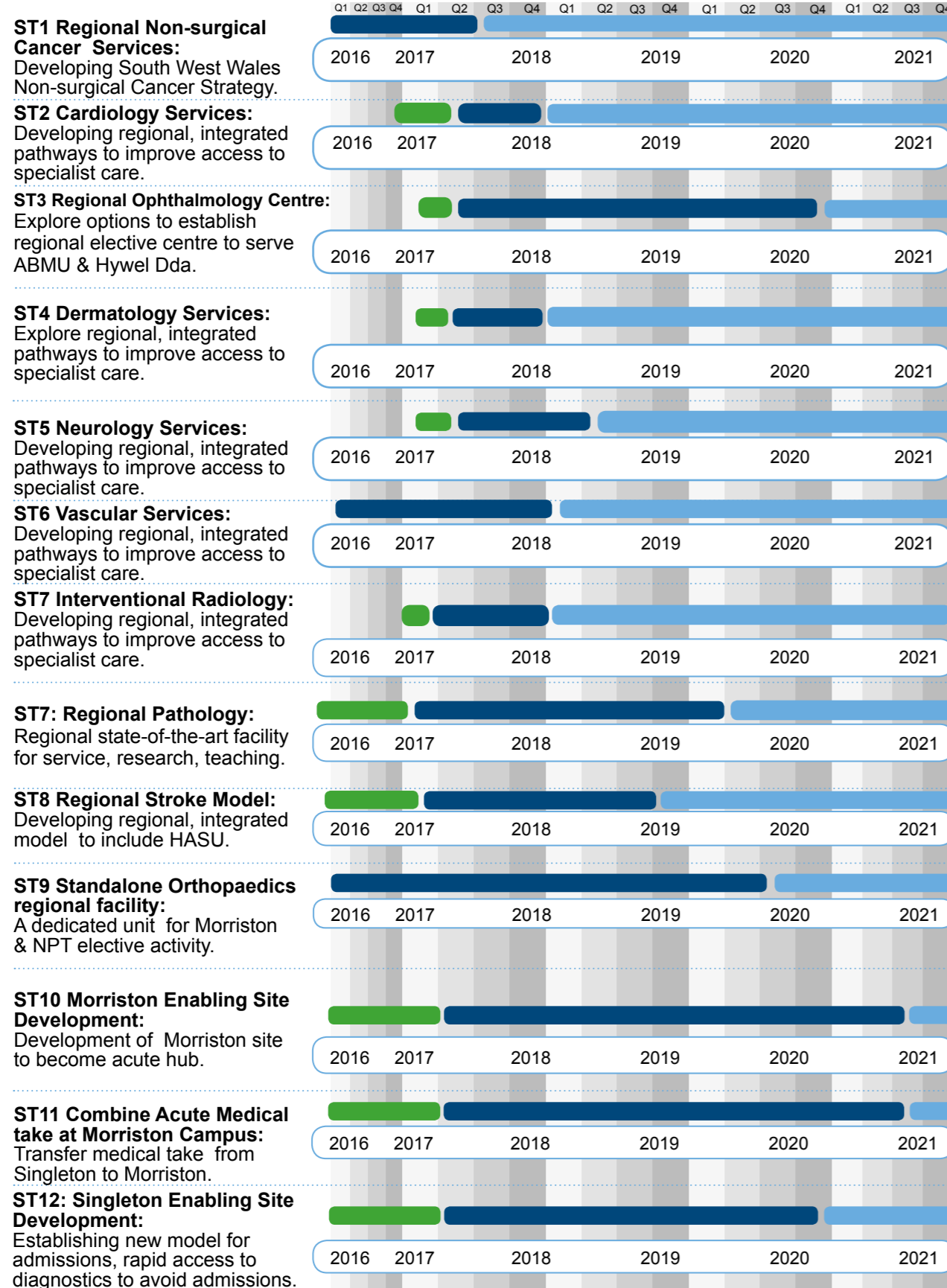
What do we need to do next?

- Fully develop and implement the South West Wales Non-Surgical Cancer Strategy which will include a regional approach to addressing key shortages in the workforce.
- Fully develop and implement the South West Wales Non-Surgical Cancer Strategy which will include a regional approach to addressing key shortages in the workforce.
- Developing a strategic case

service transformation

Key
 Scoping ■
 Project Live ■
 Handover ■

Service Transformation Programme: Tranche 1 Projects & Timelines



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service transformation

for development of the Regional Cancer Centre within Morryston Health Campus, undertake a scoping study with regard to a strategic intention for a satellite linear accelerator (LINAC) service to be provided in Hywel Dda;

→ As part of a regional response to an improvement of stroke services establish a Hyper Acute Stroke Unit (HASU) at Morryston Health Campus;

→ Significantly improve planned care within the region through establishing a standalone orthopaedic unit at Morryston Health Campus. The unit will provide a regional service for certain procedures – for example spinal surgery;

→ Complete a feasibility study into a regional elective

ophthalmology treatment facility to provide improved performance, quality and safety;

→ Finalising and then implementing a new clinical model for combined acute medicine on Morryston Health Campus site which will include the transfer of acute inpatient medicine from Singleton to Morryston Health Campus;

→ Develop out of hospital services to reduce reliance on secondary care and facilitate early discharge;

→ Develop Pathology Laboratory services at Morryston Health Campus, ensuring local clinical service interfaces are maintained, with equitable access across the region.

→ Agree a series of regional service models for dermatology, ophthalmology and orthopaedics;

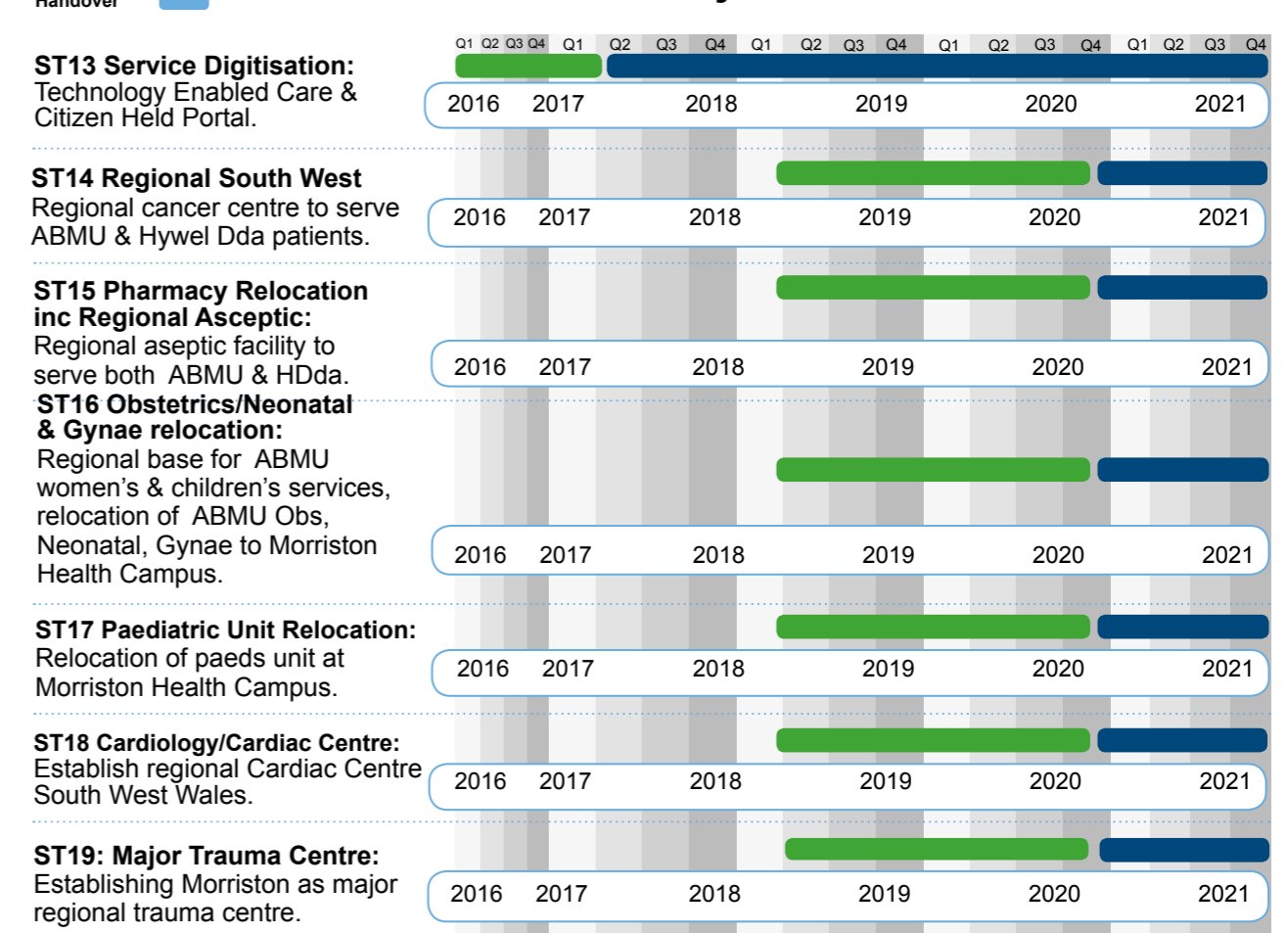
→ Deliver the first phase of Singleton to enable it to focus on admission avoidance and allow Medical School expansion;

We will continue our essential planning work so that beyond the first tranche (0-3 years), we can achieve the following:

- Implement South West Wales cancer service including a regional cancer centre;
- Co-locate obstetric, neonatology, acute gynaecology, paediatric services for ABMU;
- Establish a new regional cardiac/cardiology centre at Morryston and Cardiac Catheter lab in Hywel Dda.

Key
 Scoping ■
 Project Live ■
 Handover ■

Service Transformation Programme: Tranche 1 Projects & Timelines



Wellbeing Vision & Aims:

The Wellbeing Programme will make a quantifiable improvement to the health and wellbeing of the population of South West Wales, when compared with other regions. The programme will make a substantial contribution to:

- ➔ Contributing to the reduction of health inequalities between population groups;
- ➔ Affecting a tangible step-change in our approach to prevention and early intervention across all ARCH programmes;
- ➔ Reducing inappropriate demand on key healthcare services by influencing the key social determinants of health and supporting people to remain well within their communities.

"ARCH is a brilliant example of actually putting into practice the interconnections between social, economic, environmental and cultural wellbeing the Wellbeing of Future Generations Act requires. Health challenges will not be met by looking at the medical model alone"

**Wellbeing of Future Generations Commissioner
Sophie Howe**

- ➔ Improve access to opportunities and services that have a demonstrable impact on keeping people well for longer;
- ➔ Maximise the potential of innovation and emerging digital capability and next generation technologies to keep people well, including changing the way in which services are delivered.

Health and wellbeing are inextricably linked; many of the drivers of better health such as income, housing and education, are the same as those associated with increased wellbeing.

Transforming the wellbeing of the ARCH population offers significant potential to address increased demand on health services and to fully embrace prevention and early intervention.

The three following work packages have been developed as areas for concerted project activity within this programme:

1. Understanding: ARCH is developing a robust 'Case for Change'. We will develop a thorough understanding and baseline level of health and wellbeing throughout the ARCH region. ARCH will then embark on a longitudinal evaluation of the impact on health and

What approach will we take?

