GIG CYMRU NHS WALES
Bwrdd Iechyd Prifysgol
Hywel Dda
University Health Board

A HEALTHIER MID AND WEST WALES:
OUR FUTURE GENERATIONS LIVING WELL

DIOGEL | CYNALIADWY | HYGYRCH | CAREDIG
SAFE | SUSTAINABLE | ACCESSIBLE | KIND

Bronglais General Hospital:

‘Delivering Excellent Rural Acute Care’

Executive Summary

The delivery of high quality, sustainable and accessible care to the people of mid Wales is a priority for Hywel Dda University Health Board.

Bronglais District General Hospital (BGH) in Aberystwyth is a strategically important provider of accessible high quality emergency and elective health care services to a largely remote, rural population who would otherwise experience significant disruption to their lives and to who we would otherwise be challenged to achieve the best possible outcomes.

BGH's unique position in Wales means that a significant part of its role is providing care to residents from other Health Boards. In addition, BGH's adjacency with the University and National Library creates, in effect a "Penglais Campus of Learning, Information and Health" which presents significant opportunities to develop partnerships that will promote the delivery of healthcare to remote rural populations and promote Aberystwyth and BGH as an employment location of choice for health care professionals.

Because BGH serves both a remote urban population and residents of three health boards (Hywel Dda, Betsi Cadwaladr and Powys) from a geographically large rural area, pathways need to be able to access the most appropriate specialist care that ensures patients who need to be transferred, are transferred to the most local centre to their home. For some this will be Cardiff and Swansea, for others possible destinations include Bangor, Wrexham, Stoke, Shrewsbury, Manchester and Liverpool.

Partnerships with a wide range of specialist units will promote learning networks and offer opportunities to access training and development both by rotation out of and by bringing trainers into BGH. The opportunity to use the high quality clinical environments at BGH as a training hub will offer benefit to the whole of Hywel Dda University Health Board.

The concept of "rural" can be applied to every service, specialty and sub-specialty providing services from BGH and will promote recognition of the complexity of providing accessible care across the wide geographical catchment area.

Rural also defines a way of working that recognises the need for services to work across traditional "health and social", "primary and secondary", "physical and mental" and professional boundaries in a way that promotes the realisation

of the benefits a network of NHS facilities provides to deliver "care" as close as is possible to people's homes.

Sustainability of service provision is no less important because a service is "essential" and we recognise the importance of doing more at BGH so that it achieves a cost effective and efficient scale of provision.

We will:

- Maximise the utilisation of BGH's modern facilities
- Maximise the benefit of BGH's high quality services
- Develop the range of services provided
- Extend BGH's catchment area

So that:

- BGH becomes the provider of choice for access to specialist health care services both within the main hospital and at networked "Bronglais@" services across the mid Wales area.

The "Bronglais Commitment" will be to provide high quality services, on-time and as locally as possible.

Within the hospital, provision of acute emergency and urgent care services is a 24/7 collaboration of all "essential" services. BGH provides these services and will continue so to do. A patient's emergency care pathway starts in the community and is supported by primary care, 111 and 999 services. In order to ensure long term sustainability, however, we need to recognise that services will have to change what is provided and how this is done. The progress of technological advancement will increasingly challenge services to be provided in a different way, some of which will increase the opportunity to do more locally, while others will redirect certain clinical presentations to specialist centres to ensure the optimal outcome.

BGH will also need to do more to support the attainment of the Health Board's strategic goals, repatriating care for people across the whole of Ceredigion to support delivery across the whole Hywel Dda University Health Board, whilst also recognising the need to do more for patients for whom BGH becomes the closest provider as the Health Board's Health and Care strategy is implemented.

Improvements are required in both emergency and urgent care and planned care. Because of the economies of scale required at BGH, co-location is necessary, but the workflows need to be separated to ensure elective care is protected.

Primary care services will be an essential component of the emergency "front door". Appropriate streaming into a Community Urgent Integrated Care Centre located on the hospital site will direct patients whose clinical presentation can be managed within primary care, but require rapid access to hospital based diagnostics or specialist advice will not be admitted to a hospital bed and will be able to return home following consultation. The relationship between the hospital based and community based services will be fluid so that the appropriate skill set can be directed to meet patient needs no matter which care setting they are currently in.

The front door service will be able to access a wide range of specialist medical and surgical support with all essential life-saving interventions available onsite other than those for which there are specific treatment pathways specified on a regional/all-Wales basis (where a patient would usually be taken from the scene).

Because of its remoteness, BGH receives patients who have suffered trauma or are obstetric and paediatric emergencies and the models of service required for each are set out in this Strategy.

Supporting the provision of the emergency services will be access to 24/7 hot (time critical) diagnostics and pharmacy with daily access to other key services, therapies, social services and diagnostics that will promote diagnosis, treatment and discharge, but which are not a first line diagnostic for emergency patients (e.g. MRI).

Access to therapy and on-site pharmacy services daily will also support patient recovery and discharge and is a key investment in order to achieve optimal length of stay.

In order to ensure patients waiting for elective/planned treatment receive their procedure on time, we will re-provide the day surgery unit as a 23:59 unit. This will support day-case as the norm by protecting the recovery capacity required and allowing day cases to be operated on as part of an extended theatre list.

Protection of in-patient capacity will be dependent upon the implementation of Ceredigion's vision for community delivered services ("Caredigion") so that there is sufficient capacity in the community to ensure patients are discharged to an appropriate setting when they are ready to be discharged rather than waiting for the package of care they need or space in an appropriate setting to become available. Once this is achieved, elective capacity will be ring-fenced and BGH will be able to deliver on its commitment to provide its high quality services on time and, at this point, be able to offer its services to a wider catchment population.

The importance of networking with our neighbouring services and those within Hywel Dda cannot be understated. This is essential to ensure skills are maintained and developed and that patient pathways promote timely access to high quality care. Cardiac services are a model of how a service can be delivered, developed and grown in a rural setting and are described to give an example of what effective collaboration can achieve.

Significant opportunities are presented by the adjacency of BGH to Aberystwyth University and the National Library of Wales which forms a campus of Health, Care and Learning. The development of a School of Nursing and Health Science together with provision of General Practitioner and Biomedical Science courses and modules will enable clinicians to achieve academic ambitions and academics and clinicians to work together on research and development across a broad spectrum of interests. The opportunity to develop as a University Hospital is something that BGH should explore as part of a package of incentives to promote recruitment and retention that would also support initiatives to strengthen local economy and industry.

