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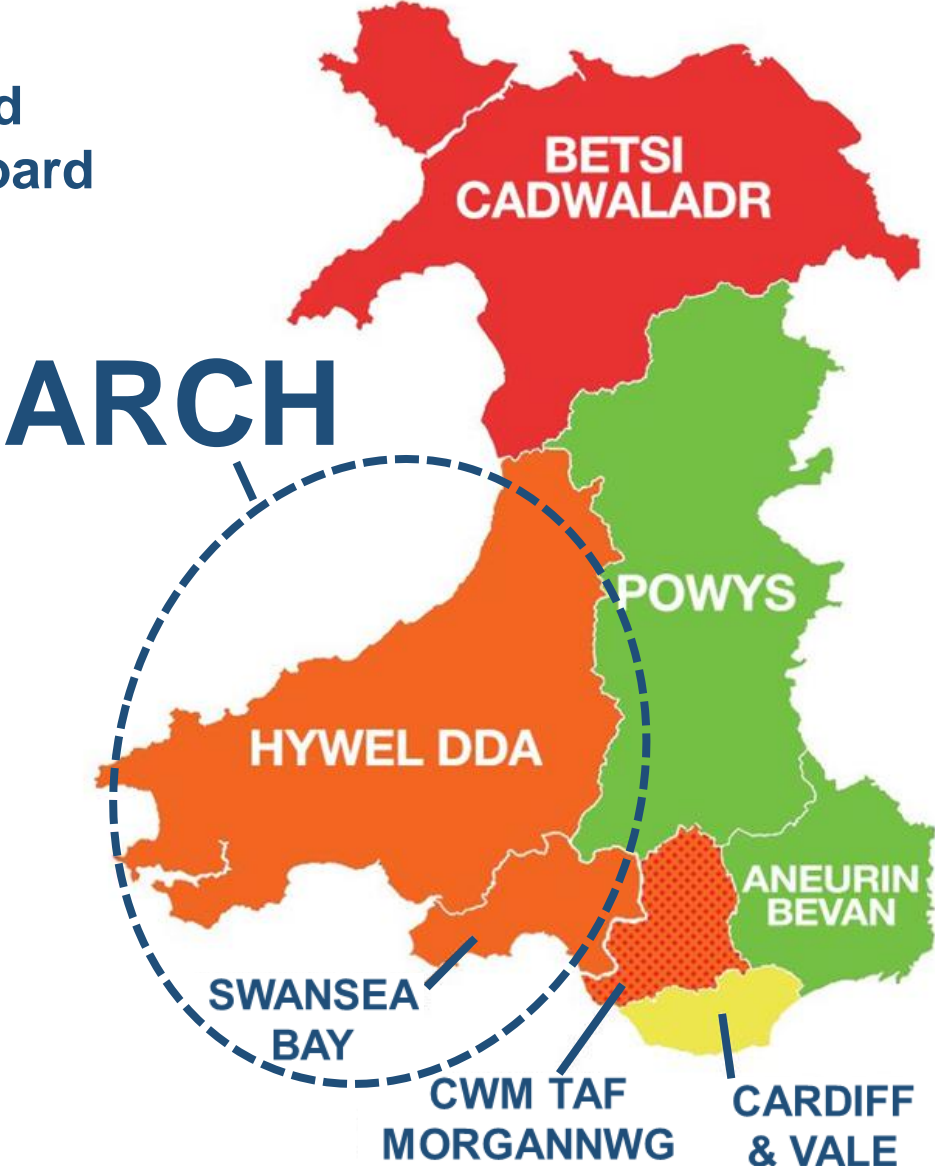
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NHS Health Organisations



Hywel Dda University Health Board
Swansea Bay University Health Board
Swansea University