Our design principles fully embrace The Wellbeing of Future Generations Act (Wales) 2015 & The Social Services & Well-being Act (Wales) 2014. Specifically, the Wellbeing Programme will:

- ♥ Seek to address the wider determinants of health and wellbeing, such as employment and education where they manifest within a regional & local government context;
- ♥ Focus on issues and activities beyond the scope of any existing partnership to resolve or implement;
- ♥ Be driven directly by robust data linkage and analysis work;
- ♥ Scale up approaches which are securing improved wellbeing in one part of the

wellbeing

wellbeing of projects under the Wellbeing Programme and the service delivery changes to be implemented; a full report will be delivered in the Service Transformation Programme;

2. Rebalancing: Development of a pan-region network of health & wellbeing schemes, which bring together education and enterprise capacity with multi-partner service provision to address health and wellbeing, focused around a re-balancing of services between hospital and community settings and between service providers;

3. Preventing: Implementation of a programme assurance function throughout ARCH to ensure the application of a wellbeing focus to project activity. Develop an ARCH Wellbeing Bond to promote new partnerships that will deliver preventative programmes to reduce demand on the health service.

region, to secure similar benefits for the region as a whole;

- ♥ Identify gaps in regional activities to improve wellbeing and adopt meaningful approaches to address them;
- ♥ Act as an assurance mechanism, supporting all programmes to adopt enhanced wellbeing, using a preventative and early intervention approach;
- ♥ Help partners to share risk, financial costs and benefits; to realise economies of scale when investing in initiatives to improve health and wellbeing.

What will we do?

1. Evaluate how the ARCH portfolio as a whole is impacting and improving the Wellbeing of the population of South West Wales;
2. Develop ARCH place-based regeneration projects, including developing the health and

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wellbeing centre model, which brings together service delivery, education and enterprise in local population contexts. We will develop specific projects in: Llanelli, Neath, Bridgend and Swansea; and are assessing the feasibility of schemes in Hywel Dda area;

3. Develop an investment model for early intervention and prevention, including assessing the feasibility of a regional Wellbeing Bond based on the Social Impact Bonds that have been successfully developed in other parts of the UK.

What have we already done?

- ➔ Develop the ARCH Case for Change through a systematic regional health and wellbeing assessment;
- ➔ Developed a health and wellbeing scheme model as part of the Swansea Bay City Region;
- ➔ Secured the inclusion of £40million investment proposition within the Swansea Bay City Deal and development of Llanelli Wellness Village;
- ➔ Incorporated the Swansea Health and Wellbeing Hub into City Deal, Digital District which will receive £50million of City Deal funding.

What does success look like?

- ➔ Providing an objective, forward looking evidence-base and impact measurement to inform the scoping of work packages and associated projects through all ARCH programmes;
- ➔ Addressing key social determinants and inequalities in health and wellbeing, through the development of health and wellbeing schemes across the region, which bring health care service delivery, education, and enterprise together within a local

government place-based regeneration context;

➔ A series of individual schemes networked together across the region, providing seamless access to services closer to home, helping people stay well in their communities and avoiding inappropriate visits to hospitals;

➔ An established investment model for early intervention and prevention, supporting more responsive services and better outcomes at a reduced cost.

What do we need to do next?

1. Deliver the Llanelli Wellness & Life Science Village which integrates service delivery, research and education components;
2. Deliver Swansea Health &

wellbeing

Wellbeing scheme as part of the Swansea City Centre Digital District;

3. Develop and enhance the Neath and Bridgend Health & Wellbeing schemes;
4. Actively explore the development of further Health & Wellbeing schemes in each of the Hywel Dda counties;
5. Implement a Regional Wellbeing Social Impact Bond;
6. Establish the Regional Wellbeing Intelligence Centre.

Beyond the first tranche (years 0-3) we will:

- ➔ Rollout the Health & Wellbeing Schemes to other areas in the region;
- ➔ Expand the reach of the Regional Social Impact Bond.

What is a Health & Wellbeing scheme?

The Health & Wellbeing schemes will be tailored to meet local needs, and will be called different things such as a village or hub or centre, but for them to be considered by the ARCH partners they will have the following characteristics:

- ➔ Deliver and support new models of care - the models will address some or all of population, community, primary, secondary or regional health and social care provision;
- ➔ Create enhanced care environments;
- ➔ Offer patients access to 21st Century healthcare in a community setting;
- ➔ Provide innovative education and skills programmes delivered by FE and HE at the schemes to equip current and future new service delivery models;
- ➔ Increase and maximise high-quality research,

innovation and enterprise, with the potential for R,E,&I activity to translate clinical research into economic benefit through IP generation, incubation and commercialisation;

- ➔ Develop strong cross sector partnerships and ensure co-location with other services;
- ➔ Deliver a powerful and positive influence on people's emotional, mental and physical health and wellbeing;
- ➔ Provide GPs with an opportunity to specialise and offer advice and treatments on conditions previously dealt with in a hospital setting;
- ➔ Maximise digital technology systems and processes to allow seamless flow of advice and information between people, the schemes and health & wellbeing services delivered in other settings;
- ➔ Accelerate co-investment strategies, allowing partners to come together and target investments and activity at scale and pace.

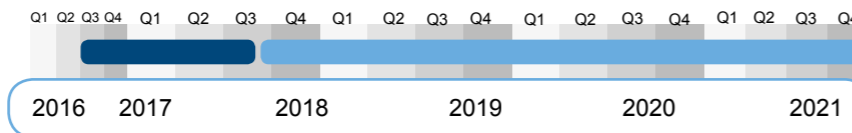
the portfolio: wellbeing

Key
 Scoping ■
 Project Live ■
 Handover ■

Wellbeing Programme: Tranche 1 Projects & Timelines

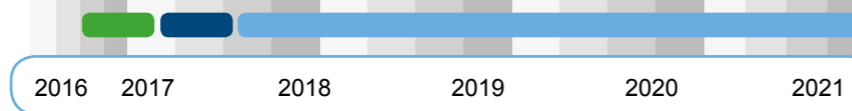
W1: Understanding:

Case for Change: Develop the ARCH Case for Change through a systematic regional health and wellbeing assessment.



W2: Understanding:

Evaluation capability: Aligned work with the Prudent Healthcare Intelligence Unit to provide longitudinal linked data platform using SAIL data.



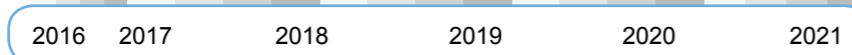
W3: Rebalancing:

Llanelli Wellness & Life Science Village: Includes a Wellness Hub, Sports Academy, Wellness Hotel, Neuro Rehab Village, Outdoor Wellbeing, research capability.



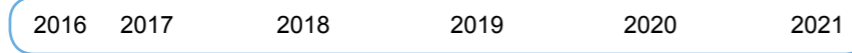
W4: Rebalancing:

Neath Health & Wellbeing Scheme: Will co-locate primary & community care services with wellbeing, third sector, out-of-hospital & social care with business space & education.



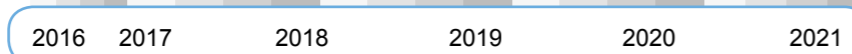
W5: Rebalancing:

Swansea City H&W Scheme: State-of-the-art facility which integrates healthcare, wellbeing, research with training facilities.



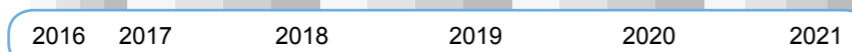
W6: Rebalancing:

Bridgend H&W Scheme: Multi-agency partnership will co-locate primary & community care with rehab & therapy services, ILS satellite.



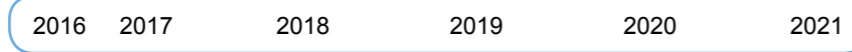
W10 & W11: Preventing:

Prevention/Early intervention and Social Impact Bonds: Initial focus on obesity and develop investment model for prevention, including a regional Wellbeing Bond.



W7: Rebalancing:

Carmarthenshire H&W Scheme: Exploring further development



W8: Rebalancing:

Ceredigion H&W Scheme: Exploring further development



W9: Rebalancing:

Pembrokeshire H&W Scheme: Exploring further development



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the portfolio: wellbeing



PARTNERSHIP WORKING: Carmarthenshire Council leader Emlyn Dole, councillor and ARCH Wellbeing Board Chair Meryl Gravell, Hywel Dda's Julie James, ABMU's Siân Harrop-Griffiths and Swansea University's Professor Marc Clement.

Health & Wellbeing Academy:

The Health & Wellbeing Academy is an innovative concept which encapsulates everything ARCH aims to achieve in terms of transforming the way the NHS delivers care and allowing students get hands on patient experience.

The Academy which opened in early 2017 at the Singleton Campus aims to ease pressure on the health service. It is a unique approach aimed at improving health and wellbeing through a range of treatments and alternative ways for patients to manage their care. It will also help improve care for patients who face delays in diagnosis and assessments by providing them with alternative options.



Led by the College for Human and Health Science, the Academy will assist primary care by taking referrals for assessment. It will also enrich the experience of students by providing new opportunities for students including patient interaction.

Phase one of the academy is now live with future phases looking to scale up and roll out the concept across the ARCH region. The Llanelli Village is just one of the health & wellbeing schemes which will house an academy within the development.

City Deal case study:

The Swansea Bay City Region is working together to put a proposal together for UK and Welsh Government to secure a funding package in excess of £500m over 20 years.

The City Deal aims to accelerate growth in our region for the benefit of the people who live here, creating more well-paid jobs, more opportunity, deliver pioneering world-class health-care, and ensure a better quality of life for our population. A City

Deal, can accelerate ARCH projects such as the Llanelli Wellness & Life Science Village at Delta Lakes.

The village is one example of what can be delivered by our regional Health & Wellbeing schemes. The Llanelli Village will receive £40million of City Deal funding. The project will improve the prosperity of the local area by creating life science and health employment and investment opportunities based around primary and community care, educational facilities, leisure and tourism facilities.



Health & Wellbeing schemes in Hywel Dda:

In recognition of the combined urban/rural landscape of the region, ARCH will look to advance health & wellbeing schemes in the Hywel Dda area. These schemes will:
 ✓ Address unique service challenges of their rural popula-

tions, including the remoteness and fragility of services;
 ✓ Develop capacity, deliver excellence and help transform health and wellbeing for rural communities through new models of care adapted to suit local needs;

✓ Offer excellent and equitable access to 21st Century care delivered closer to home;
 ✓ Enable the development of the local health and care workforce, and help to attract and retain local talent to improve service resilience in rural areas.

Rural communities





R,E&I Vision & Aims:

The Research, Enterprise & Innovation Programme will create and undertake regional, worldleading, multidisciplinary, collaborative research, to drive an ecosystem of vibrant life sciences & health activity to deliver improved health, wellbeing and prosperity for current and future generations:

→ Develop the region as a living laboratory which would allow close to a million people to participate in clinical research and trials offering a unique capability to global companies and indigenous enterprises;

→ Kick-start a culture change to ensure the region can capitalise on the open innovation system, to deliver economic benefits and improved health and wellbeing;

→ Consolidate and expand successful collaborations and partnership working with the public and private sector;

“The ARCH AgorIP project is a positive example of how we are helping to drive forward new concepts and research to grow our knowledge economy”

**Finance Secretary
Prof Mark Drakeford**

→ The programme will establish the region as a globally significant actor for integrated open innovation in health;

→ Innovate within the health and life science sector to develop entrepreneurial and innovation skills;

→ Support the development of an integrated framework across the partnership for creation, capture and commercialisation of new knowledge;

→ Identify opportunities for the development and retention of Intellectual property (IP);

→ Manage and co-ordinate the development of MediPark.

The region needs to sustain and create new employment, whilst at the same time, driving productivity and growth.