Moving services closer to people's homes will allow resources to be re-profiled across the health community. For BGH and mid Wales, delivering sustainability will be achieved by:

1) *An emphasis on population health, health promotion and prevention to enable people to live well for as long as possible*
2) *Services moving from acute settings into community settings across mid Wales*
3) *Acute services being re-profiled across Hywel Dda so that more is provided at BGH thus reducing the need for patients and families to travel further for treatment*

BGH will deliver value at a local level by:

- Providing more within our existing resource allocation
- Delivering better outcomes for patients
- Ensuring additional investment supports the above

When considering patient outcomes, we will need to consider:

- Clinical outcomes; these should be as good as or better than is available anywhere else
- Patient centred outcomes; patients as individuals have their own specific view of what "good" is to them. This will include many factors, but is principally a balance of how long they will wait against how accessible the service is both for them and their family

BGH will play an important role in the provision of some population health activities, such as screening and surveillance, but other activities such as healthy diet and lifestyle will be focussed across the services working in community settings and extend into other areas such as education. The attainment of population health goals will result in reduced presentation of certain conditions in acute settings and promote people remaining at home, but an ageing population brings with it its own challenges for the whole care system and is not in itself without its costs.

Services that have traditionally been provided at BGH will move into community settings across mid Wales to improve access for patients and allow BGH to focus on the delivery of more complex acute care and support the planned service changes in the south.

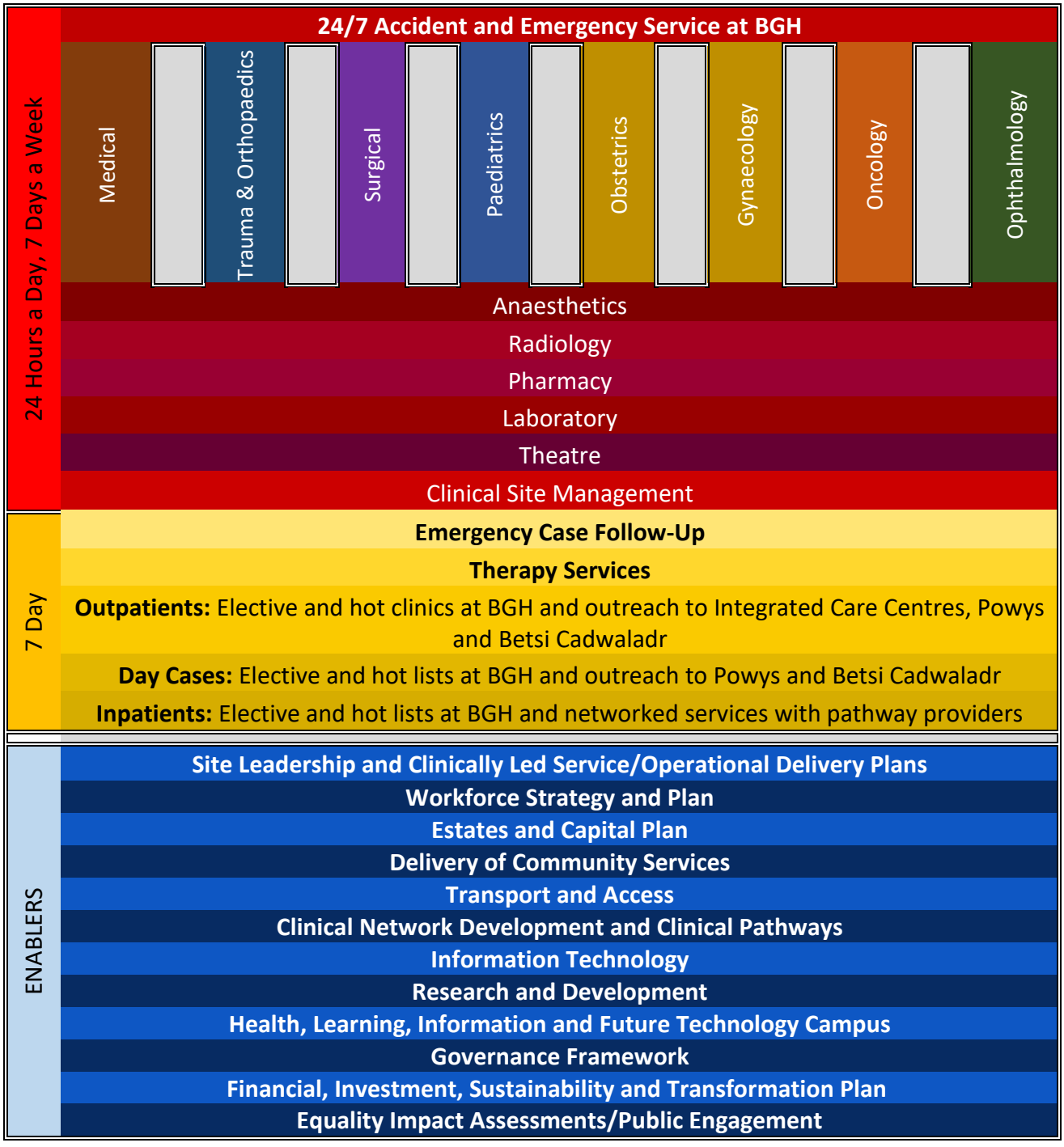
An initial high level review of the financial implications of this strategy shows a resource requirement of approximately £3m. This is split evenly between:

- Improvements and developments that would need to be implemented whether or not this strategy existed, e.g. therapy provision
- Strategic developments set out in the Health Board's strategy
- Strategic developments to deliver excellent acute health care in mid Wales

The Health Board's overall strategic model shows that a shift to a community based services would enable inpatient hospital beds to be re-profiled. For BGH this would not necessarily result in a reduction of beds, but allow the hospital to increase throughput to support both the repatriation of services from the south

of Hywel Dda to meet the service changes in that area and also to offer a broader range of services to the population of mid Wales on an in, day and outpatient basis in partnership with other providers thereby balancing the income and expenditure for the hospital.

This document combines a number of different perspectives which are threaded throughout its sections. Detailed planning encompassing both the operational services and the supporting "enabling" functions to realise our vision will be developed following approval of this document by Hywel Dda University Health Board:



A Healthier Mid and West Wales:

Our Future Generations Living Well

The Role of Bronglais General Hospital in Delivering the Highest Quality Services & Care For The People and Families Of Mid Wales

Safe *Sustainable* *Accessible* *Kind*

November 2019

GIG CYMRU NHS WALES
Bwrdd Iechyd Prifysgol Hywel Dda University Health Board

Contents

Why are we here?