ARCH Innovation and Research Strategy aligned with others



Welsh Government Innovation Strategy

Welsh Government framework for NHS Research & Development

National

ARCH
Innovation and Research Strategy

Regional

Swansea Bay Strategy

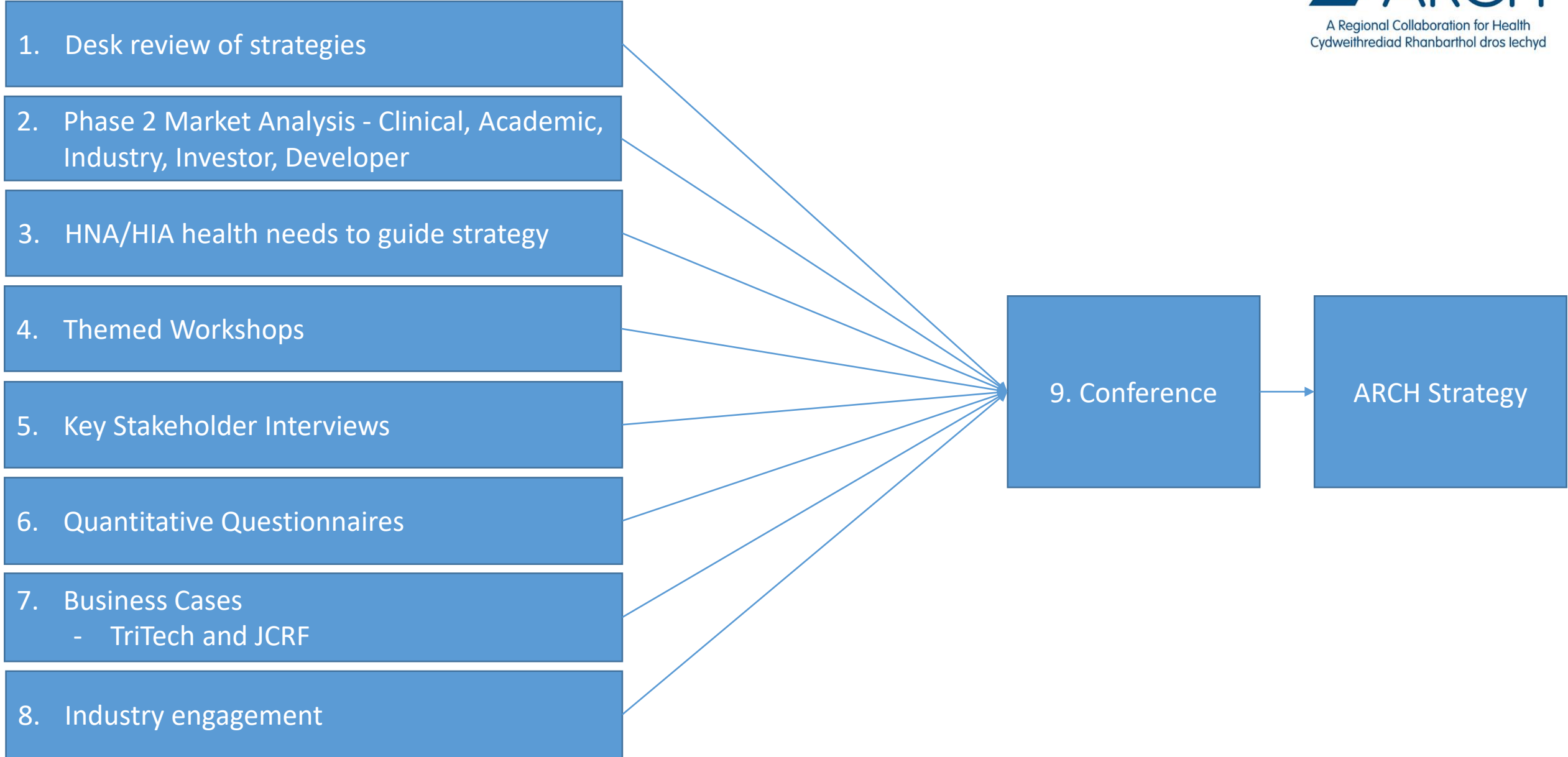
Swansea University Strategy

Hywel Dda Strategy

Other Strategies
UWTSD
Aberystwyth

Local

ARCH Research and Innovation Strategy Approach



ARCH Research and Innovation Strategy Approach



Stakeholder Mapping

1. Desk review of strategies – April

2. Phase 2 Market Analysis – July

3. HNA/HIA health – HNA Aug, HIA Dec

4. Themed Workshops –

Directives, Rules, Targets and Policies	27 th Feb
Communication and Publicity	28 th Feb
Incentive	1 st Mar
Knowledge	15 th Mar
Environment	16 th Mar
Creating Opportunities	20 th Mar
Working with Industry for Innovation	21 st Mar
Working with Industry for Research	23 rd Mar