If we grow our employment base as forecast to 2030, and over that time return to 90 per cent of the UK's productivity level, where we have traditionally been, then we would be a £13billion

economy. If we could match the UK level, we would be a £15billion economy, around 30% larger than if we stand still. Through the R,E, & I programme and its specific projects, we will contribute to this goal. The aim of the R,E, & I Programme is to effectively drive the delivery of R,E, & I activity on behalf of the three partners.

What approach will we take?

We aim to increase R,E,&I opportunities in the region. Therefore, appropriate planning principles have been used to design our projects, all aligned with the following:

○ Swansea Bay City Region (SBCR) aims to develop the region into a globally relevant area for open innovation in health & wellbeing;

○ UK Government's Strategy for UK Life Sciences aims to stimulate innovation and growth for start-ups and SMEs through to large global enterprise;

○ UK Government's Innovate UK – Digital Economy Strategy to encourages innovators in different sectors to share knowledge, develop common approaches and translate experience from other industries;

○ Welsh Government's Innovation Wales Strategy seeks to build upon established infrastructure by creating and accelerating new economic development and skills opportunities for the region;

○ Welsh Government's Economic Renewal Programme encourages more innovative approaches across the health sector through collaboration;

○ The Wellbeing of Future

Generations Act wants Wales to be the best place to live, learn, work and do business in the future;

○ The Catapult Programme - transforming the UK's capability for innovation in specific areas, and help drive economic growth.

What will we do?

1. Embed an open access, open innovation framework to support clinicians, academics and the wider R&D community in the commercialisation of ideas, driving innovation from university health boards and Higher Education institutions and across our region into enterprises, with absorptive capacity to bring them effectively to market.

2. Develop the ILS MediPark, propelling the Institute of Life Science (ILS) from its current business incubator role to one of a science park network. Currently constrained at Swansea University Singleton campus, the ILS will expand to reach across the health and wellbeing campus and villages network.

3. Establish the regional expansion of the Joint-Clinical Research Facility (J-CRF). J-CRF is an innovative construct and would become the single portal for all clinical research within the ARCH region. It will provide an important platform for translation of research into clinical innovation

research, enterprise & innovation

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for patient and economic benefit. J-CRF will become the vehicle for channelling innovation and Intellectual Property (IP) from ABMU and Hywel Dda Health Boards through the university's innovation system enabling commercialisation and thereby contributing to the regional and wider economies. We will expand J-CRF to enhance its capacity and capability to undertake a broader and larger portfolio of projects.

4. Establish a joint pathway from further education and higher education into the health and life science economy, fostering a culture of innovation and entrepreneurship.

What have we already done?



→ Established the Joint Clinical Research Facility demonstrating that the concept works ahead of scaling up across the region;

→ Phase 1 of establishing a joint IP harmonisation policy across the three partner organisations an enabling foundation for research, enterprise and innovation in our region

→ Secured £11.5million of funding from Welsh European Funding Office with a further £2million from the Welsh Government to establish AgorIP which is utilising the already IP harmonisation structure;

→ Delivered first phase of the MediPark network, through piloting the use of vacant ABMU Health Board space and reutilising it as health technology provision;

→ Secured global anchor tenants for the MediPark network including internationally recognised brands such as

Fujitsu and PWC;

→ Incorporated the ARCH research, enterprise and innovation workstream into the Swansea Bay City Region City Deal, potentially securing £40million of funding for the Llanelli Wellness & Life Science Village and £15million of funding for Morriston Health Campus and the Swansea Digital District;

→ Developed the R,E, & I components of the Health and Wellbeing Academy which went live in January 2017;

→ Completion of the ILS Data Science Centre at Singleton Campus including the establishment of a Prudent Health Unit linking health board to Big Data including the SAIL

Database;

→ Created two Institute of Life Sciences (ILS), which have created 800 highly-skilled jobs and secured £42million of investment.

What does success look like?

Within 5 years we will:

- ✓ Establish an ILS @ Morriston Health Campus;
- ✓ Establish an ILS @ Llanelli Wellness & Life Science Village;
- ✓ Expanded the ILS provision at Singleton Health Campus;
- ✓ Expanded the J-CRF at Morriston Health Campus;
- ✓ Established a J-CRF at Llanelli;
- ✓ Maximised the regional open innovation framework.

We will also:

→ Support the creation of 2,563 jobs in Life Science, Health and associated sectors in the first 10 years;

→ Increase GVA in the South West Wales economy by £347million in the first 10 years;

→ Develop a further 50 research collaborations between academic, clinical and industrial research partners;

→ Creation of a further 25 new enterprises within the ILS ecosystem, together with significant inward investment;

→ Increase registered IP opportunities and progress new ideas through experimental and industrial development ensuring further investment into research;

→ Improve research links across the ARCH region by expanding the number and breadth of trials open to health boards;

→ Assist with the delivery of a multi-professional learning and training environment to develop and support a talented workforce; designed to recruit, inspire and

What is MediPark?

Swansea University's Healthcare Technology Centre (HTC) is a core component of the ARCH MediPark vision.

The ILS has already created new businesses and highly skilled jobs over past 10 years, ARCH aims to upscale this success through MediPark. It will focus on science and technology and will help:

- Grow the Medical School's under and postgraduate student numbers
- Support the growth of research scale, quality, environment and impact cases to sustain strong REF performance
- Create diversification of income through greater attraction of industrial and other income
- Enhance facilities
- Provide a platform for companies, researchers and students
- Support growth of the regional Health Technology Network by catalysing the development of products, processes and services

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research, enterprise & innovation

retain the best talent;

→ Facilitate the development of wider and new funding streams, including private sector investment for research and innovation.

1. Deliver next phase (Phase1)

What do we need to do next?

of the Singleton Health Campus specifically the Health Technology Centre (HTC);

2. Deliver (Phase 1) of Morriston Health Campus specifically ILS@Morriston;

3. Work with BDP master site

planners to develop & integrate MediPark components of Morriston Health Campus;

4. Submit to Welsh European Funding Office £5million submission for the expansion of health technology network in our region;

5. Initiate the development of the Institute of Life Science (ILS) in the Hywel Dda region;

6. Establish Precision Medicine Catapult satellite within South West Wales;

7. Regional expansion of the Joint Clinical Research Facility (J-CRF).



Rural communities

J-CRF expansion:

Clinical trials are a vital tool for healthcare. Without this evidence, there is a risk people could be given treatments with no advantage, waste NHS resources, and which might even be harmful. Regional expansion of the J-CRF will enhance its capacity and capability to undertake a larger portfolio of projects. The Hywel Dda population will be able to positively take part and feed into important research. Regional expansion will see increased trials, recruitment and project delivery across the entire ARCH region

City Deal case study: Unlocking innovation within the NHS

The Swansea Bay City Region is working together to put a proposal together for UK & Welsh Government to secure a funding package in excess of £500m over 20 years.

The City Deal can accelerate ARCH projects such as AgorIP. The aim of AgorIP is to unlock innovation in the NHS and to provide a support service to drive this innovation and realise the huge value from IP generated across ARCH region. It will provide a support framework to bring ideas to market and support our health boards in realising their commercial value.

AgorIP will open a pipeline of untapped valuable opportunities to work with researchers and NHS staff to disclose concepts with development potential. AgorIP is a £13.5million EU-supported scheme which brings together clinicians, academics and industry to pioneer research into cutting-edge technologies.

Led by Swansea University through ARCH, AgorIP will



PROJECT BACKING: Finance Secretary Professor Mark Drakeford (centre) announces the £13.5million AgorIP project with ARCH's Professor Marc Clement (right) and Gerry Ronan, Swansea University's Director of Commercialisation.

work with NHS and industrial collaborators across North and West Wales and the South Wales Valleys to turn innovative research into new products, processes and services.

The project is backed by £6.7million from Welsh Government and funding from Swansea University. An example of how this works in practice is the work being carried out by ABMU's Rehab Engineering Unit. Dr Lorna Tasker and her team are

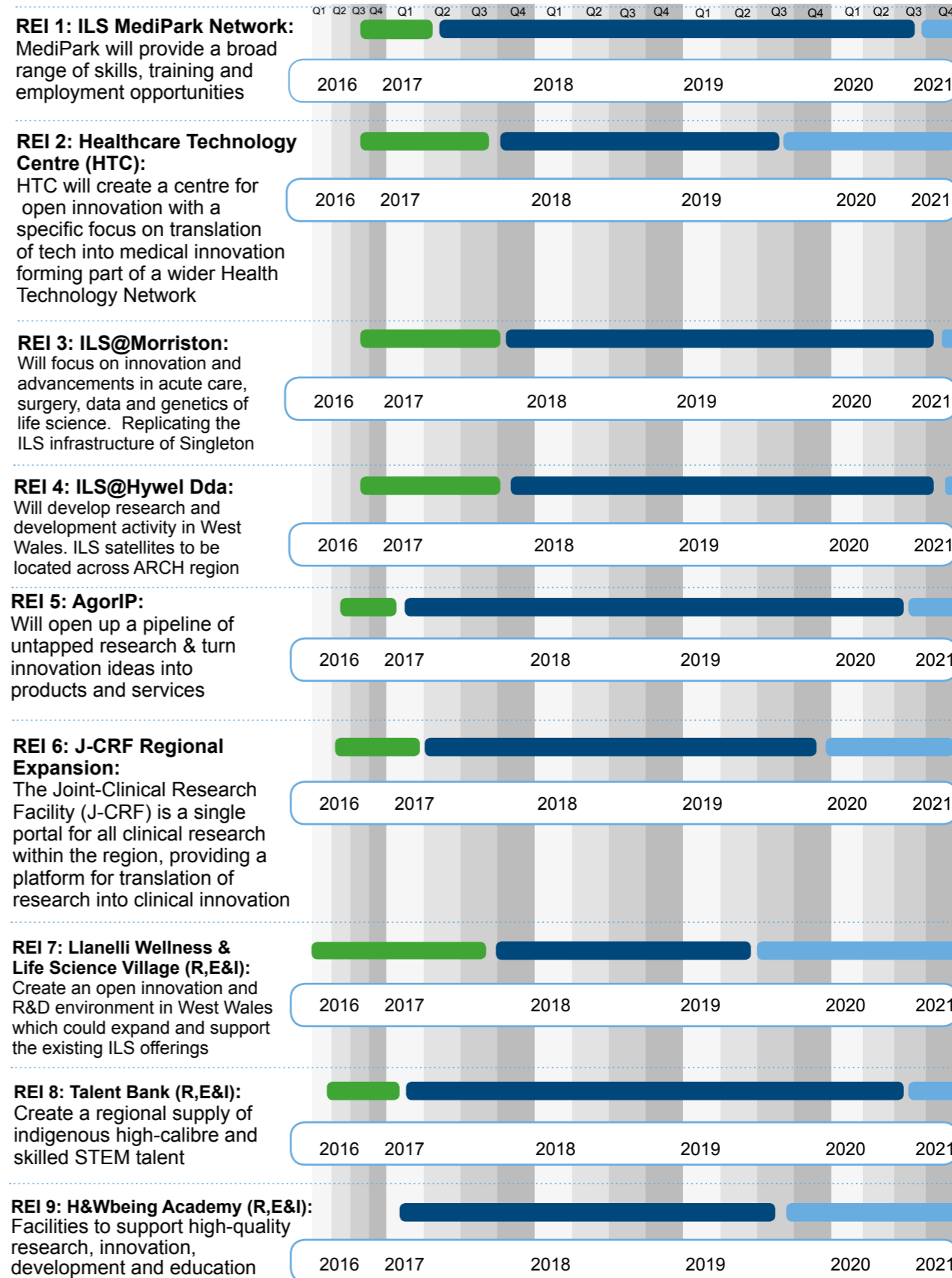
developing an app to improve patient care and reduce the huge challenges caused by pressure ulcers.