Uniquely placed in Wales, Bronglais General Hospital (BGH) is an Acute District General Hospital serving a diverse and rural population living across mid Wales.

BGH's location is relatively isolated with travel times to the next nearest hospitals being:

- 90 minutes to the south (Glangwili)
- 120 minutes to the east (Shrewsbury)
- 120 minutes north-east (Wrexham)
- 200 minutes to the north (Bangor)

Consequentially, BGH has been identified as strategically important by Welsh Government and Hywel Dda University Health Board for the delivery of health care to a population for whom there is no readily accessible alternative to acute care.

Because of its unique situation, BGH does not always fit into nationally established service protocols and pathways which may be completely appropriate for services in an urban environment. In response, BGH has developed a reputation for being agile and adaptable with services evolving over time to meet presenting needs across the whole spectrum of care, but this requires careful mitigation to ensure safe and sustainable outcomes.

Health service organisation is described by levels, 1 being the least complex and 3 the most. The services BGH must provide to meet the immediate presenting needs of its population straddle levels 1 and 2, but some emergency presentations at BGH are more serious and complex and encroach on level 3, e.g. strangulated hiatus hernia or perforated oesophagus where the hospital must be able to meet the immediate needs of these patients and stabilise them prior to decisions being made about their onward management. In these circumstances, the intervention BGH provides aims to stabilise the patient in order to maximise their outcome potential following transfer to an appropriate specialist centre.

For elective care, it is essential to recognise that the requirements of a rural, agricultural community are not consistent with that of a more urban population. Rural populations already travel relatively long distances to access their health service and further travel for patients, carers and relatives can significantly

disrupt lives and business. It is essential, therefore, that innovative approaches are used to meet these access requirements and ensure patients only have to travel away from their home area for the most complex procedures that cannot be sustainably provided at BGH.

The health care workforce, therefore, need to be able to respond to as wide a range of conditions as would present more frequently in more urban centres whilst recognising that increased specialisation means that health care professionals cannot work in isolation. A culture based around the needs of the patient and continuous improvement will support the attainment of our plans.

This will be achieved by a combination of:

- Developing the concept of Rural Facilities, Units and Centres across the spectrum of services
- Utilising enabling technologies in a way that challenges the perceived limits regarding their application in health care delivery
- Establishing agile rural health improvement networks in every specialty from primary to tertiary care that adapt to the different patients' pathways and ensure clinicians link with specialist centres
- Enabling a full range of emergency and elective surgical and medical services to be provided at BGH

The care service will adopt anticipatory approaches that utilise current and emergent technological solutions, so that timely intervention is achieved both for patients with known health conditions and, at a population health level, screen for certain conditions which are best, or can only be safely managed by planned intervention that is not available locally.

With the minor cases being managed appropriately in community settings, a greater proportion of emergency presentations at BGH will be major/higher acuity cases and the delivery of resulting treatment and care will be supported by the increased range of elective services being provided locally.

Although BGH has many unique characteristics, it cannot provide its services in isolation. The historic agility that BGH and Ceredigion Community services have demonstrated has resulted in the development of innovative approaches with our Hywel Dda colleagues and wider partners in the Welsh Ambulance Services NHS Trust, Local Authority services and Powys and Betsi Cadwaladr Health

Boards to meet the challenge of rural isolation and this provides a firm foundation upon which to build services that deliver care as close to home as possible.

This document sets out the ambition for BGH. In so doing, we recognise that BGH does not function in isolation. Recognising the relative complexity of services commissioned by three health boards and provided by many more providers across Wales and England, we will continue to develop, with our partners, the collaborative pathways, networks, service models and support services that need to be enhanced and implemented in order to achieve the objectives set out in Hywel Dda Health Board's Health and Care Strategy, "*A Healthier Mid and West Wales: Our future generations living well*" and the objectives of the Mid Wales Joint Committee for Health and Care.

Bronglais General Hospital will build its reputation as an excellent rural provider of acute and planned-care. It will therefore continue to provide urgent, emergency and planned care services, with more specialist cases transferred to our new urgent and planned care hospital as

Cyflawni i Gymraeg *(Committed to Welsh)*

Daeth y Safonau Gymraeg i'r rym yn mis Mehefin 2018 ac mae nhw'n ei gwneud yn ofynnol i sefydliadau statudol gydymffurfio a'r rhain erbyn 31 Mai 2019. Mae'r safonau yn sicrhau:

- eglurder i sefydliadau mewn perthynas â'r iaith Gymraeg

The Welsh Language Standards came into force in June 2018 and require statutory organisations to comply with them by 31 May 2019. The standards ensure:

- clarity to organisations in relation to the Welsh language

- eglurder i siaradwyr Cymraeg ar ba wasanaethau y gallant ddisgwyl eu derbyn yn Gymraeg
- mwy o gysondeb mewn gwasanaethau Cymraeg a gwella ansawdd i ddefnyddwyr

Yr egwyddor allweddol yw na ddylid trin yr iaith Gymraeg yn llai ffafriol na'r Saesneg.

Mae yna lawer iawn o amrywiad yn nifer y siaradwyr Cymraeg ar draws dalgylch Bronglais gyda chyfrannau uwch yn y gorllewin a llai yn y dwyrain, ond mae nifer y siaradwyr Cymraeg yn tyfu o flwyddyn i flwyddyn ac wrth i ein gwasanaethau tyfu mae angen i ni sicrhau bod eu hanghenion yn cael eu diwallu.

Ar gyfer rhai cyflyrau fel strôc a dementia, rydym yn cydnabod yn llawn, mai iaith gyntaf rhywun yn aml yw'r iaith y maent yn rhagosod i a byddwn yn sicrhau bod cleifion yn derbyn y cymorth sydd angen arnynt yn yr iaith honno.