5. Key Stakeholder Interviews

6. Questionnaire

8. Industry engagement

WG Innovation Strategy

ARCH Strategy

9. Conference – Sep

Jan

Feb

Mar

Apr

May

Jun

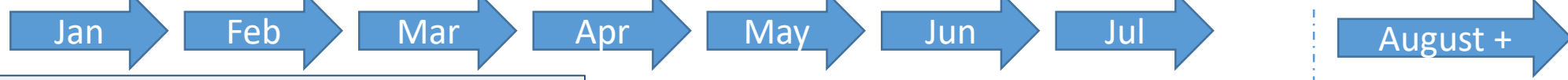
Jul

August

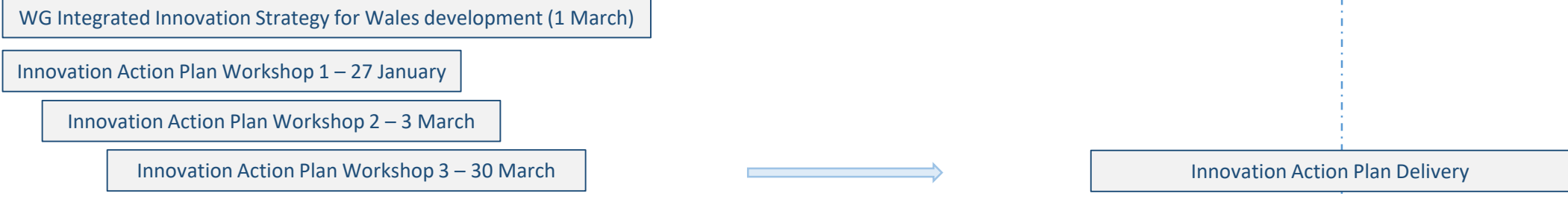
Sep+

ARCH REI Group – Plan on a Page

Pre- Jan National



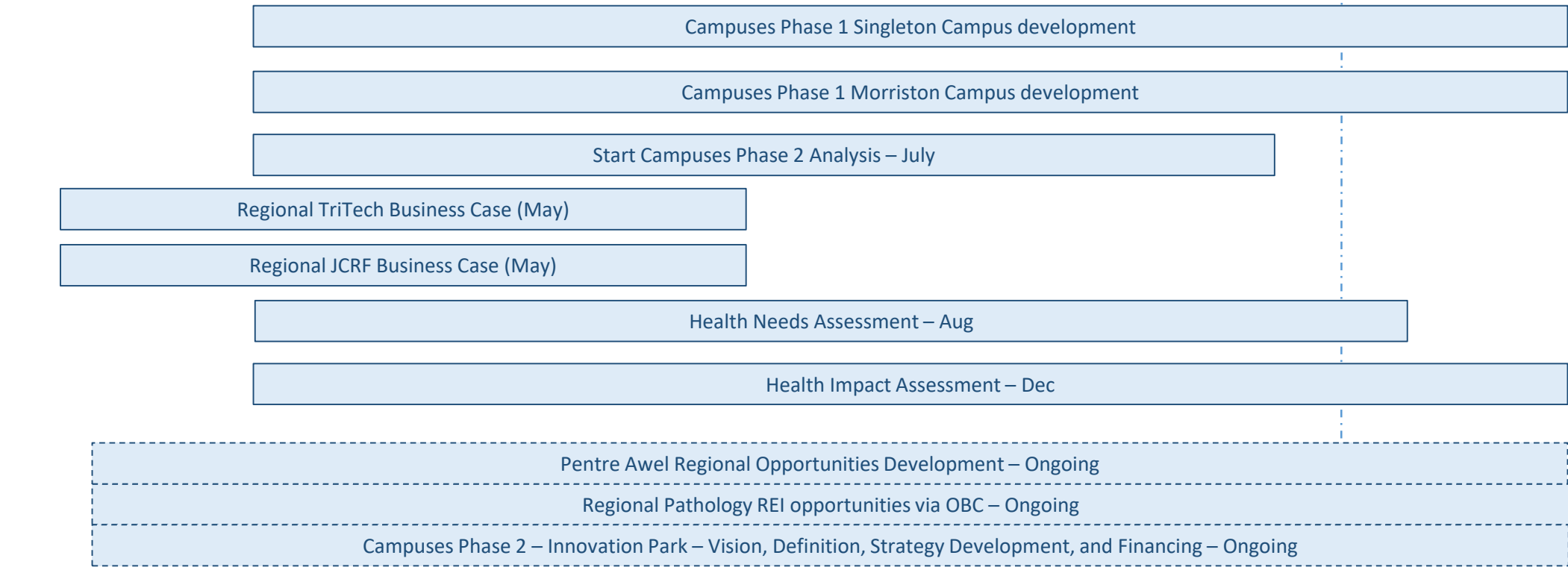
- Innovation Action Plan
- UHB Designation
- Realising Value from Innovation Paper
- National Template IP Policy
- Covid Innovation Study
- A Healthier Wales
- Research Things that underpin, inform or influence
- Welsh Government Framework for Research and Development



ARCH Research and Innovation Strategy – Sep

SBUHB Research, Development and Innovation Strategy– March

- ARCH Region**
- ARCH Priorities
 - ARCH Strategic Initiatives
 - HDdUHB Research and Innovation Strategy
 - Swansea Uni Research and Innovation Strategy



ARCH Strategic NHS Programmes



Stroke (LARGE)

- Pre-acute stroke services – believed stroke (process and conveyance)
- Hyper Acute Stroke Services
- Acute Stroke Services
- Post-acute stroke services (early supported discharge, rehabilitation)
- Post-diagnosis Not-Stroke (Mimic) services – linked to FND

Ophthalmology (Long Term) (LARGE)

- Long Term regional programme business plan development (post December 2022)
- Regional Centre of Excellence exploration
- Further definition required

Regional Diagnostic Hubs (LARGE)

- Work programme being defined to include Endoscopy, Radiology, Pathology, Orthopaedics, and Neurology

Regional Pathology Centre of Excellence (LARGE)

- Cellular Pathology, Microbiology, Genomics, Laboratory Medicine, Digital
- Centre of Excellence
- New regional management arrangements
- Reorganise and transform pathology services regionally
- Maximise research and innovation opportunities
- Research and training centre

South West Wales Cancer Services (LARGE)

- SWWCC Strategic Programme Case (SPC)
- strategic vision for regional non-surgical oncology services (23/24 – 33/34)
- equitable access to, and outcomes from, oncology treatments and services

Orthopaedics (LARGE)

- Work programme being defined

ARCH Operational NHS Programmes



Dermatology NEW (MEDIUM)

- Regional Dermatology business plan development setting up longer term programme
- Primary Care Non-USC Dermatology Scheme Expansion

Eye Care (Short/Medium) (MEDIUM)

- South West Wales Glaucoma service business case
- Establishing the Ophthalmic Diagnostic and Treatment Centre model regionally
- Implement a Regional Diabetic Retinopathy Referral Refinement Scheme

Oral Maxillofacial Surgery (OMFS) (MEDIUM)

- Identify short to medium term regional solutions to waiting list position
- Review all current referral pathways into OMFS
- Opportunities to increase procedures undertaken in general practice, Dental Teaching Unit and Community Dental Service
- Undertake demand and capacity exercise to scope secondary care service requirements
- Solutions to increase outpatient capacity in Hywel Dda and establish day case provision

Cardiology (MEDIUM)

- Acute Coronary Syndrome (ACS) Pathway redesign (complete) – achieving the 72hr target across the region
- Cardiac Computed Tomography (CT) training – improving the provision
- Echo/Cardiac Physiology extending working hours and building a resilient workforce
- Cardiac Pacing Repatriation of Hywel Dda patients
- Cardiac Magnetic Resonance imaging (MR) service developments and improving the provision

Neurosciences (MEDIUM)