The app is being developed in partnership with Welsh Government and Fujitsu and will provide accessible expert advice to prevent ulcers getting worse and to promote healing without surgery, allow clinicians to remotely screen patients and help decide who needs to be seen most urgently.

research, enterprise & innovation

Key
Scoping
Project Live
Handover

Research, Enterprise & Innovation Programme: Projects & Timelines



implementation: governance

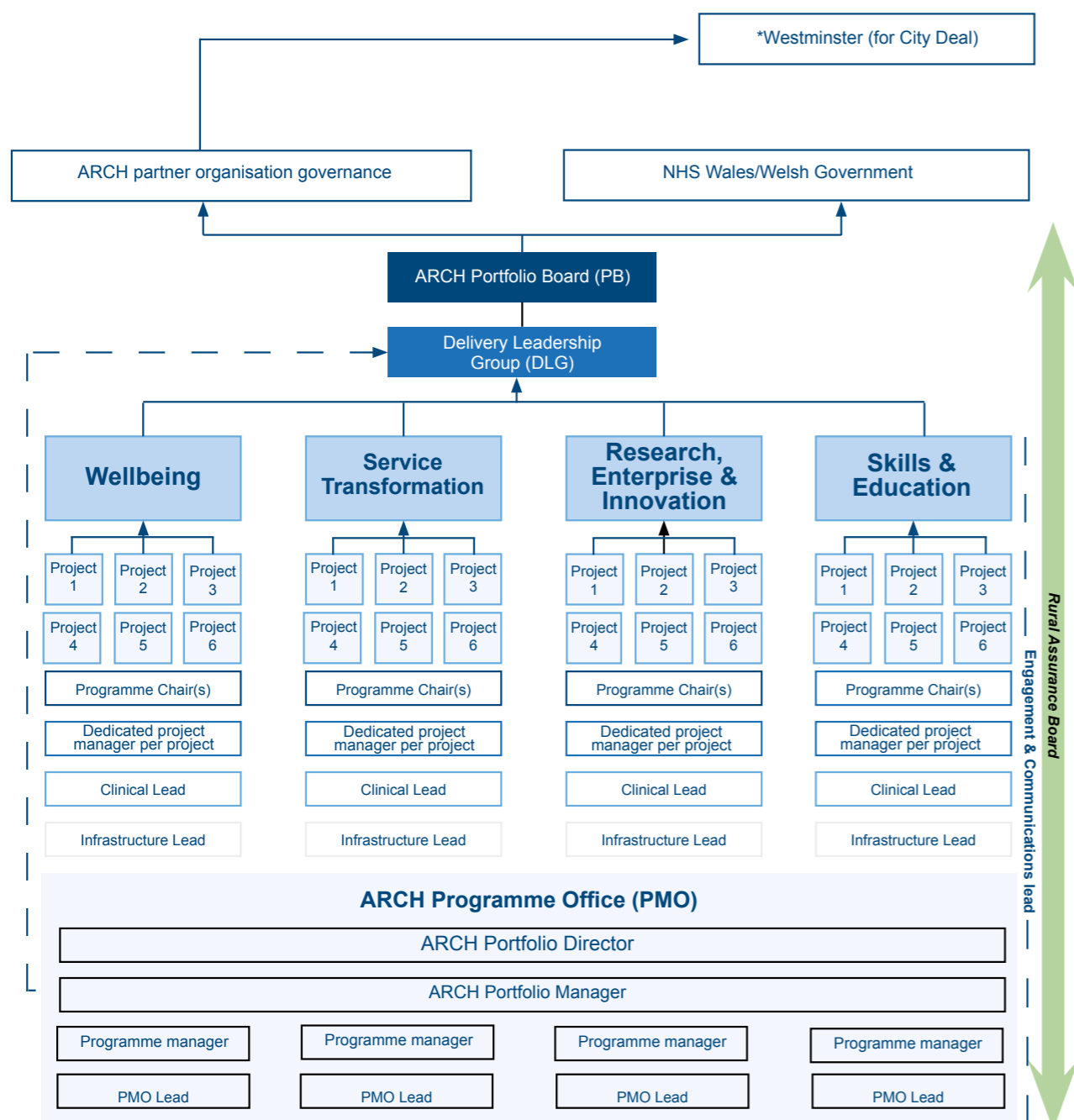
We acknowledge the breadth and ambition of ARCH and recognise that a portfolio of this scale requires excellence in governance. To that end, the ARCH Board requested the governance structure was externally reviewed in August / September 2016 to ensure that current governance processes were efficient and fit for purpose, and to recommend changes required as ARCH moves into a new phase (post approval of the PDP).

Much of this new structure has been approved by the partners and is already in operation. In order for effective management and accountability across the

portfolio we have established an ARCH Portfolio Board (PB) which meets monthly. The PB has delegated authority from the sovereign partner organisations to oversee, co-ordinate, and review the strategic direction of the ARCH portfolio.

The ARCH Board is supported by the Delivery Leadership Group (DLG) that meets weekly and is chaired by the Portfolio Director.

The DLG oversees the delivery of the ARCH portfolio of projects. The DLG reports directly to the board and onto the governing bodies of each sovereign partner organisation and the Welsh



*City Deal is a potential route of funding for ARCH Portfolio activity

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implementation: governance

Government to provide assurance against the delivery of these areas. The ARCH portfolio consists of four ARCH programmes.

Their purpose is to develop, drive delivery and monitor progress of their respective ARCH projects. The programmes are co-chaired by senior executives from across the partnership.

Attached (as annex 18&19) is an example copy of the Terms of Reference (ToR) for the Wellbeing Programme. The diagram (left) shows the ARCH governance arrangements.

Tracking progress across the portfolio:

To support all the projects we have established a standardised Portfolio Management Framework that ensures there is standardised project documentation and clear project approval process.

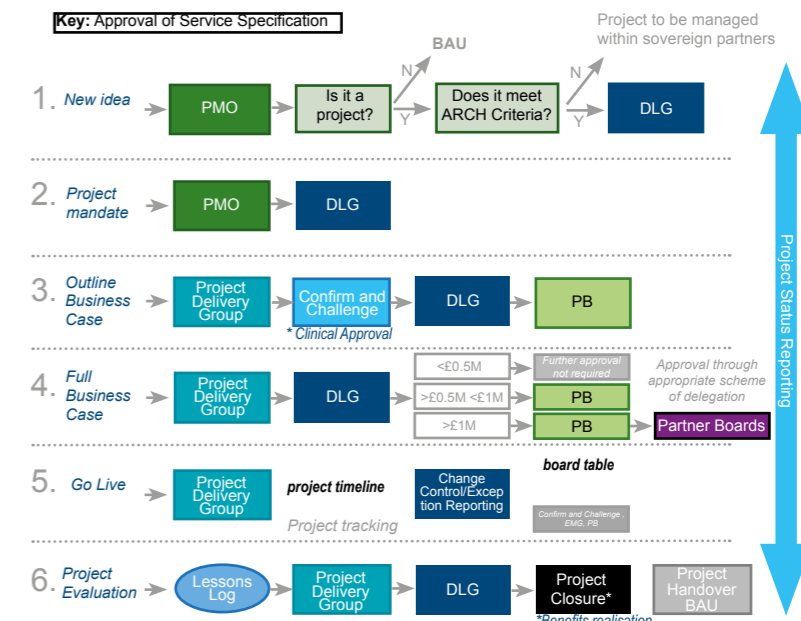
This approval process includes clear and validated criteria describing what constitutes an ARCH project and how a project receives its mandate.

As projects progress through each stage of development our Portfolio Management Office review the content of all PID and business case stages, prior to executive review (through DLG) to ensure the information

Portfolio assurance:

We have established Portfolio Assurance which is our discipline to provide an independent and objective oversight of the future performance of our major projects.

The appropriate people who have a responsibility and accountability for sanctioning, financing and monitoring our projects, (DLG and the programme chairs) have had to consider the information they have available to them to help reduce risk, resolve



presented is accurate and of high enough quality to clearly capture the aims of the project, milestones, risks and interdependencies.

The PMO has central oversight of the different programmes and projects through holding standardised project documentation and implementation plans in a central repository.

This enables the PMO to review progress updates against our plan to ensure delivery is on track, and identify overlaps and interdependencies between projects. The diagram (above) provides an illustration of how this works.

issues and limit the chances of project failure. As part of our overall approach to assurance we will also use the important existing mechanisms across the region, such as the Community Health Councils (CHCs) in both health boards. We will test with our colleagues in the CHCs all projects that involve new service models or service changes.

We recognise ARCH has a significant rural population, therefore another key assurance function is to consider major projects from a rural perspective. As such, we have established a Rural

The PMO has two key functions:

→ **Keeping score:** This involves maintaining a suite of tools, processes and governance structures to report, monitor and govern the delivery of programmes.

→ **Supporting delivery:** This involves providing a flexible and focused resource to support individual project managers in the delivery of their schemes.

As well as providing a “challenge” role, this includes supporting the sharing of good practice across the portfolio and, where necessary, the provision of targeted resources to accelerate the delivery of projects.

Assurance Board which meets regularly to ensure we are addressing the needs of our rural communities. This will ensure equity to access of services, along with improving the health care and wellbeing outcomes of people living across our entire region.

The Rural Assurance Board will ensure all ARCH activity is “rural proofed” via Rural Assurance Criteria being developed with the understanding that issues faced by rural communities are often different from those in urban areas.



implementation: engagement

We have already started implementing some of the changes we need across the region. A critical part of our work between February and October 2016 has been to engage widely.

The ARCH partners have adopted an “engaged approach” throughout 2016. Our engagement builds on the work carried out through the strategic programmes Changing for the Better in ABMU and Your Health, Your Future in Hywel Dda health boards.

These extensive engagement programmes were launched in 2012 to listen and engage with our populations with regard to service change in response to the growing and changing need that the health economy across Wales is facing.

We are working across the three partner organisations to ensure:

- Key stakeholders are clear on the direction and aims of the ARCH partnership
- We engage early to produce higher-quality outcomes
- Involve the right people at the right time
- Use the right channels and tools to create constructive conversations and as the portfolio moves forward demonstrate impact to show stakeholder involvement has been influential in the evolution of the portfolio and its related programmes of work.

ARCH has worked with a range of key stakeholders across our region within the health and life science sector on the following areas:

- The ARCH vision and aims
- The direction of ARCH and the service changes we are proposing
- The scope of projects included in the ARCH Portfolio
- The principles of co-production embedded in ARCH and our commitment to turn intent into practice.

Early on in the life of ARCH six collaborative teams were established representing Service Transformation, Skills & Education, Wellbeing, R,E&I, Rural Communities and Infrastructure.

The teams were made up of cross-sector, multi-organisational membership and were brought together to provide not only stakeholder reference and engagement but to provide

strategic direction and advice, work with the PMO to develop a list of projects and challenge assumptions about how health and social care is delivered, who delivers it and where it takes place. The Collaborative Teams were crucial in the design stage of the ARCH portfolio. Membership was carefully selected from key stakeholders and influencers within the health & life science sector. The teams also allowed ARCH to begin to bring the principles of co-production to life and proved to be a key part of our engagement process to date.

By sharing our thinking early on in the life of ARCH and working closely with our stakeholders we determined to ensure they are part of building and realising our vision for the future of health in South West Wales. Within each of the ARCH Programme Initiation Documents (PIDs) we outline our specific deliverables in years one, two and three and higher level deliverables for years four, five and beyond. This will ensure we can continue to engage on these projects which will allow us to review, refine and if necessary refresh our work to reflect our regional needs. *Appendix 2* lists all of the projects the ARCH Board will be accountable for over the first three years.