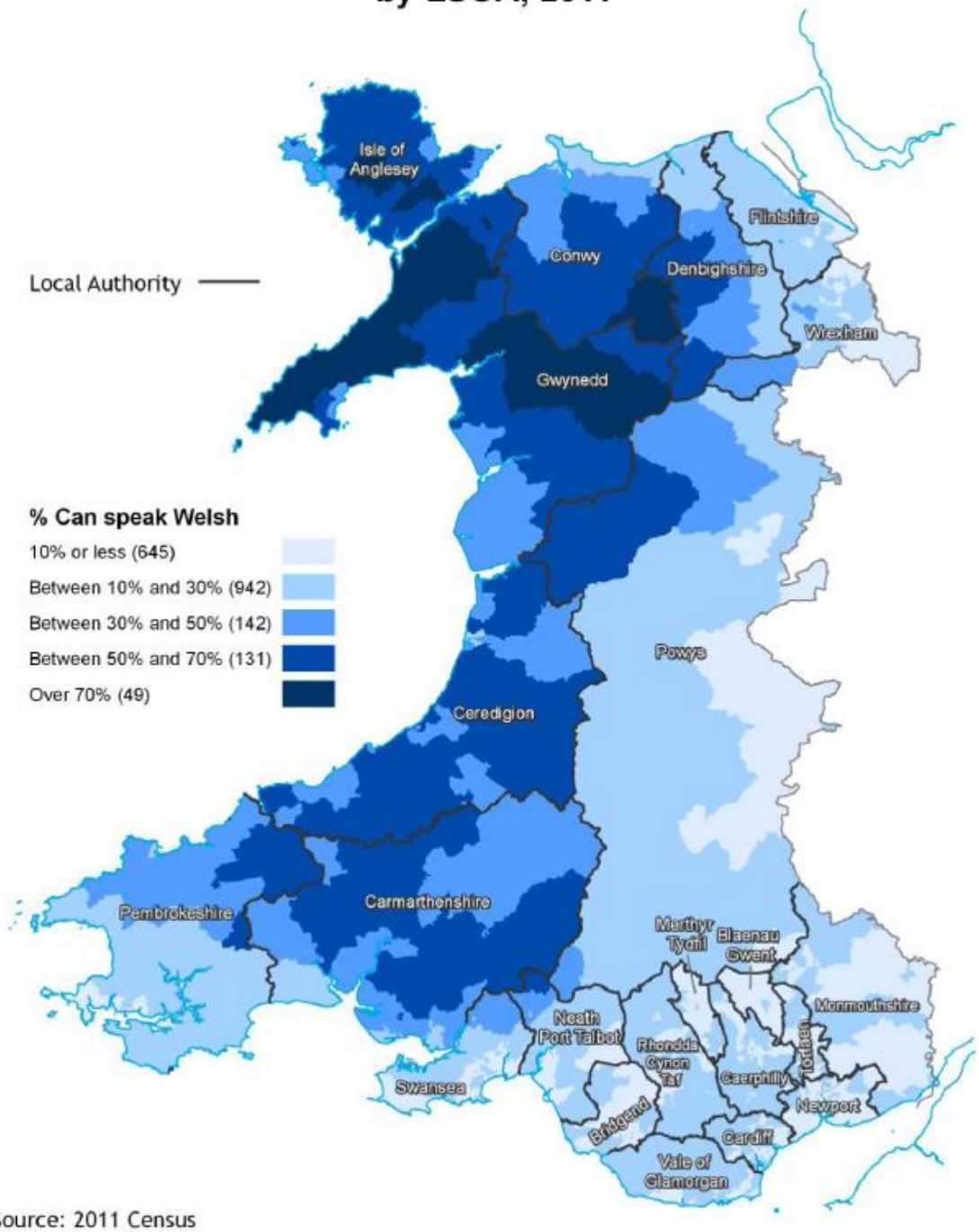
- clarity to Welsh speakers on what services they can expect to receive in Welsh
- greater consistency in Welsh language services and improve quality to users

The key principle is that the Welsh language should not be treated less favourably than the English language.

There is a great deal of variation in the numbers of Welsh speakers across the Bronglais' catchment area with greater proportions in the west and fewer in the east, but the number of Welsh speakers is growing year on year and we need to ensure that as our services grow, that their needs are met.

We fully acknowledge that for some conditions such as stroke and dementia, a person's first language is often the language to which they default and we will ensure that patients receive the support they require in that language.

Proportion of people (aged 3 and over) able to speak Welsh, by LSOA, 2011



Source: 2011 Census

193.12-13

Geography & Technology

Llywodraeth Cymru
Welsh Government

Mae Ysbyty Cyffredinol Bronglais yn recriwtio staff o gymunedau lleol ac yn cynnig gwasanaethau yn Gymraeg. Fodd bynnag, ar gyfer rhai gwasanaethau, ni allwn recriwtio siaradwyr Cymraeg a lle mae hyn yw'r achos, byddwn, lle bynnag y bo modd, yn cynnig aelod o staff sydd yn siarad Cymraeg gyda profiad addas i gyfieithu a helpu i hwyluso sgwrs / ymgynghoriad ystyrlon.

Byddwn yn gweithio i sicrhau bod y gwasanaethau yr ydym yn eu darparu a'u comisiynu yn bodloni'r gofynion a nodir yn Safonau'r Gymraeg a, lle nodir nad ydym yn bodloni safon, byddwn yn cymryd camau i unioni hyn.

Bronglais General Hospital recruits staff from local communities and offers services in Welsh. However, for some services we are unable to recruit Welsh speakers and where this is the case we will, wherever possible, offer a Welsh speaking member of staff with suitable experience to translate and help facilitate a meaningful conversation/consultation.

We will work to ensure services we provide and commission meet the requirements set out in the Welsh Language Standards and, where it is identified that we do not meet a standard, we will take action to remedy this.

Equality, Communication and Engagement

Findings from the Hywel Dda University Health Board's public survey conducted to inform its Equality Objectives for 2020-24, to meet the obligations of the Equality Act 2010, indicated that disabled people, older people, transgender people and people from black and minority ethnic backgrounds identify as having worse experience of health services in comparison to the population as a whole across the Hywel Dda UHB area. Common themes in relation to health services that emerged from the survey in relation to the experience of protected groups were access, communication, engagement and involvement, staff training (in relation to meeting the needs relating to individuals' protected characteristics) and barriers to accessing employment.

Anyone, irrespective of any protected characteristics, could be impacted by the development of service plans to achieve this strategy and there is potential for certain protected groups to be disproportionately represented amongst service users for any particular service.

The Mid Wales Joint Committee for Health and Care has run a continuous public engagement process and those responses have informed the strategic direction for BGH. Feedback to date has indicated that the public in general are keen to see services provided as close to home as possible and it is anticipated that the proposals to provide services close to home, be that in community settings or by service development at BGH, will be welcomed by and be of benefit to service users, particularly those who may currently face barriers in accessing services at a distance.