- Headache pathway redesign (complete)
- Functional Neurological Disorders regional service (complete)
- Neurology Patient and Primary Care website launch
- New Regional Neurology Programme work plan
- Epilepsy business plan
- Single service development
- Inpatient model work
- Neuro muscular disorders
- Regional Neurophysiology

Research, Enterprise and Innovation Teaching, Education and Skills



City Deal Campuses Phase 1

- ~2000m² of research and innovation at Sketty Lane
- Institute of Life Science Morriston
- Contribution to Morriston Access Road planning
- Health and Wellbeing

City Deal Campuses Phase 2

- Market Analysis
- Health Needs and Health Impact Assessments
- ~6,000sqm Institute of Life Science
- Swansea Bay Sports Park

City Deal 'Pentre Awel'

- Eye Care Teaching Centre

ARCH Innovation and Research Strategy

Developing Regional Capacity and Capability

- TriTech business case
- JCRF business case

Learning and Development

- ARCH Senior Leaders Development Programme
- Innovation Intensive Learning Academy
- Value Based Healthcare Intensive Learning Academy

1. Stakeholder Mapping, Engagement and Communication

- Identify national stakeholders across public and private sector
- Identify potential partners, inward investment opportunities and comparators
- Facilitate stakeholder engagement sessions

2. Future Investment Opportunities

- Identify investor engagement events
- Identify investment opportunities
- Identify innovative financing models
- Explore income generation/revenue streams
- Ensure project phase alignment with potential national/international inward investment

3. Service Improvement & Patient Impact

- Ensure alignment with National, Regional and Local health and care policies and plans
- Identify future research and innovation opportunities in health
- Highlight opportunities for health and social care improvement/community impact
- Exemplars projects which have delivered community benefit through infrastructure development
- Identify areas for collaboration/integration with wider initiatives
- Facilitate stakeholder engagement sessions to raise awareness of Campuses Project

- The purpose of a Health Needs Assessment is to gather information required to bring about change that is beneficial to the health of the population.
- The HNA will provide the Campuses Project a baseline of the current population health and well-being needs of the ARCH region, through;
 - Providing extensive data and narrative on key areas (quantitative and qualitative)
 - Highlight current challenges and inequalities
 - Identify key areas where campuses projects have the greatest potential in making a difference, reducing inequalities and being innovative and transformative.
- National Institute of Health and Care Excellence (NICE) state that a Health Needs Assessment is a systemic process that is used by public bodies to assess the health problems that the population are facing or likely to face. Including, determining if certain groups appear to more prone to illness than others and to highlight any inequalities in terms of our service provision and delivery. Concluding in an agreed list of priorities that are targeted at improving healthcare across particular areas.
- The Health Needs Assessment will enable a greater understanding of the communities across our Health Boards, and through identifying the needs that exist, create the ability as Healthcare organisations to plan on how best to addresses those needs and prioritise areas for service development.

ARCH Health Needs Assessment



3 stages of a HNA:

Identifying need

- Prevalence of wellbeing indicators (such as physical health, mental health, life satisfaction, comorbidities)
- Disparities in well being (demographic, socioeconomic factors such as age, gender, race)
- Correlates of wellbeing (access to healthcare, environmental factors)

Identifying assets

- Identify the assets that are important to the health needs assessment through ensuring that the views, perceptions and experiences of the population are captured.
- Number of methods that are used to support capturing relevant information, such as public and stakeholder consultations.
- This not only provides qualitative data that supports the health needs assessment, but it also allows the ability to capture information that support identification of the support required to develop of solutions that will meet the needs of the population.

Determining priorities

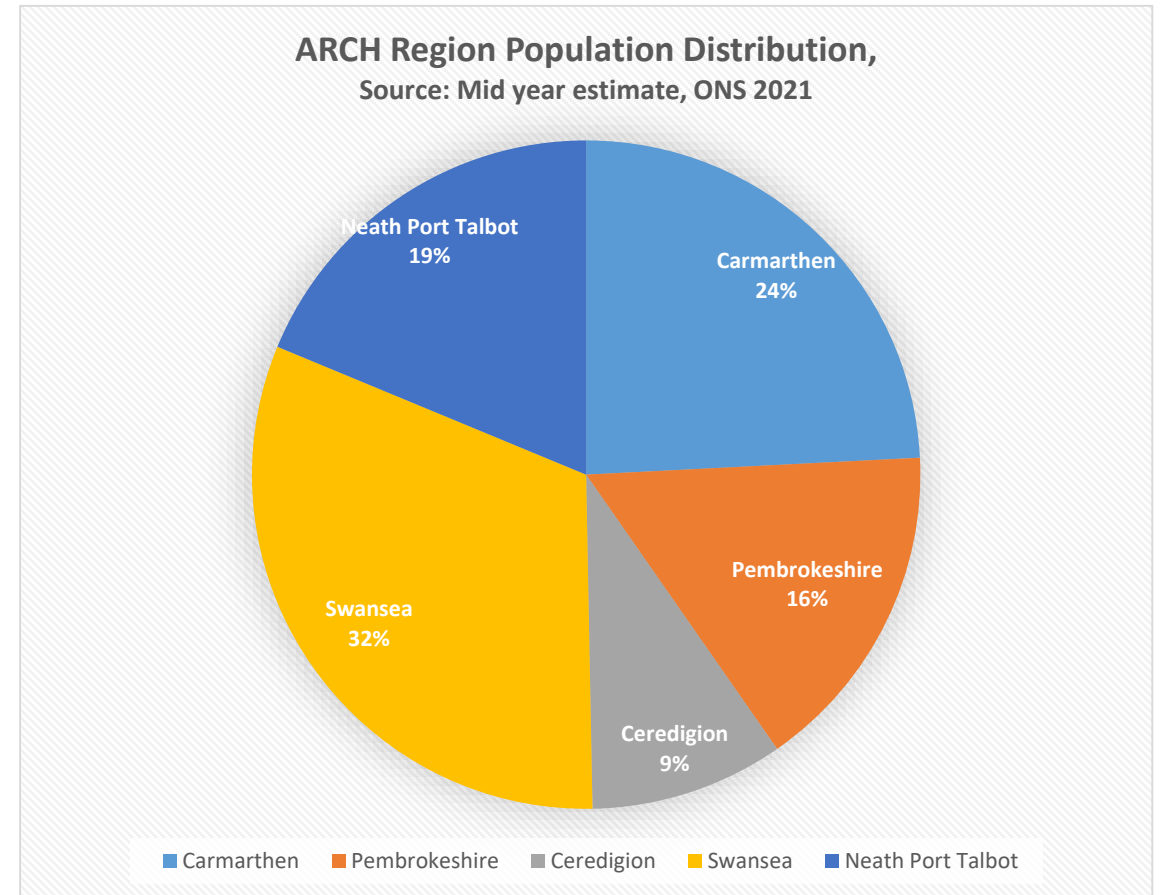
- This final stage is to determine the priorities through different needs and findings.
- The identified needs can then be compared using an agreed process, where possible involving stakeholders, public and groups, to determine 2 to 3 priorities.
- Determining priorities should focus on key areas;
 - impact – the severity and size of the issue
 - changeability – the realistic chance of achieving change
 - acceptability – acceptable solutions available
 - feasibility – resource implications of solutions are feasible