We have developed 14 engagement objectives which has guided our approach (see *appendix 17*), these include:

- Building public awareness of the challenges faced by providers of health and care;
- Build awareness of ARCH journey, aims and vision and intentions;
- Engage with clinicians and senior team members to ensure clearly aligned priorities to be delivered through ARCH;
- Gather feedback and insights to inform ARCH projects, partner strategies and any future plans

We carried out ARCH stakeholder mapping which identified our core stakeholders for this first developmental phase of ARCH.

Our key stakeholders were identified within the following sectors: **Health Service, Education & Academia, Government, other Public Sectors, Private Sector and the Third Sector.** For a full list of stakeholders we have engaged with over the past 12 months and a full engagement calendar (see *appendix 17*)

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implementation: engagement

ARCH held its flagship engagement event on October 14, 2016 bringing together over 250 stakeholders from across NHS, academia, industry, Welsh Government, local authorities and the third sector.

The event updated key stakeholders on the progress of the ARCH partnership and also allowed us to engage with them on the next phase of projects ARCH will deliver in this region.

Among the high-profile speakers were the Secretary for Public Health and Social Care Rebecca Evans AM, the Wellbeing of Future Generations Commissioner Sophie Howe, Adam Roberts, head economist from the Health Foundation Health Foundation, The Health Foundation’s report *Path to Sustainability* was discussed during a productive debate which featured panellists such as Hywel Dda University Health Board’s deputy CEO Joe Teape, Public Health Wales’s Professor Ronan Lyons, Hywel Dda Director of R&D Professor Keir Lewis and The Bevan Commission’s chair Sir Mansel Aylward.

Workshops focused on the ARCH programmes of work. Stakeholders were asked to consider the following areas:

- Do you agree with the strategic priorities as set out by the four programmes?
- Do you agree with the planning principles used by the ARCH portfolio?
- What is missing? Are there any gaps which have not been considered?
- What is currently taking place in your area/organisation which could potentially be scaled up and rolled out to benefit health services, skills and education development, improve population wellbeing or increase research, enterprise and innovation?

Key points raised include:

- **R, E, & I:**
 - Innovation needs to filter down into social care sector as well as health & life science sector
 - With Welsh Government funding now limited – looking at other funding routes and partnerships is now vital
 - How can we support health professionals to be involved in R&D due to workloads? There is a need to backfill their clinical work to allow this innovation & research to flourish
 - Transparent IP process needed which is centralised for all ARCH partners (per project, per partner)
 - Regular regional conferences, round tables and workshops will help set the local research agenda

in line with ARCH projects/aims

- Increased and consistent future public engagement to stimulate new and impactful research
- Need to create new facilities as “test beds” across region for innovating and testing new ways of working
- Seed investment – Dragons Den-style pitches/ opportunities for improvement of service delivery
- Encourage diversity of people/sectors to work together – find ways to encourage innovation at all levels/bands within NHS, how do we include patients and public?
- NHS has potential to drive economic prospects of region by linking with ILS capability

○ **Skills & Education:**

- Talent Bank is really positive for future workforce pipeline – need to ensure there is removal of red tape to allow true integration
- Must consider multiple entry routes to training such as vocational, apprentice, HE and distance/E-learning with placement
- Must continue to ensure FE is fully aligned to ARCH aims
- Rotate staff throughout the community to ensure upskilling, job satisfaction
- An increase in student numbers and breadth of courses must be aligned with corresponding job opportunities within region
- Maximising the “digital economy” will only work if our population are digitally literate and there is the infrastructure to support it – across whole of region
- Projects must be able to capture high achieving medical students to return to work in region
- In the future how can ARCH collaborate with more potential partners across more sectors
- GEM curriculum review – potential of community content in curriculum, ARCH is a opportunity for change
- Curriculum for Talent Bank could be adopted more widely i.e. geographically; focus on different aspects of health & wellbeing
- Developing apprenticeships in health sector

○ **Service Transformation:**

- Local care should be rapid care
- Transfers need to be more agile/flexible in the system
- Think differently; include social capacity - it’s about community resilience and community ownership – contributing to their own solutions
- If wellbeing is the priority, need to make sure services from Tier 0 to tertiary
- Co-produce these services from Tier 0 to tertiary

implementation: engagement



CAPTURING ENGAGEMENT: The key themes from the ARCH flagship engagement event were captured in this visual graphic. Visual illustrator Eleanor Beer created the visual representation of the discussions, feedback and engagement throughout the event.

How has engagement help shape the portfolio?

Wellbeing:

In July 2015, a Wellness Round Table was held attended by 37 leaders in their fields from across medical, policy and business professors and researchers, government, private and third sector. The Round Table identified the key interventions Wales could make a leader in wellness among small nations.

The Llanelli Wellness & Life Science Village idea was conceived as a direct result of the Round Table. It developed through ideas and innovations discussed during and after the event. The engagement with such a diverse group revealed the complete alignment of vision from all partners and the added value a collaborative approach could deliver. The Round Table report made seven recommendations:

1. Train a new generation of life scientists in wellbeing and wellness
2. Spur inter-governmental and public-private collaborations
3. Embrace a comprehensive concept of wellness
4. Develop wellness tourism for a world that increasingly craves what Wales offers
5. Bring life science and tourism together
6. Focus on everyday "settings"
7. Appoint a Minister of Wellness

The Llanelli Wellness & Life Science Village addresses recommendations 1-6 very clearly. The

7th was for Wales to appoint a dedicated Minister of Wellness. In last year's Welsh Assembly election the title of Minister for Health & Social Services was changed to Cabinet Secretary for Health, Sport and Wellbeing and Wales has now also appointed a Wellbeing of Future Generations Commissioner. Carmarthenshire Councillor Meryl Gravell, who is chair of the ARCH Wellbeing Programme has been a driving force in not only developing the idea for the wellness village, but in making sure it is delivered. Councillor Gravell said: "We knew as a council that we needed to invest in building a new leisure centre facility in Llanelli.

"Following the round table event which discussed the wellness agenda in Wales, we saw an opportunity to work together and think in very a different way. Now we are proving that when we work together with an open mind – anything is possible. "For far too long in Wales, we have accepted second best. This project is indeed ambitious but it shows we are aiming high."

Skills & Education:

Recent engagement across the ARCH partner's key corporate departments and with our wider stakeholders has helped develop the first tranche project list for the programme.

Specifically engaging ABM and Hywel Dda University Health Board finance, strategy and planning departments has brought to

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implementation: engagement



INTERNATIONAL ENGAGEMENT: ABMU Medical Director and ARCH Board member Professor Hamish Laing discusses ARCH during the 2016 European Summit of Digital Innovation for Active & Healthy Ageing.

fore the importance of tackling the variable pay issue associated with workforce recruitment issues.

Following these conversations, direct engagement has now taken place between Workforce, Education and Development Services (WEDS) which has resulted in the development of Skills & Education projects SE17, 18, & 19 (see page 37) namely:

Increasing medical school numbers (non-GEM – new pathways to medicine & CPD); nurse recruitment & training, and Increase in Medical School numbers (GEM) respectively.

This approach of fully engaging with both internal and external stakeholders has been a cornerstone of the evolution of the ARCH Skills & Education Programme. Engagement, testing and validation of project ideas has been a constant element with stakeholders such as local authorities (social care), primary care practitioners, NWIS, WEDS, WAST, Further Education and Higher Education (over and above Swansea University) being involved in agreeing said programme and project activity.

Service Transformation:

The Regional Pathology Service project is progressing at pace. Engagement between internal and external stakeholders has allowed ARCH to help partners reach consensus, broker the position between two health boards and Public Health Wales.

Additionally, engagement has (and continues to) take place with Swansea University's Medical School and NHS pathology colleagues, in the development of a Biomedical Science qualification and a flexibly taught MSc in Medical Education.

Research, Enterprise & Innovation:

The ARCH partners made the case to include health and wellbeing in the Swansea Bay City Region City Deal proposal. Through continued engagement across the region with local authorities, private sector and wider stakeholders, the R,E & I component of ARCH and its wider health & wellbeing agenda is now an integral part of City Deal. As part of this process we have led the engagement with each of the 6 Public Service Boards (PSBs) across our region which has demonstrated how this work integrates with their own wellbeing remit and linking it back to other projects within ARCH such as Wellbeing Case for Change and the Health & Wellbeing schemes.

Next steps:

The next steps should be framed by the scope of the proposed strategic aims:

→ Takes the opportunity to discuss with key stakeholders and influencers such as Welsh Government, how we can further align the portfolio with the wider wellness & wellbeing agenda, progress its delivery of the Wellbeing of Future Generations Act and the digital transformation required in healthcare delivery and use this to inform the next stage in the ARCH engagement process

→ Produce a future engagement plan for projects to be delivered within the first tranche and future phases of ARCH

We must keep driving the ARCH "engaged approach" to make it a new habit embedded within the way we do business. The aim should be to develop the confidence in these techniques until it becomes a productive habit. Engagement will continue as an ongoing process within ARCH as we move from design phase to the implementation.



implementation:

The effective management of the ARCH Portfolio has required clear accountability between partners and our appropriate stakeholders.

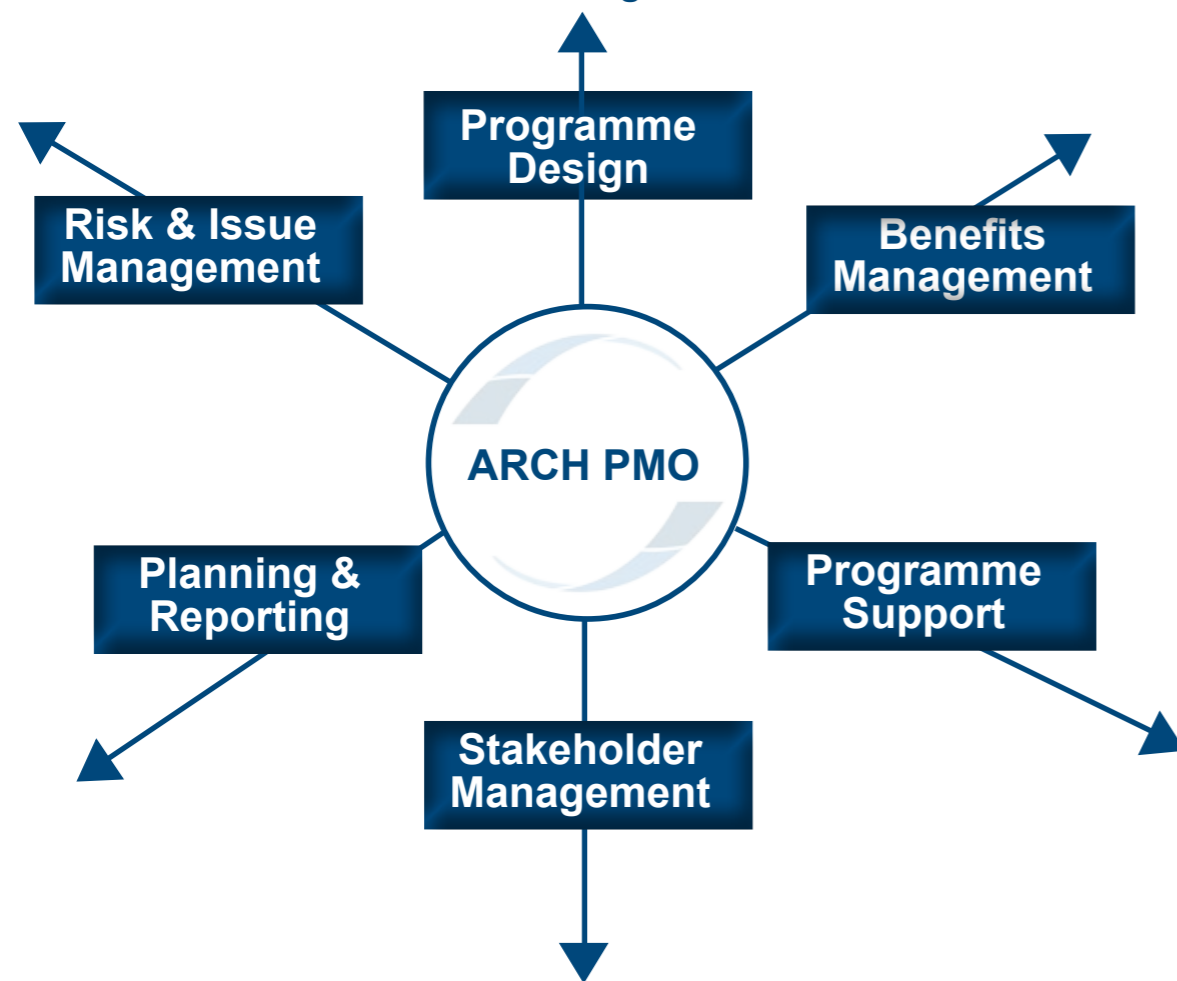
This has required the management of the overall portfolio to have sufficient, suitably skilled leadership, in order to recognise risk, understand interdependencies and manage the critical timeline that has already been set out in this document.