The commitment to continuous engagement will be carried on through development of a Communication and Engagement Plan to guide the implementation of the strategy as it moves to more service and condition specific planning. The clinically led project groups will be required to ensure that appropriate engagement with the public, patients and staff has informed the design of their service in a way that allows the final design to address and mitigate for identifiable impediments to access and to promote equitable, person–centred service delivery.

Services delivery plans will be expected to ensure engagement with the populations from across Hywel Dda University Health Board, Betsi Cadwaladr University Health Board and Powys Teaching Health Board areas and ensure targeted notifications to protected groups and organisations who represent protected groups who may be identified as being disproportionately affected, and/or who face particular barriers when accessing services.

Staff, who due to their protected characteristics, might be affected by changes arising from service delivery plans, will need to be identified through the organisational change process and addressed on an individual basis.

The Mid Wales Clinical Advisory Group will provide oversight of the service delivery work streams, including scrutiny of Equality Impact Assessments. This will ensure that pathways and service development proposals are “check and challenged” with regards to their actions to remove and any barriers/negative impacts on staff or service users, as identified through the equality impact assessment process. A robust scrutiny process will also afford an opportunity to consider any potential positive equality impacts and how these may be enhanced. Each service lead will be responsible for completing equality impact assessments and related action plans, as appropriate in relation to proposals for their particular services.

Teulu Jones Family; the Mid Wales Perspective

In order to understand the impact of plans upon people living in Hywel Dda, the Teulu Jones Family were created:

What does it mean to…?	
 Mari	Mari is 78 years old and lives at home with Alun, her husband of 50 years. A retired teacher and a former President of the local Women's Institute which she still attends. She loves cooking, especially baking cakes. In recent months, Mari has developed mild dementia and has become increasingly frail. She is becoming more confused and has often been found wandering.
 Alun	Alun is 80 years old, is husband to Mari and is a retired electrician. Alun enjoys his daily walk to the local shop to get the newspaper. He is a non-insulin dependent diabetic and takes medication to control it. He has a history of ischaemic heart disease and had a heart attack when he was 70. His sight is starting to fail due to a cataract.
 Gareth	Gareth is 38 years old and the younger brother of Sioned. He is the finance director of an engineering company, and is married with two sons. Gareth is a keen cyclist and has been a social smoker. He tries to visit his older parents as much as he can, and stays in contact with Sioned.
 Ayesha	Ayesha is 39 years old and the wife of Gareth, with whom she shares a love of cycling. She is a primary school teacher and is expecting her third child, a sister for the two sons she has with Gareth.
 Sioned	Sioned is 47 years old, is mum to Lianne and grandmother to Ben. She works part-time as a healthcare support worker at her local hospital and is enrolled on an access to nursing course at her local college. Sioned is carer to both her ageing parents and her young grandson, and has been suffering with stress, anxiety and low mood.
 Rhys	Rhys is 52 years old. He lives with his wife Sioned, daughter Lianne and grand-son Ben. Rhys is a long distance lorry driver and is away from home a couple of nights a week. He has smoked and is overweight, due to a combination of poor diet and limited physical activity.
 Lianne	Lianne is 19 years old and lives with her parents. She has a three-year-old son, Ben, and is pregnant with her second child. Lianne hopes to become a childcare assistant. She is enrolled on a part-time course at her local college but is currently unable to attend due to pregnancy related sickness.
 Ben	Ben is three years old. He was born prematurely and has lived with respiratory problems from birth. He has a mild developmental delay and has recently been diagnosed with a rare genetic condition. He lives with his mum and grandparents.

Teulu Jones will be used in this document to illustrate how the development of BGH will impact upon our patients and both our resident and visiting populations. Gareth and his wife Ayesha live with their children in the village of Talybont in north Ceredigion. The other members of the Jones family enjoy visiting, and they often take holidays together in the caravan parks along the Ceredigion coastline.

Strategic Context

This document outlines our vision and strategy for the future of Bronglais District General Hospital (BGH), Aberystwyth. It does not provide detailed plans for how this will be achieved, rather setting the direction of travel and our aspirations for the future to make a real difference to the health and wellbeing of the people of mid Wales.

The development of our vision for BGH has been informed by a number of key recent developments, namely:

- The work of the HDdUHB Transforming Clinical Services programme
- HDdUHB Health and Care Strategy
- HDdUHB Transforming Mental Health Strategy
- The Board approval of the HDdUHB Health and Wellbeing Framework
- The vision and aims of the Mid Wales Joint Committee for Health and Social Care

BGH provides services to people from across a wide area of Wales which adds complexity to the planning, delivery and commissioning of services. The services provided are, therefore, influenced by the strategic and Integrated Medium Term Plans (IMTP) of a number of other key organisations/ collaborations, including:

- Powys Teaching Health Board
- Betsi Cadwaladr University Health Board
- Swansea Bay and Hywel Dda University Health Boards "ARCH"
- South Wales Trauma Network
- Welsh Ambulance Services NHS Trust
- Shrewsbury and Telford NHS Trust "Future Fit"

Detailed planning and actions to realise our vision will be developed following approval of this document by the Hywel Dda University Health Board. This will include:

- Operational/Service Delivery Plans
- Clinical Network Development and Governance Plan
- Workforce Development, Recruitment and Retention Plan
- Estates Plan
- Financial, Investment, Sustainability and Transformation Plan.
- Future Technology Plan
- Communication and Engagement Plan

The Hywel Dda Strategic Context

Hywel Dda University Health Board's agreed Health and Care Strategy sets out the future of BGH as a District General Hospital within a wider hospital network across HDdUHB. Building upon previous successes at BGH, the strategy provides an opportunity to address the challenges in the delivery of health and care services that characterise the communities and geography of mid Wales, for example:

Population ageing and a rise in chronic conditions

The need to **travel** often long distances to access health and care services and a reliance for many on infrequent public transport

Recruiting and deploying skilled health and care staff

Delivering safe, sustainable, accessible and kind health and care services across a large and mainly rural geography, including considerations of equity

Providing digital solutions and ways of working to underpin health and care, including access to digital information, tools and services to help people maintain and improve their health and wellbeing

BGH is a key service provider for residents in Ceredigion, mid-Powys and South Gwynedd. Hywel Dda's strategic direction will extend the catchment area to the south of Ceredigion and the strategic direction of the Future Fit programme (the strategic plans for Shrewsbury and Telford NHS Trust) is likely to see an increase in demand for elective care from Powys residents which will be delivered by outreach into and partnership with Powys' other providers. It is, therefore, important to set out the plans for service enhancements and change that will ensure there is the capacity to meet this demand in collaboration with neighbouring health boards and providers.