Current identified needs;

ARCH population - 763,618 (HD 382,732 / SB 381,100)

Hywel Dda Health Board- Covers a quarter of the landmass of Wales and is the second most sparsely populated Health Board area. The overall population density is 66.0 people per square kilometre with the most sparsely populated county being Ceredigion (41 people per square kilometre).

Swansea is the second largest city in Wales and the fifth most densely populated authority (630 persons per square kilometre) in the country after Cardiff, Newport, Torfaen and Caerphilly.

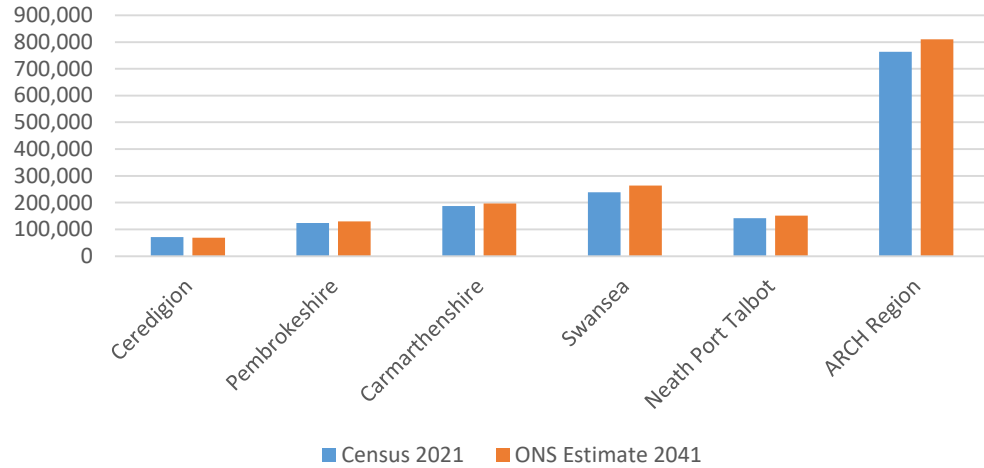


ARCH Health Needs Assessment



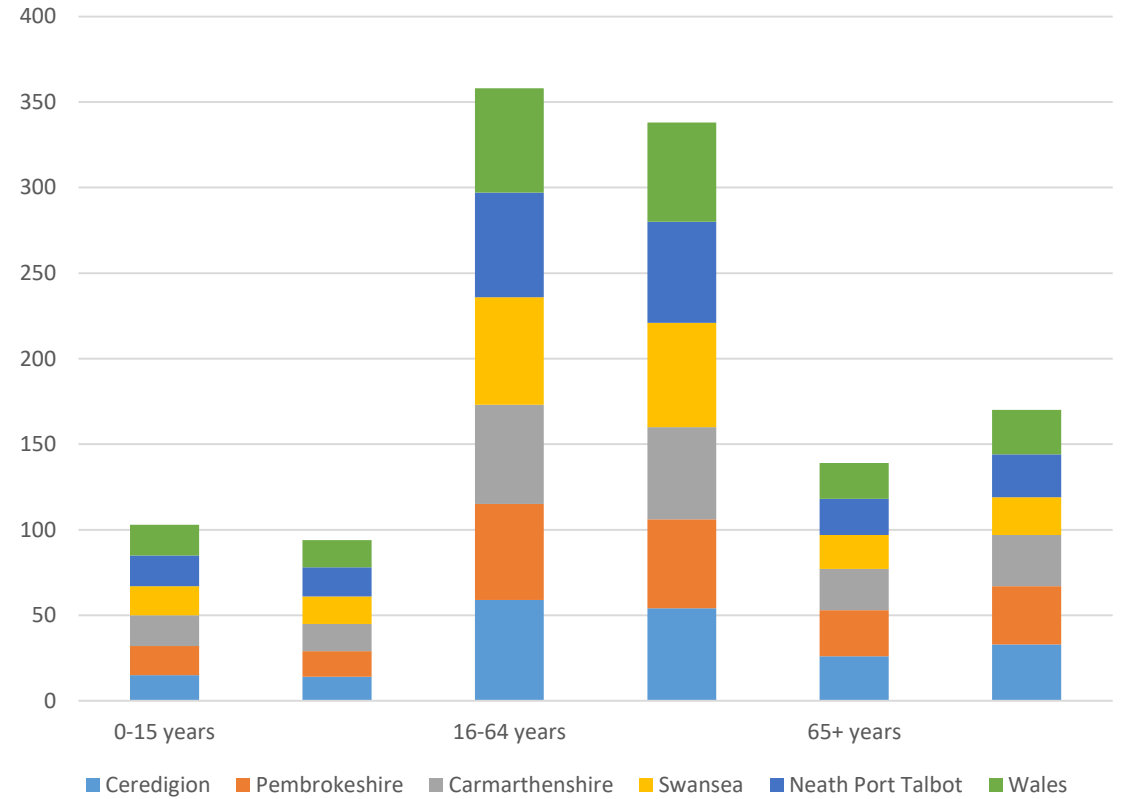
Population projections

Population projections 2021-2041 by ARCH region and LA



	Census 2021	ONS Estimate 2041
Ceredigion	71,435	68,895
Pembrokeshire	123,435	129,832
Carmarthenshire	187,840	196,468
Swansea	238,430	263,601
Neath Port Talbot	142,250	151,210
ARCH Region	763,390	810006

Stacked chart showing population % change across LA areas 2021-2041 for ARCH region



Welsh Index Median Deprivation (WIMD)

- There are 1909 (LSOAs) across Wales and 468 (24.5%) are located across ARCH region, 229 (12% of LSOAs in Wales) located in Hywel Dda UHB and 239 (12.5% of LSOAs in Wales) located in Swansea Bay UHB.
- There are 21 more areas that are in the 10% most deprived areas in Swansea Bay UHB than Hywel Dda UHB and when looking at 4 key domains; Income, Employment, Health and Education. Swansea and Neath Port Talbot authorities which have more urban areas, have a significant increase of LSOAs that are the most deprived, and evidence shows poor outcomes in relation to those 4 key domains have negative consequences on the population's health and well-being, affecting inequalities.
- 72 LSOAs in Hywel Dda UHB compared to 2 LSOA's in Swansea Bay UHB when looking at the data on deprivation on access to services.

Domain	Carms	Pembs	Ceredigion	Swansea	NPT
Overall	5	4	1	17	14
Income	4	4	1	19	14
Employment	7	5	2	22	17
Health	4	1	0	18	15
Education	8	6	0	17	18
Access to Services	24	27	23	2	0
Community Safety	6	6	3	15	5
Physical Environment	4	0	1	2	8
Housing	13	5	13	11	2