ARCH is managed as a single portfolio divided into

four programmes delivering their benefits locally, regionally and nationally. As already described each programme will comprise 15 to 20 individual projects and initiatives, all interlinked into a coherent programme and portfolio.

An appropriately resourced PMO, led by a Portfolio Director has already enabled the programme to progress with effective management, co-ordination and delivery within the ambitious and appropriate timescale.

Functions of the ARCH Portfolio Management Office:



The Portfolio Management Office (PMO) fulfils the following functions:

- Overall portfolio management; planning, delivery, detail design, co-ordination, communications and financial control
- Interface with Welsh Government, collaborative partners and private and third sectors
- Development of the four Programme Initiation Documents and all subsequent Business Case requirements
- Operational development and implementation of programme and project stakeholder management, engagement and communication framework
- Co-ordination and management of clinical

- engagement across the health community
- Operational development of detailed programme plans for the four ARCH programmes
- Co-ordination and management of programme timeline including project dependencies and critical path
- Development and implementation of programme capital infrastructure requirements to support associated service plans
- Leadership of programme funding strategy, including interface with range of potential portfolio/project funders
- Development and discharge of statutory planning requirements

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portfolio requirements

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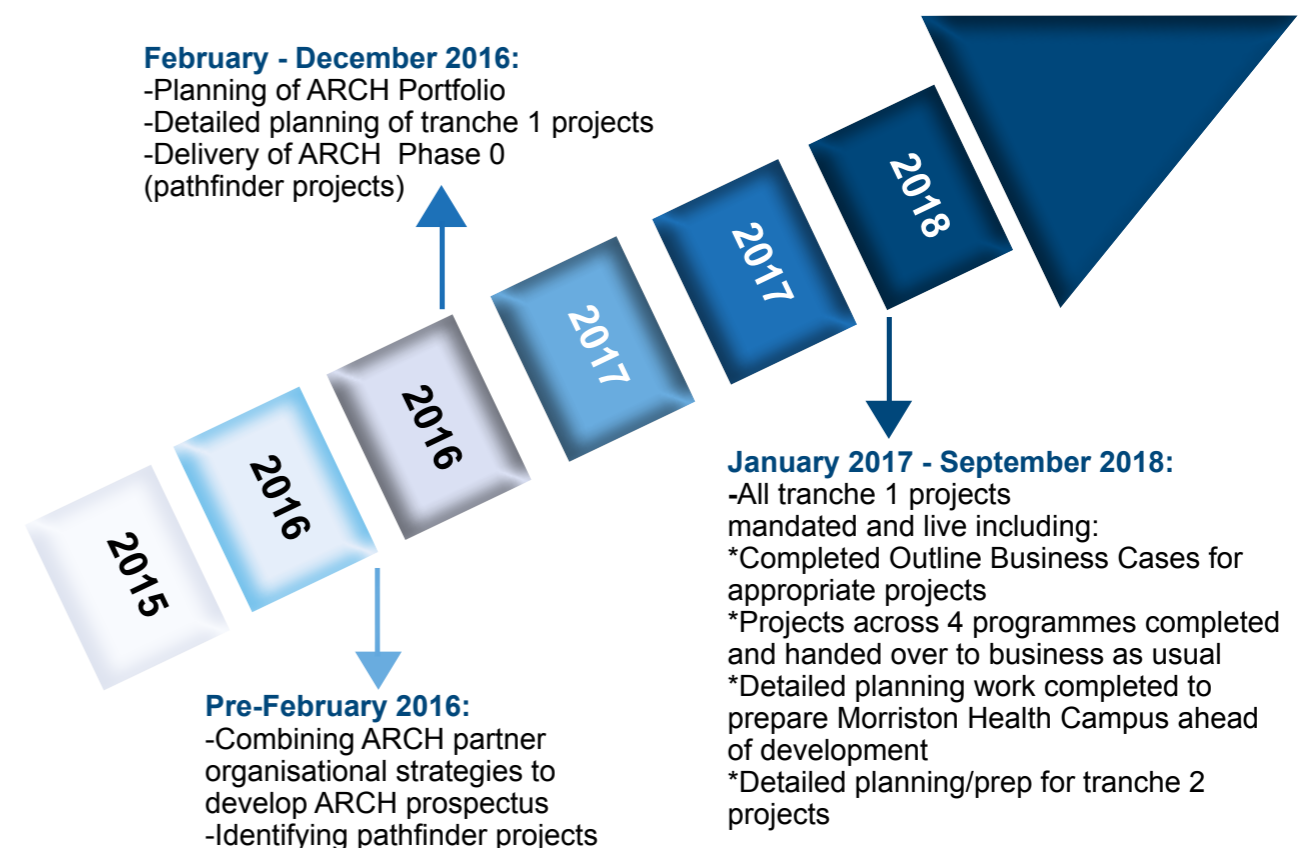
In reviewing the governance arrangements of ARCH, the consultancy firm Deloitte recommended that the PMO was scaled up for the next phase of the delivery of the portfolio.

Specifically it recommended that building on the existing team, ARCH should second four full-time senior programme managers into the PMO on fixed term contracts to work alongside programme chairs in delivering the programmes. *Appendix 19* provides a table of the proposed enhanced PMO, as with the current arrangements that ARCH and Welsh Government contribute to the ARCH portfolio costs.

In the past year the PMO has managed and co-ordination all of the portfolio advisors which have included:

- Statutory planning
- Architects and cost advisors
- Surveyors and environmental consultants
- Legal advisors
- Specialist financial advisors
- Healthcare planning
- Communication & engagement resource

Specifically, in the next 18-month phase of ARCH it is essential that the detailed service and capital planning and legal, financial and commercial frameworks required to prepare a Programme Business Case for the Murrison Health Campus Site, ahead of development are completed. This is an essential step of activity that is required to be completed, in order to enable future tranches of the ARCH Portfolio.



Therefore the PMO will require further support from specialist advisors. It is proposed to engage certain specialist advisors from the established Welsh Government arrangements to support such programmes, and other specialist advisors would be engaged through local framework arrangements.

ARCH is a portfolio that will take many years to deliver but our strategy has been to be delivering components of the overall vision from the first day.

We recognise as partners that moving from planning to action and delivery on some key projects is essential for success of the overall

portfolio. For example Swansea University has a growth strategy to increase student numbers every year for the next 10 years, growing the university from 15,000 students to 25,000.

The advantages of training more doctors, nurses and allied health professionals locally has obvious advantages to our local health economy. For the health boards to maximise the benefits of this university strategy, the health planning and decision-making processes locally and nationally must be responsive to this growth strategy.

Therefore at this time, as we complete the



portfolio requirements

Strategic Outline Cases for the following four projects:

- Health & Wellbeing schemes
- Standalone Orthopaedic Unit
- Regional Laboratory
- Acute Medicine Project

- **Deliver Outline Business Cases for:**
- Relevant Health & Wellbeing schemes
 - Regional Pathology Laboratories
 - Standalone Orthopaedic Facility
 - Acute Medicine Project

We are requesting to parallel run the processes of finalising the Strategic Outline Case, and establishing the Outline Business Case. Outline Business Cases require an investment and we request that with the appropriate support from government that for the first two quarters of 2017/18 we are supported to parallel run these processes. With the appropriate support from Welsh Government, for an 18-month period starting in April 2017 the ARCH partners will:

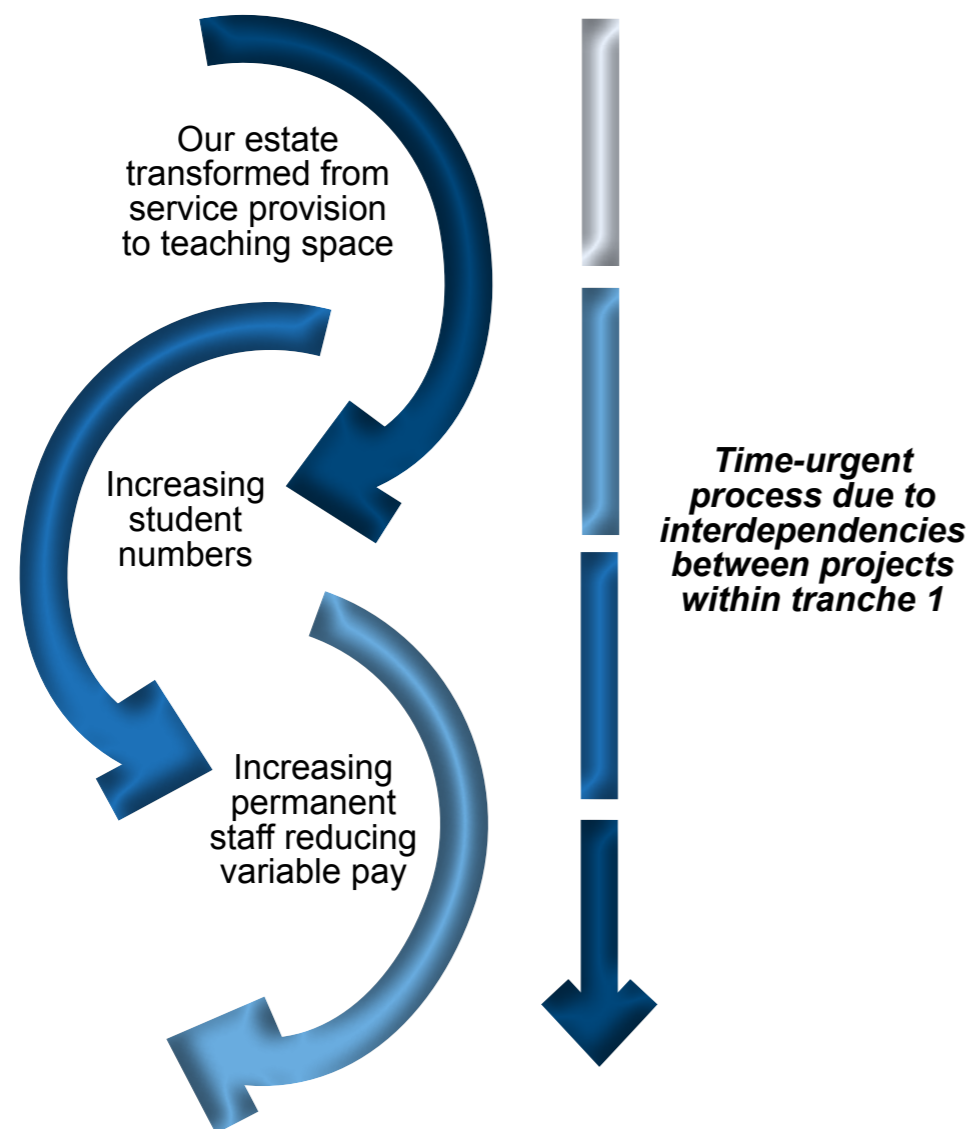
- Manage the delivery of all tranche 1 projects across the four ARCH programmes
- Develop a Programme Business Case for the Morriston Health Campus

ARCH has established a benefits framework and an ongoing longitudinal study that will ensure that all the programmes are fully evaluated in order to provide assurance of the value being generated by the programme. Therefore we would propose that ARCH would progress to a second gateway in September 2018.