Affordability and Sustainability

The assumptions set out in the Health Board's strategy are that more will be done closer to people's homes and that will allow resources to be re-profiled across the health community.

In the context of BGH and mid Wales, this has three main strands:

1) ***Emphasis on population health, health promotion and prevention to enable people to live well for as long as possible***
2) ***Services moving from acute settings into community settings across mid Wales***
3) ***Acute services being re-profiled across Hywel Dda so that more is provided at BGH thus reducing the need for patients and families to travel further for treatment***

Just because something is affordable, does not necessarily mean that it is sustainable or vice-versa. Sustainability also takes a longer term and broader view of a service than affordability and requires us to examine how our services deliver value.

It has long been recognised that expenditure on health care supports the delivery of both well-being and prosperity. At a population health level, immunisation against preventable illness and improvements in child health are relatively low cost interventions that provide significant value for the whole life of a person.

At a macro-economic level, interventions to prevent and treat illnesses improves workforce productivity and health and safety improvements reduce the chance of people becoming ill because of their occupation. A healthy population delivers a healthy workforce and, as a result, promotes the overall economic wellbeing of a country which in turn supports investment in health improvement activities and in the provision of a broader range of health care services.

To be sustainable, health services must allocate its finite resource in a way that maximises population health and responds to the overall healthcare needs of its population. In essence the key challenge for the NHS is to deliver a service that promotes macro-economic benefit, but that also responds to needs on the

smallest of scales, that of the individual and it is in this context that the concept of delivering value at a local level is brought into focus.

In this strategy, we will deliver value by:

- Providing more within our existing resource allocation
- Delivering better outcomes for patients
- Ensuring additional investment supports the above

When considering patient outcomes, we will need to consider:

- Clinical outcomes; these should be as good as or better than is available anywhere else
- Patient centred outcomes; patients as individuals have their own specific view of what "good" is to them. This will include many factors, but is principally a balance of how long they will wait against how accessible the service is both for them and their family

A centralised care service may be financially efficient and produce clinically optimum outcomes immediately post treatment, but if it comes at a cost of greater travel and more difficulty in maintaining independence through deconditioning before, during and after treatment, this may not provide an optimum outcome for the patient and their family.

In order to achieve the Health Board's commitment to deliver care closer to home, we need to promote people remaining in their own homes and localities so that they can, as far as possible, maintain their normality and routine. As our population ages, the need to preserve independence and support informal care arrangements will become paramount; failing to do so will significantly challenge the sustainability of health and social care in the longer term.

BGH will play an important role in the provision of some population health activities, such as screening and surveillance, but other activities such as healthy diet and lifestyle will be focussed across the services working in community settings and extend into other areas such as education. The attainment of population health goals will result in reduced presentation of certain conditions in acute settings, but an ageing population brings with it its own challenges for the whole care system and is not in itself without its costs.

The movement of services that have traditionally been provided in acute settings into the community is a key development that will both improve access for patients and allow BGH to focus on the delivery of more complex acute care. Key opportunities are for consultants at Bronglais to provide outreach services to facilities in Ceredigion, Powys and Gwynedd with the aim of treating patients in those settings unless their clinical need requires more specialist input. Alongside this, all clinical pathways will need to be reviewed so that they are appropriate both clinically and geographically while ensuring they achieve the benefits of prudent healthcare and support a whole service shift from illness to wellbeing.

In order to achieve the Hywel Dda University Health Board's strategic objectives, re-profiling of services across its catchment will be required so that the new configuration of acute and community provision can deliver as planned. This will mean that BGH will need to do more work for patients within Hywel Dda. Some of this being provided from community facilities and some will be provided at BGH. This is, in essence, both an expansion of BGH's catchment area and of the services it provides and will be achieved by delivering efficiency improvements to allow increased throughput which will support future investment for extended service delivery.

There are opportunities, costs and compromises to strategic developments across the whole Health Board, but it has been agreed that there needs to be investment in community services to deliver the Health Board's objectives.

An initial high level review of the financial implications of this strategy shows a resource requirement of approximately £3m over the next 5 to 10 years. This is split evenly between:

- Improvements and developments that would need to be implemented whether or not this strategy existed, e.g. therapy provision
- Strategic developments set out in the Health Board's strategy
- Strategic developments to deliver excellent acute health care in mid Wales

The Health Board's overall strategic model shows that a shift to a community based services would enable inpatient hospital beds to be re-profiled. For BGH this would not necessarily result in a reduction of beds, but allow the hospital to increase throughput to support both the repatriation of services from the south of Hywel Dda to meet the service changes in that area and also to offer a broader range of services to the population of mid Wales on and in, day and outpatient basis in partnership with other providers which will improve long term sustainability across the whole of the mid Wales health and care system.

Setting the Scene

Bronglais District General Hospital is a strategically important hospital that provides accessible care for the remote, rural population of mid Wales.

Access to services is one of the most significant factors affecting rural populations that can impact on a patient's clinical outcome and also their perception of the service they receive, their family life, education, employment and income.

The most critical element of the service provided is "Urgent Care":