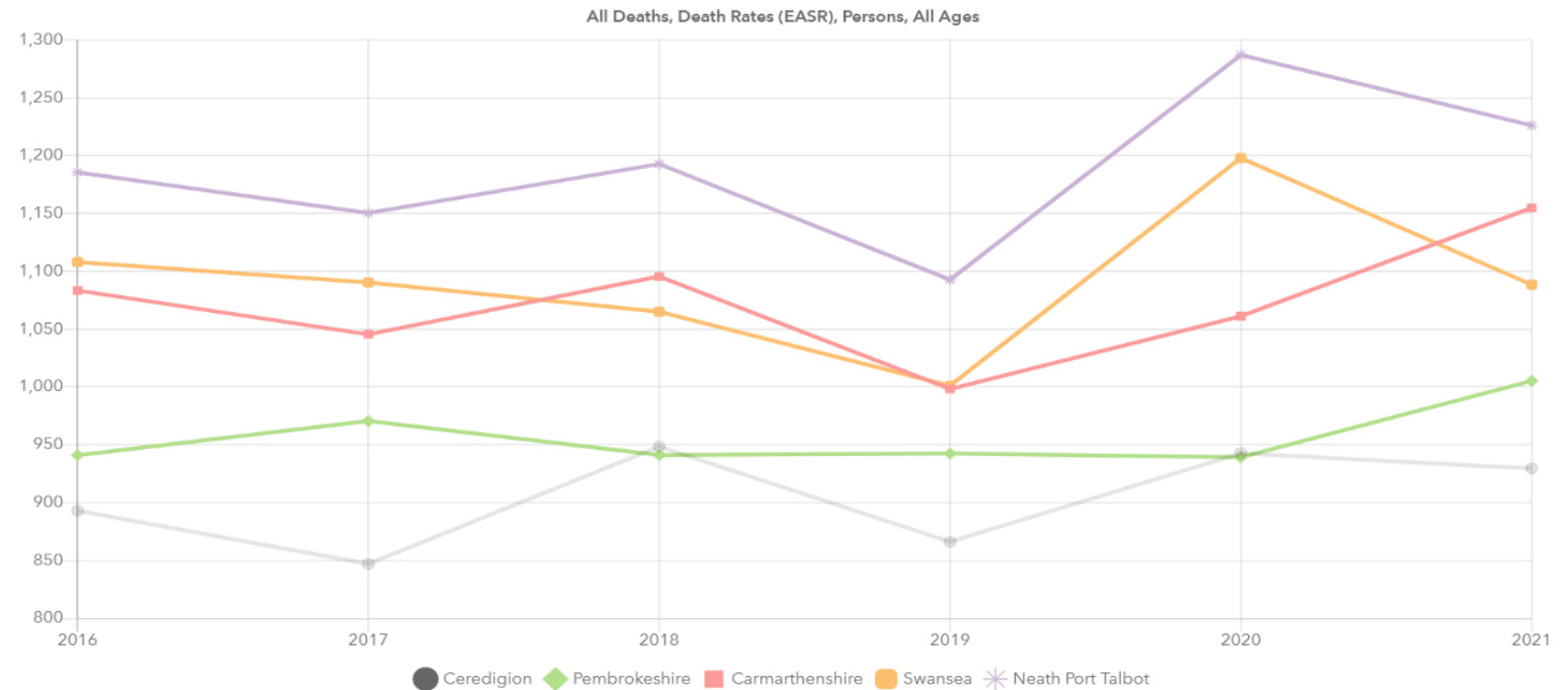
ARCH Health Needs Assessment



Overall Mortality

- What is evident to see is the spike across all Local Authorities across during the pandemic years (2019-2021).
- Also reflected in the breakdown in the HNA is the demographic across each Health Board, with Hywel Dda having an older population and larger urban and deprived areas in Swansea Bay that increase the risk of death due to higher health inequalities.

Area	Death rate
Wales	35,694
Ceredigion	890
Pembrokeshire	1,636
Carmarthenshire	2,490
Swansea	2,789
Neath Port Talbot	1,707



ARCH Health Needs Assessment



A Regional Collaboration for Health
Cydweithrediad Rhanbarthol dros Iechyd

Avoidable Deaths

- Avoidable deaths is based on the under 75 age range of our population. The term can be broken-down into 3 sections.

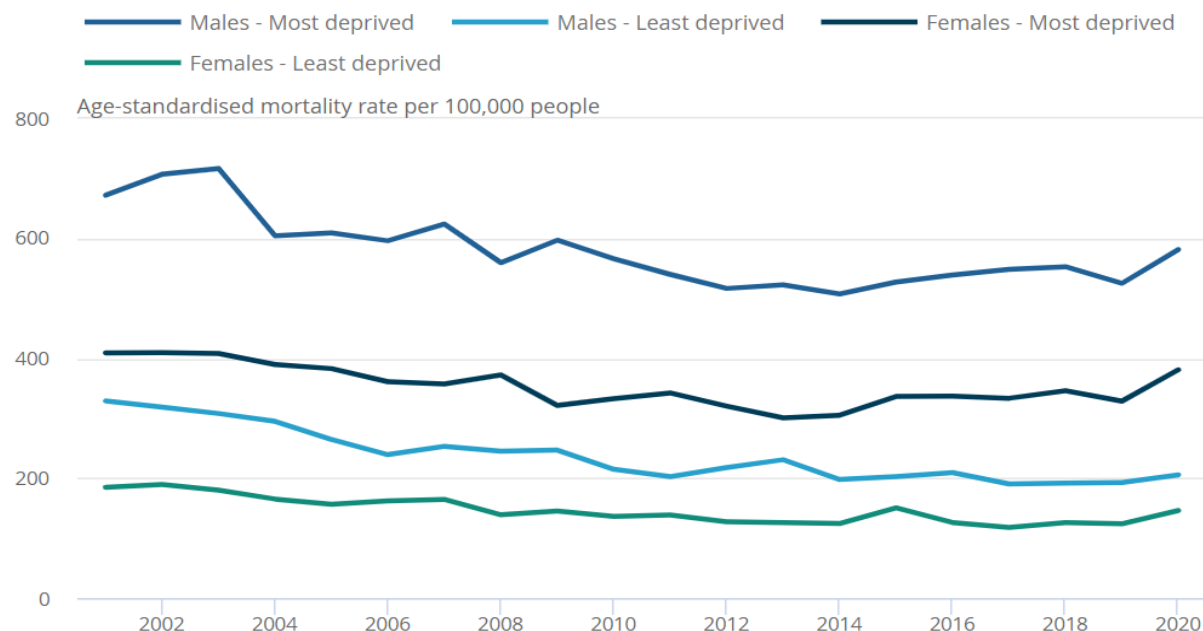
Preventable mortality – Deaths that can mainly be avoided through effective public health and primary prevention interventions.

Treatable mortality – Deaths that can be mainly avoided through effective and timely healthcare interventions, including secondary prevention and treatment such as cancers, respiratory and circulatory disease, alcohol and drug related diseases.

Avoidable mortality – This term is used to describe deaths that are defined as either preventable or treatable.

- Data highlights significantly higher avoidable deaths in Swansea Bay, with both Local Authorities higher than the Wales average, compared to all 3 counties in Hywel Dda being lower.
- The higher volume of deaths across some of the ARCH region, correlates with higher level of deprivation. Avoidable deaths accounted for 37.0% of all male deaths in the most deprived areas of Wales compared with 18.9% in the least deprived areas; for females it was 25.7% and 14.1% respectively.

Area	Preventable deaths per 100,000	Treatable deaths per 100,000	Avoidable deaths per 100,000
Wales	173.8	97.1	270.8
Hywel Dda	159.2	88.4	247.6
Swansea Bay	197.6	105.4	303.0
Ceredigion	160.4	84.4	244.8
Pembrokeshire	146.2	85.1	231.3
Carmarthenshire	169.3	92.9	262.2
Swansea	193.4	100.0	293.4
Neath Port Talbot	204.1	114.0	318.1



Life Science, Wellbeing and Sport Campuses Project

Building on our research, innovation & teaching track record to transform the Swansea Bay City Region as a pioneering centre for innovation in MedTech and sports-tech

Public sector partners working together to drive inward investment, circular economy & wellbeing.