This enhanced PMO resource would be considered sufficient to deliver the next phase of the ARCH portfolio (through to September 2018).

Experience from elsewhere indicates that this will require review and reinforcement as the portfolio continues to develop.

Example of time-urgent process with the ARCH portfolio:



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implementation: roadmap

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Over the next four pages we will illustrate our ARCH roadmap. The chart (see pages 56-59) does not show every project, but it does demonstrate our critical path of project delivery which will enable change in other parts of the ARCH portfolio and the wider health and life science ecosystem.

Our roadmap shows when we plan our projects to complete the different stages of development, and when the project will be handed over to "business as usual". It shows where projects are interdependent on each other and the sequence with which projects will be delivered.

The roadmap also demonstrates the breadth of ARCH and the interdependencies between different projects. Delays in the development, implementation or decision-making on a number of critical projects within the portfolio will lead to an

amplification of delay with potentially terminal effects to projects in later quarters or future tranches.

The ARCH Board has deployed the Portfolio Management Office (PMO) and an appropriate management system to reduce the risk of these delays and is committed to making timely decisions.

We value the scrutiny and due diligence projects are required to go through before they can be approved, we recognise that this leads to the better use of the public pound and more effective decision making. We want to work with Welsh Government and other key stakeholders to ensure we can demonstrate a new way of delivering change - at the pace our population, patients, clinicians, scientist, private sector partners expect, require and deserve.

City Deal case study:

The Swansea Bay City Region is working together to put a proposal together for UK and Welsh Government to secure a funding package in excess of £500million over 20 years.

The ARCH partners have already demonstrated what can be achieved through cross-sector working via the City Deal process.

ARCH supported by the PMO worked in conjunction with all relevant regional stakeholders in driving the agenda forward. This included mobilising a project team from within the partnership, establishing joint chairmanship and formulating a project board including representation from all partner organisations in a timely manner.

The standard operating procedure being 'action focused' namely strategic decisions made fortnightly and project activity driven by the project team with a mandate for activity sanctioned by the project board.

The ARCH PMO established significant buy-in from key

decision-makers across all partners which allowed development stages to be agile in nature. Additionally buy-in via significant engagement with all stakeholders was a key facet of the City Deal process. Significant engagement was undertaken with Swansea Bay City Region Board, Welsh Government, UK Government, local authorities, private sector, Further Education & Higher Education providers.

The end result being a fully agreed, costed and formulated proposal aimed at improving the health, wealth & wellbeing of the region. The proposal being to develop a regional network of health campuses and health & wellbeing schemes throughout South West Wales with total project costs being circa £180million. The end result being a combined 2973 gross jobs providing £620million GVA into the economy within 15 years. Additionally, significant private sector interest was generated with a number of blue chip multi-national companies indicating a serious intent to 'co-invest' – companies such as Siemens, NantWorks, HSBC, Sony, Cisco, Fujitsu, Lloyds Bank, Medtronic and PWC.

The ARCH partners also significantly contributed to the



entire Swansea Bay City Deal resulting in a proposal aimed at creating a "Super-Smart Innovation Region" with key activity areas namely an Internet of Energy, an Internet of Health & Wellbeing and the Internet of Smart Manufacturing ably supported by the Internet of Economic Acceleration strand.

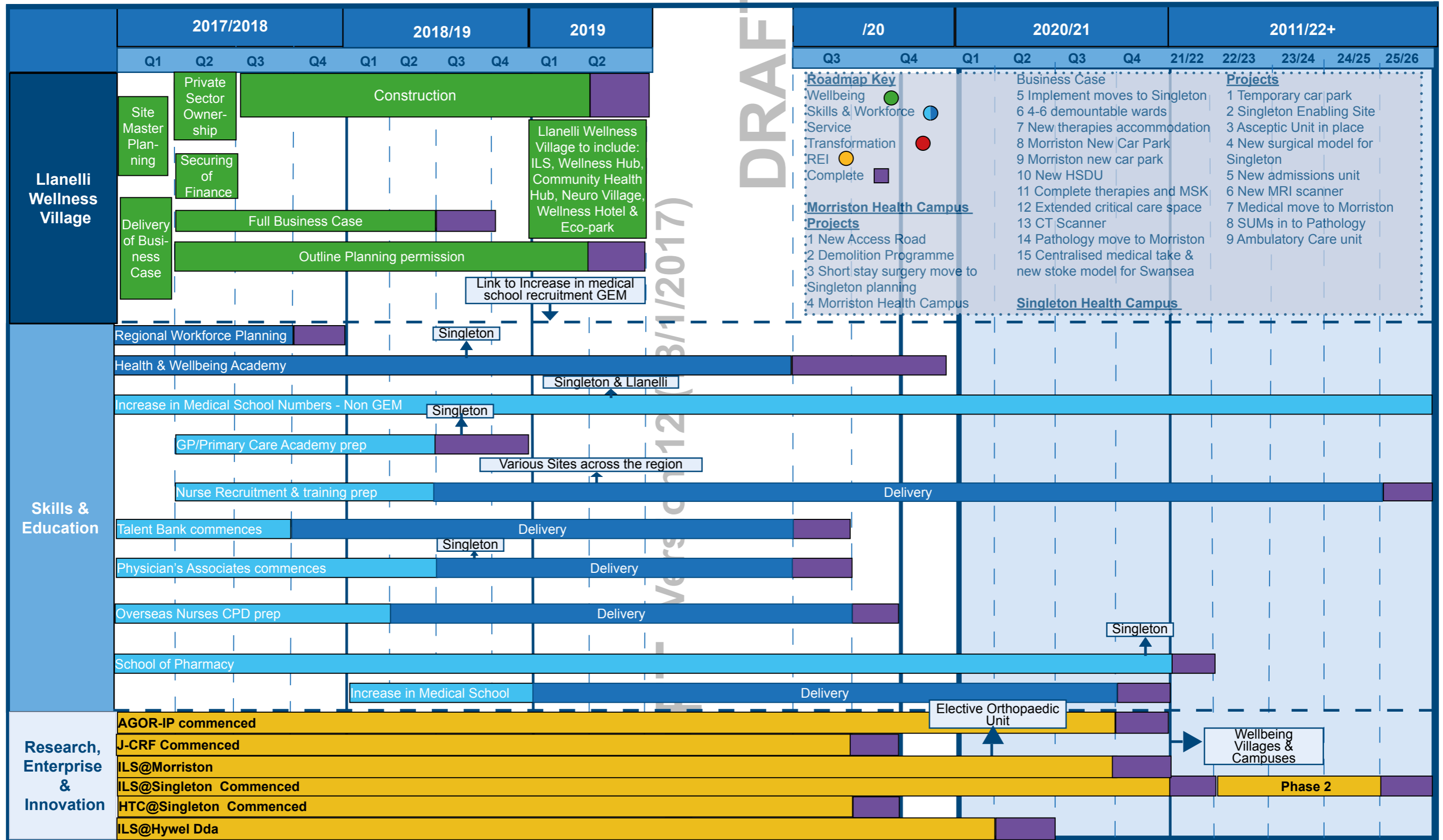
The proposal encompasses 12 projects over a 15-year delivery period projected to provide in excess of 10,000 gross direct jobs and £1.8billion GVA contribution, with over £1.5billion of further thematic benefits.

The associated timeline to form the project board, project team, engage with key stakeholders and fully develop the proposal being circa six months from start to proposal submission.



implementation: roadmap

implementation: roadmap





benefit & impact

- ARCH brings together four powerful strands:**
- Wellbeing
 - Service Transformation
 - Research, Enterprise and Innovation
 - Skills and Education

Quantifiable improvement within all four of these areas will lead to both direct and indirect benefits to the wellbeing of the population within the region. The aim of this section is to provide a high-level indication of the extent of benefits that are likely to emerge as a result of the ARCH programme, using the four strands as the basis for such an analysis.

Wellbeing:

The metric that is widely used to demonstrate improvements in patient outcomes, in general terms, is that of the quality adjusted life year (QALY). One QALY equates to one year of perfect health and is a fundamental requirement of health technology assessments in UK settings, with widespread application across other healthcare systems. The table (below) presents a series of scenarios that highlight the potential value added as a result of QALY gains arising from the seventeen schemes that comprise the ARCH service transformation programme. The current value attached to one QALY equates to £20,000.

The scenarios have been developed to take account of potential QALY gains, the time taken to generate such gains and the value placed on a QALY gain (which, to err on the conservative side, is lower than the accepted NICE threshold value). The first row therefore depicts the position whereby 10% of the ARCH population each 'receive' an additional one year of perfect health, which is valued at £10,000 and which will require 5, 10 or 25 years to be produced – again conservatively basing these estimates on the gains being achieved at the end of these time periods.

If every person within the ARCH region were to benefit to the extent of one additional year of perfect health, the value attached to that was £20,000 (as per NICE threshold) and these were generated with-

in a 10-year timescale the potential value added would equate to £14.18 billion.

Given the number of areas classed as being in the most deprived communities in both ABMU and Hywel Dda University Health Board areas, and the differential between rich and poor communities in terms of health life expectancy approaching 20 years for males and 18 years for females within ABMU, for example, these estimates are aligned to those generated by the Public Health Wales Observatory.

It has been estimated that reducing overall mortality from circulatory disease to levels seen in the least deprived areas of Wales would increase life expectancy in the most deprived areas by 1.5 years in males and 1.3 years in females, while similar gains could be made if cancer mortality rates were reduced (1.3 years in males, 1.2 in females). Further, reducing excess deaths from external causes (e.g. accidents, suicide) could have a particularly large effect on males living in the most deprived areas, potentially adding nearly a year to their life expectancy.

Service Transformation:

The proposed model of care places the patient at its centre and works together with patients and people to co-produce healthier people and communities and deliver better outcomes that matter to people.

We will work with our population to develop local values, focused on the health of our communities. Working with the wider public, third and private sectors, the health boards will implement new regional service models based on the principle of care being provided closer to home.

Expanding access through the development of new infrastructure and redeveloping and redefining the use of existing infrastructure will radically transform patient pathways across the region. The success indicators for this particular strand are highlighted on page 29.

The achievement of these is likely to secure

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improvements in patient outcomes and narrowing of health inequalities that currently exist across the region.

Furthermore both health boards (and particularly Hywel Dda) are trying to maintain services which in some cases are vulnerable to failure (through lack of appropriately qualified staff and/or low patient volumes). This is directly driving the overspending of both Health Boards.

Tackling the root causes of that spending is extremely important.

Research, Enterprise & Innovation:

The Research, Enterprise and Innovation (R,E&I) strand builds on the successes achieved by the ILS network – whereby 800 skilled jobs and £42million of investment have been secured. The expectation is that delivery of the nine schemes within the R,E&I strand will translate to an additional 2,563 jobs in the life sciences sector within 10 years and an Increase GVA in the South West Wales economy by £347million over the same period.