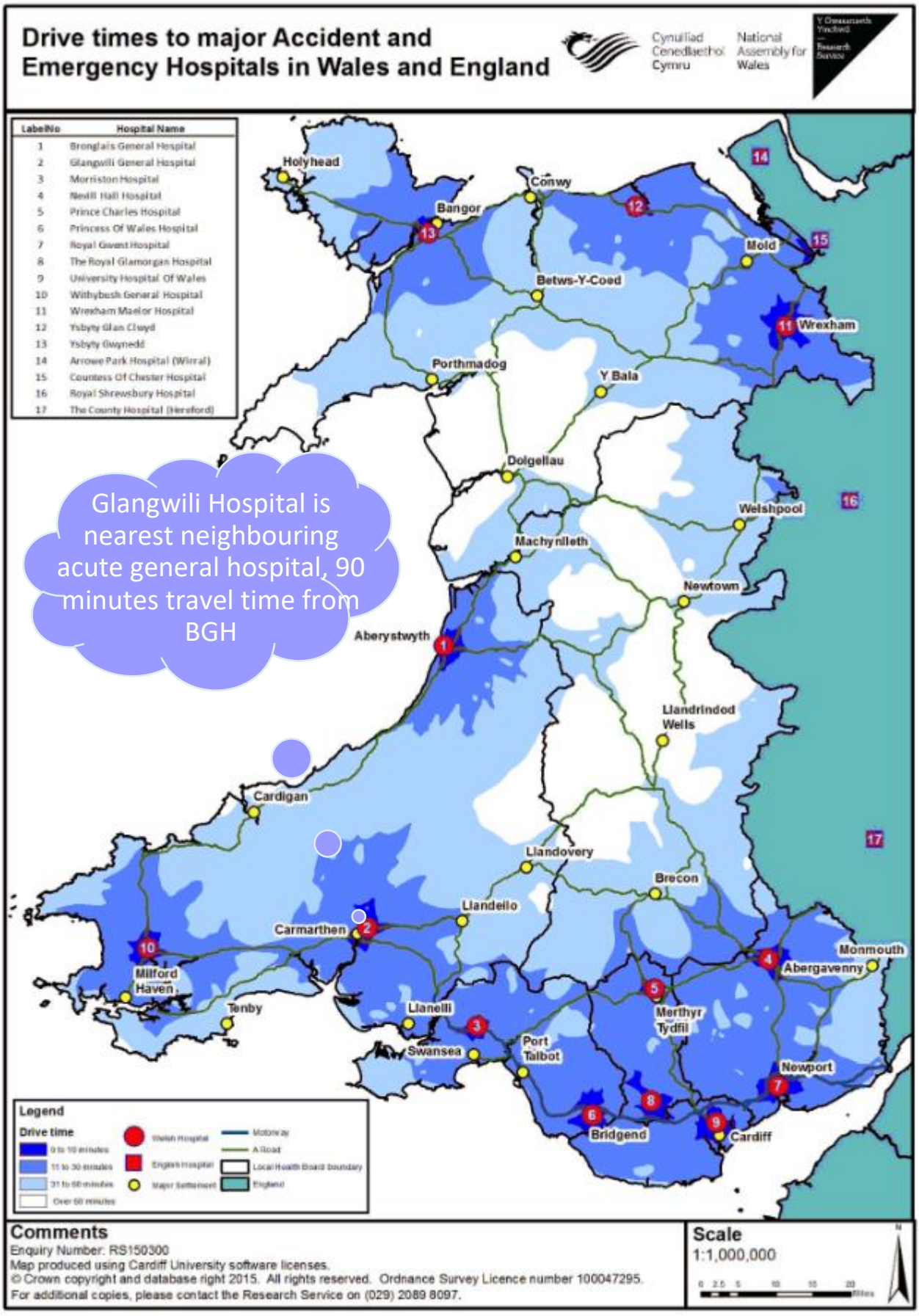
Urgent Care must be accessible within reasonable period of time. The "golden hour" has been used as one measure of this, but as healthcare evolves, some condition specific critical time limits will be agreed. Transport and transfer protocols will be put in place that allow patients to access

Urgent care can be provided by primary and community services, but treatment and stabilisation of life threatening conditions requires the support of a range of diagnostic services and multi-disciplinary teams that is only available in an acute hospital setting.

However, the population also requires access to planned (elective) care which, although less urgent, can present significant challenges to them:

Planned Care, although not time critical in terms of intervention, is traditionally provided during the "normal working week", 9-5 on Mondays to Fridays. Accessing planned care that is not local to the patient can impact family life, education, income and employment all of which

BGH is also the most remote hospital in Wales with travel times to the nearest neighbouring hospital of at least 90 minutes.



From the perspective of urgent care, this means that the hospital receives a large range of conditions, from relatively minor (could possibly be seen in another setting if service was available/available in time) to highly complex major presentations. With a significant elderly demographic, there are often added factors of multiple co-morbidities and a break-down of established care networks, for example when a family member becomes ill.

BGH must, therefore, be able to provide a comprehensive range of emergency interventions across a wide range of clinical specialisms, including:

Medicine	**Surgery**	**Trauma & Orthopaedics**	**Obstetrics & Gynaecology**	**Paediatrics**
Anaesthetics				

The 24 hours a day, 7 days a week (24/7) on site, consultant provided Anaesthetic service at BGH is an operationally important service that provides all other clinical services with essential specialist input to ensure the diverse range of conditions and presentations at BGH can be safely and sustainably managed.

In addition, a wide range of allied services supports the delivery of emergency services and need to be provided in, or readily accessible through, the emergency and Urgent Care stream:

• Theatres	• Diagnostics
• Therapies	• Pharmacy
• Transport	• Social Care
• Third Sector	• Housing
• Communication & Information	• Administration & Management

Ideally, these would be available 7 days a week if not 24/7:

There are 168 hours in a week

Monday to Friday, 9 to 5 = 40 hours

The service operates for 128 hours outside of the "normal working week

This is when Urgent Care must be provided

This is when Planned Care is provided

Both the population's rurality and the wide range and complexity of urgent conditions with which they present, sets the stage for the organisation of the whole of BGH's operation plan, that is that the service must respond at any time, day or night, to patients who self-present or are brought here by the ambulance service.

It is essential, therefore, that there are sustainable rotas of senior clinicians supported by appropriately resourced teams to provide high quality "generalist" response in an emergency.

For some medical emergencies, there are specific pathways for certain conditions with what are described as "red flag" symptoms (e.g. **F***ace* **A***rms* **S***peech* **T***ime* for stroke). However, much of what people present with as an emergency is less than clear and a generalist approach to their assessment, diagnosis and treatment is required.

Similarly, for some surgical and trauma emergencies, there are specific pathways that will direct patients to specialist services that are out of area. These are, however, less well established and, again, the cause of presenting symptoms is not always clear which also necessitates an initial wide ranging diagnostic approach. The South Wales Major Trauma Network is developing pathways for major trauma for implementation by 2020 and these are reflected in the section on rural trauma later in this document.

Although the "normal working week" is only one-quarter of the week, the provision of planned care is essential to ensure that staff are able to have exposure and are skilled in a wide range of clinical conditions and presentations whilst carrying on caring for patients who have presented as an emergency during the other three-quarters of the week.