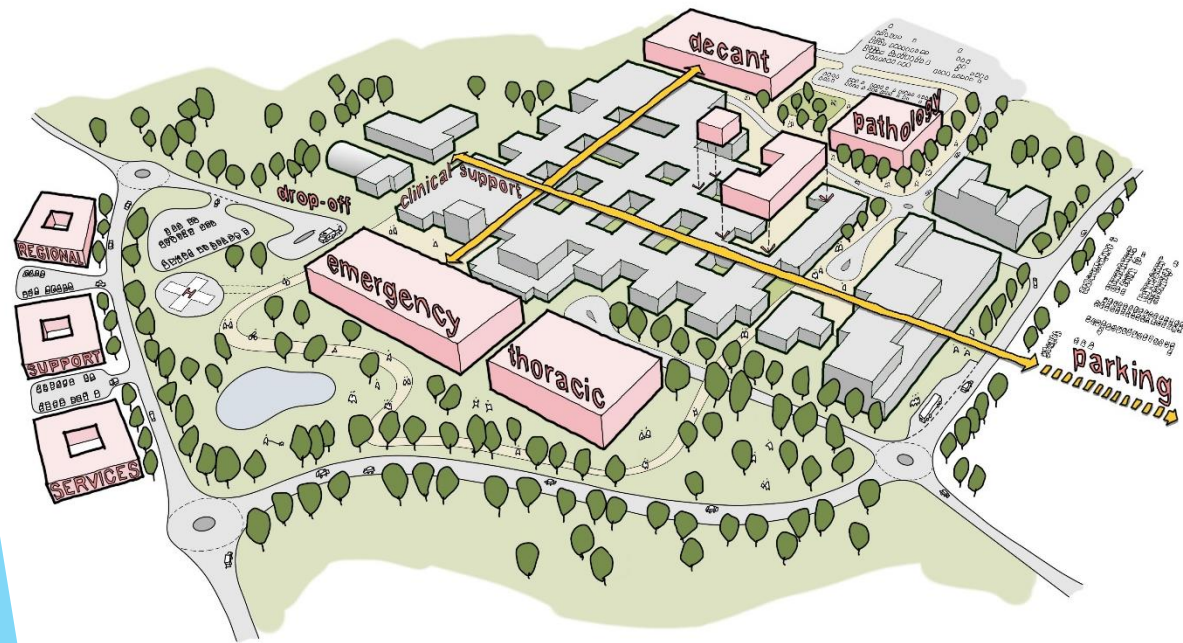
Phase I: Murryston: Life Sciences Management Centre

Expansion of ILS activities within a refurbished 700 m² facility at the Murryston Regional Hospital to include:



- Co-locating commercial & academic collaboration alongside clinical research and development
- Fostering technology development in areas of regional excellence such as:
 - Burns
 - Plastic surgery
 - Regional Pathology Centre
 - Trauma and orthopaedics
 - Cardiac care

Phase II: Morriston: Life Sciences Innovation Park



- On land to the north of the existing Morriston Hospital site to be jointly developed between Swansea University and Swansea Bay University Health Board.
- Referenced in SBUHB Clinical Services Plan.
- Includes 6000sqm Life Sciences Innovation Park
- For SMEs and larger companies in the Sports Tech and Med Tech sectors
- Part of integrated life sciences, wellbeing and sport innovation ecosystem.

Phase I: Singleton: Sport & Med Tech Innovation Centre

- Device and sports tech trials facilities
- Teaching/skills space
- “The Academy” (providing opportunities for industry in the delivery of health; well-being & sports services)
- Innovation in Sport Exercise & Rehabilitation Technologies (INSERT) following the ILS/Healthcare Technology Centre model for the development, testing & evaluation of medical, health, well-being, and sport technologies
- Innovation centre to support commercial collaborations.
- The facility will also nurture links with Data Science for data analytics, forecasting and insights.



Cognizant

sportwales
chwaraeoncymsu



Phase II: Swansea Bay Sports Park

- World leading hub for sport with large coastal footprint
- Elite sport, grassroots and community sport and general health and wellbeing co-existing.
- Performance Sport hub based at St Helens.
- Community Sport hub based from Swansea Bay Sports Park Singleton park, Brynmill Park, Clyne Valley cycle track, Footgolf and Blackpill Lido; community facilities for health & wellbeing
- Beach area that includes water sport provision for community
- Community hub and events infrastructure for park run, triathlons, Swansea Bay 10k & Half marathon, iron man and water sports as well as major events eg air show
- Opportunities for all ages, abilities & backgrounds





To harness the unique capabilities in the Swansea Bay City Region and with support from private sector partners, drive the growth of a globally significant MedTech and Sports Tech cluster, facilitating the levelling up of the health and wealth of the region and making Swansea a Life Sciences powerhouse.

- To improve the perfect health of the regional population by one additional year
- Develop unique RD&I infrastructure for MedTech and Sports Tech innovation
- Grow a cluster of 300+ firms
- Develop 100+ commercialisation opportunities
- Deliver 1,000-1,120 new jobs
- Contribute £150m-£153m to GVA
- Attract investment of £115m for phase 2 delivery
- Skills development through HE, FE, executive education and apprenticeships.