Extending the timescale to 15 years would result in an additional 2973 jobs and an increase in GVA of

Skills & Education:

£620million. The Evans Review - Health Professions Education Investment Review - highlighted that the rate of return on investment in higher education and training of the health professions workforce in Wales was sub-optimal. With supply shortages across many professions and grades being a major cause of concern, coupled with recruitment problems and sickness rates resulting in significant sums being used to finance agency and locum provision across all health boards, which in relation to ABMU and Hywel Dda have amounted to nearly £90million over the past three years.

Expenditure to support health professionals' education and training in Wales currently amounts to £350million per annum, but with considerable variation in the cost to educate and train healthcare professionals – for example, the cost of training a medical student to registration has been estimated to be £235,000, while for a physiotherapist the estimated cost is £68,000 and £79,000 for a nurse. However, it has been estimated that, for example, 33% of Welsh medical graduates pursue their postgraduate courses outside Wales, while a similar percentage of those who undertook their medical training in Wales moved away for their first career post.

This would result in the 'cost' of training a medical professional who remains in Wales to be nearer

benefit & impact

£520,000. However, if ARCH schemes were to (for example) generate a 5% improvement in retention of graduates and those who remain in Wales to pursue their careers; the net benefit generated would be in the region of £670,000 (for the duration of their careers) – based on costs associated with education and training of doctors.

A 10% improvement would result in a net benefit of £1.25 million, and this would be in addition to the reduction in locum and agency costs incurred due to supply deficits.

Further, utilising resources released from the variable pay budgets from paying premium rate agencies, coupled with a determination to increase education and training budgets to facilitate short-term and medium/long-term increases in the supply of staff, will generate significant returns on investment.

“ARCH provides the region with an excellent opportunity for genuine collaboration to resolve fundamental challenges in healthcare and create a new focus on community wellbeing and resilience. UWTSO looks forward to working with the ARCH partners to help make a significant contribution in the development of new learning pathways, particularly for rural health and wellbeing, to achieve healthy cohesive communities thus delivering on Wellbeing of Future Generations Act goals.”

Dr Jane Davidson, Pro Vice-Chancellor for University of Wales Trinity Saint David

To illustrate this point a £9 million investment – only 10% of the current expenditure on agency and locum staff - in staff development will produce an additional supply of 112 nurse registrants, or 132 physiotherapists (for example).

There are also short-term measures that can be implemented to increase supply of registered workforce, with appropriate incentives being offered to health care support workers, for example, to acquire registrant status.

These new employees will gradually reduce the expenditure on variable pay, resulting in a stability and sustainability of workforce that will be aligned to the population needs of the region.

The above illustrate the considerable benefits of investing in workforce development and increasing the pool of potential labour to the region.

This section highlights the huge gains that are potentially available from delivery of ARCH and the pressing need to take a more joined up approach to the problems each of the four programme areas faces.

No residents who will benefit from additional 1 year of perfect health	Value of 1 year of perfect health (£)	Potential value added (£)		
		5 years	10 years	25 years
100,000	10,000	842m	709m	438m
100,000	15,000	1.26bn	1.06bn	657m
200,000	10,000	1.68bn	1.42bn	876m
200,000	15,000	2.53bn	2.13bn	1.31bn
500,000	10,000	4.21bn	3.54bn	2.19bn
500,000	15,000	6.31bn	5.32bn	3.28bn

commercial financial appraisal

As set out previously in this document, the ARCH partnership has been established to deliver a range of transformational projects which aim to improve the health wealth and wellbeing of the population of South West Wales.

Tranche one of the ARCH proposals contains c. 50 different projects, the projects divided across the four ARCH programmes. The breadth of the portfolio makes it likely that there will be a plurality of financing and funding mechanisms in order to

deliver the full range of projects. Since submitting the ARCH prospectus in July 2015 the ARCH Portfolio Board has already been successful in securing funding for some of its projects.

A number of these projects have been smaller in size but have demonstrated a flexibility across the collaboration enabling them to take place.

Some larger finance has been secured through the strategic positioning of the ARCH portfolio by ARCH Portfolio Board members.

Some projects already fully or partially financed and source of funding:

Project	Indicative Funding	Funding source
ILS @ Hywel Dda part of the Llanelli Wellness & Life Science Village	£40million (split across ILS @ Hywel Dda and Education in Hywel Dda)	Swansea Bay City Deal
Education Centre in Hywel Dda (part of Llanelli Wellness & Life Science Village)	£40million (split across ILS @ Hywel Dda and Education in Hywel Dda)	Swansea Bay City Deal
Related Llanelli Wellness & Life Science Village projects, eg: assisted living village & wellness hotel	C~£150million	Carmarthenshire County Council (£12million land value) & private sector
ILS @ Morriston	£15million	Swansea Bay City Deal
Agor-IP	£13million	WEFO and Welsh Government
Health & Wellbeing Academy Singleton Campus	£1million	College of Human & Health Science at Swansea University
Physician Associates Phase 1	£650,000	WEDS
Talent Bank	£2million	Private sector (Fujitsu)
N.B. Currently progressing a WEFO application for the expansion of the Health Technology Centre Network for South West Wales. C~£8million		

In order to shape the funding and financing proposals ARCH has appointed Price waterhouse and Coopers (PwC) to advise in respect to the different financing options that might be available to ARCH to deliver a number of the health and wellbeing programmes.

The ARCH Portfolio Board has recognised that it requires a better understand of the options that are available for financing their project proposals, to that end PwC has been appointed to

- Assist ARCH in identifying the different financing options that may be available for the ARCH programme;
- Assist ARCH with understanding the key features of the different financing options and their potential suitability for individual projects;
- Facilitate a workshop with ARCH members to

assist in assessing the suitability of the different financing options;

- Support ARCH in discussions with key stakeholders; and
- Prepare a report which summarises the output of our work and indicates potential next steps.

ARCH has a number of different objectives which are, understandably, primarily focussed on delivering improved outcomes for the local community.

Generally, the selection of a specific financing option will not have a material impact on the delivery of these objectives relative to an alternative approach. However, we are working with PwC to identify a number of different objectives which can be identified which are relevant for developing and accessing financing options.

commercial financial appraisal

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These include:

- Requirement to begin delivering projects in the short term (i.e. within c. 12 months);
- Taking into account balance sheet constraints of the individual bodies;
- Working with other relevant initiatives (eg. City Deal) in order to maximise return on investment;
- Where appropriate, tailored to individual projects;
- Affordable;
- Value for money for the public purse; and
- Representing politically acceptable proposals.

From a financing perspective, a number of these objectives could conflict with each other. For instance, arranging finance in the short term is likely to require a 'standard' financing arrangement to be put in place which is highly likely to be a structure that would be considered 'on' balance sheet for the individual borrower.

PwC are currently conducting further work to fully understand the objectives and constraints which the ARCH partners and other stakeholders are operating under. It is recognised that the outputs of this exercise are intended to form the basis for further dialogue to help establish what solutions may be considered as suitable for further consideration.

Financing v Funding:

At this stage, PwC work has been entirely focused on the financing of the ARCH projects. For the sake of clarity, 'financing' is understood to mean the money that ARCH requires to pay for the capital investment associated with a project.

This is distinct from the 'funding' of a project which looks at how the long term revenue implications (including any debt service arrangements) might be met. Ultimately, the relationship between financing and funding is circular and the two cannot be assessed in isolation. PwC are completing further work to better understand the funding position of individual schemes so as to tailor the financing approach accordingly.

We have shortlisted a number of different financing options for the ARCH projects. In shortlisting different options we have assumed that:

- ➔ Limited capital finance is available for the programme from the Welsh Government or similar body; (although it is acknowledged that there has already been some success in securing capital funding, such as Swansea Bay City Deal Finance)
- ➔ Due to the limited nature of traditional capital funding the majority of finance will need to be obtained on commercial terms.

In the event that ARCH projects are able to secure either capital grant funding from the public sector or finance from another source (eg. European or philanthropic) this would have the potential to

improve the overall economics of the proposals.

On this basis, the following options and sub-options have been identified:

1. On-balance sheet debt
 - a. Public bond
 - b. Private placement
 - c. Commercial bank
 - d. Sovereign wealth;
2. Public private partnership (PPP);
3. Real estate based lending; and
4. Commercial development.

Shortlisted financing options:

While four main options have been identified for structured the financing requirement, individual lenders could potentially provide finance through any of the different structures.

For instance, a large institutional investor (e.g. L&G or Aviva) could potentially finance schemes through on-balance sheet debt, a PPP or a real estate based financing. It should be noted that there are a number of similarities which will apply across all of the different financing options.

Some of the key characteristics of these different forms of finance are summarised below. However, it should be noted that there are a number of similarities which will apply across all of the different financing options.

These include:

- The finance provider will want to establish the creditworthiness of a borrower and understand the affordability of any loan;
- Any approach to a lender will need to be accompanied by a robust business plan and a financial model that supports the lending proposition;
- There are likely to be a range of covenant requirements; and
- The cost of any of the financing options will be at a premium to public sector borrowing costs and will come with at least some level of control/influence being passed to a third party.

The last point is particularly significant given the political environment in which the ARCH members operate and means any business case that is predicated on private sector financing will need to demonstrate that this represents value for money. The table (on page 56) aims to summarise the typical characteristics of each of the shortlisted financing options. It should be noted that the table represents the standard preference of each of the different categories lenders; however, it can be possible to develop innovative structures that deviate from typical market norms, albeit there is usually a cost associated with using a non-standard structure.



commercial financial appraisal

Some current unfunded projects with indicative costs & potential funding:

Characteristic	Public Bond	Private Placement	Commercial Bank	Sovereign Wealth	PPP	Real Estate Based Lending	Commercial Development
Optimal length of loan	20-40 years	20-35 years	Up to c 12-15 years	Flexible	25-30 years	25+ years	Shorter term (<10 years)
Generally on-balance sheet	Yes	Yes	Yes	Yes	Yes for health boards & university No for Welsh Government	Depends on structure	Generally no
Typical size of loan	>£150million	£25-£150m	Up to £75m per bank	Flexible, can do large numbers	£25m-£500m	£10m-+	Flexible – but smaller the development the more parties will be attracted
Transfer of property interests	No	No – but may want security	No	No	No - licence	Yes – long leasehold or freehold	Yes
Require third party equity	No	No	No	No	Yes	Dependent on structure	Yes

ARCH projects currently unfunded with indicative costs and potential finance mechanisms:

Project	Indicative value	Indicative timeline	Comments
Regional Pathology	c.£35million	Short medium-term	-Potential for NHS Wales capital funding -Development will release space at Singleton for other ARCH project developments
Health and Wellbeing schemes (x6) not currently including Llanelli and separate business planning process well advanced	c.£60m-£70million	Short medium-term	-Schemes for Bridgend, Neath, Swansea and within the three Hywel Dda counties. -Close links with City Deal proposals -Llanelli village is already proceeding. Included in ARCH, but financing through own business
MediPark developments at Singleton Campus	c.£50million	Medium-term	-Some European funding secured for existing initiatives -Pace of development dependent on re-location of existing services from the Singleton Campus
Standalone Orthopaedics Centre (ILS @ Morriston)	c.£35million (c.£15million)	Short to medium-term (Short to medium-term)	-Potential for NHS Wales capital funding -Potential link to ILS @ Morriston reducing costs of two projects including City Deal funding
Morriston Health Campus development	c.£350million	Medium to long-term	-Number of planning challenges with site -Depending on pace of development may require some interim measures -Releases space on Singleton Campus

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