It will not, however, be possible to provide every service from BGH and some will need to be supported by clinicians in other hospitals via agreed clinical pathways which will be enabled by technological opportunities such as tele-health.

Throughout this document, we explore service provision to set out what needs to be provided 24/7 days a week and what needs to be provided on a daily basis.

What is Rural Care?

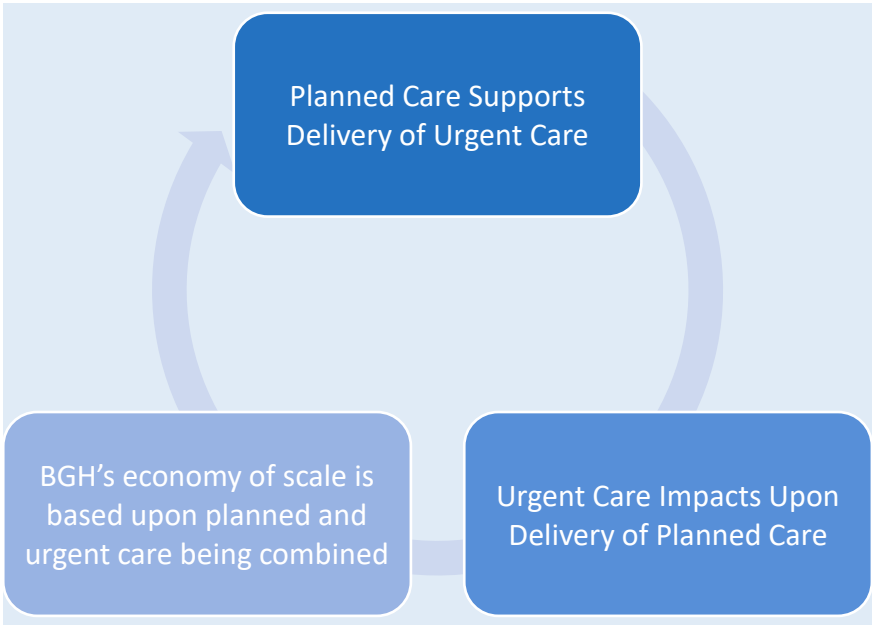
Rural is not a definition of location, but of character. Rural areas co-exist adjacent to large urban areas and those that do can have access to a comprehensive range of services and public utilities that do not exist, per se, in those rural areas.

When people talk about the challenges of being "rural", they are really talking about the challenge of being "remote" from services typically available in more urban areas.

It is the relative remoteness of the population of mid Wales with its two urban centres of Aberystwyth (c.20-25,000) and Newtown (c.10-15,000) that requires us to define a service that will properly respond to the routine, urgent, ongoing and long term needs of a population that are not significantly different to those presented by populations in more urban areas, but do need different service models to deliver.

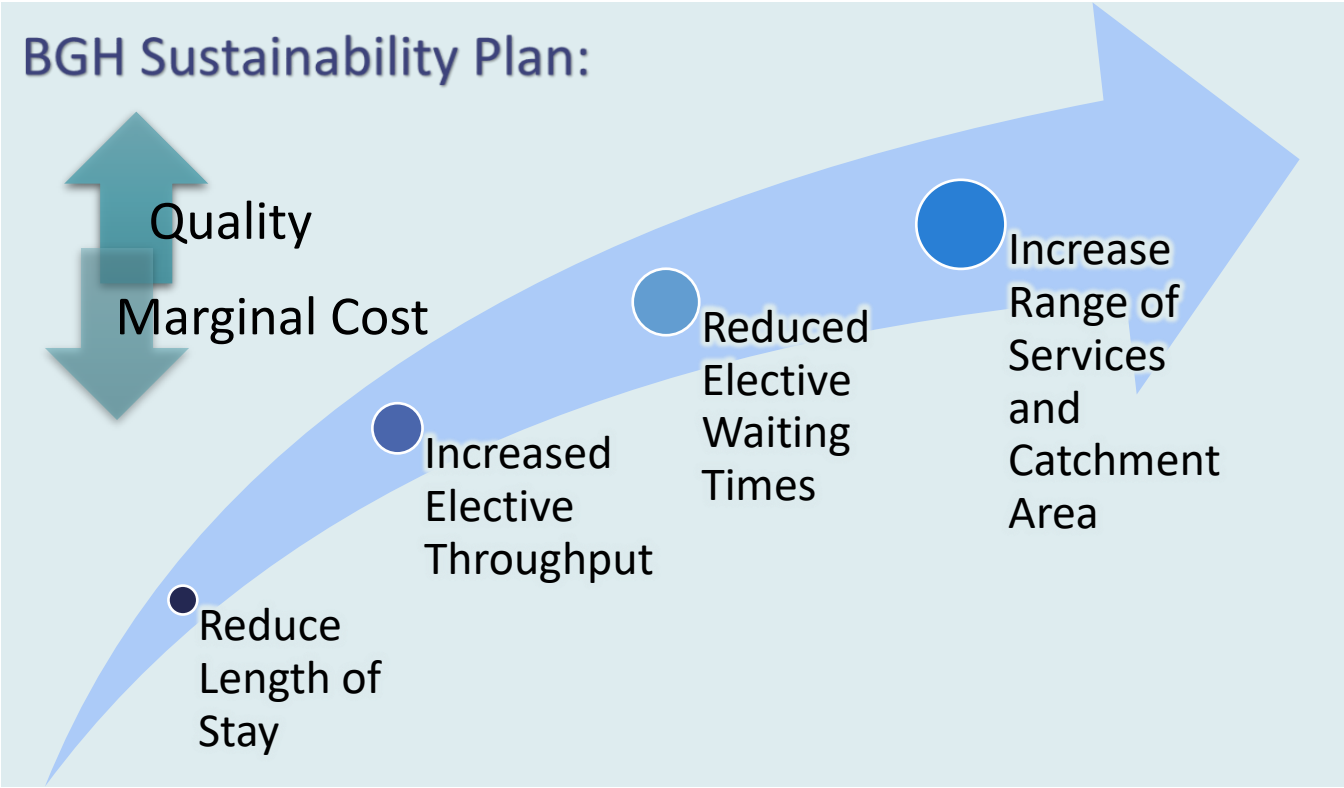
The Care Conundrum

We have described above how a site such as BGH relies upon the co-location and co-operation between planned and unplanned care. However, there is a fundamental conundrum that needs to be understood and properly addressed if services are going to be reliably provided.



This is not to say that all the solutions lie within

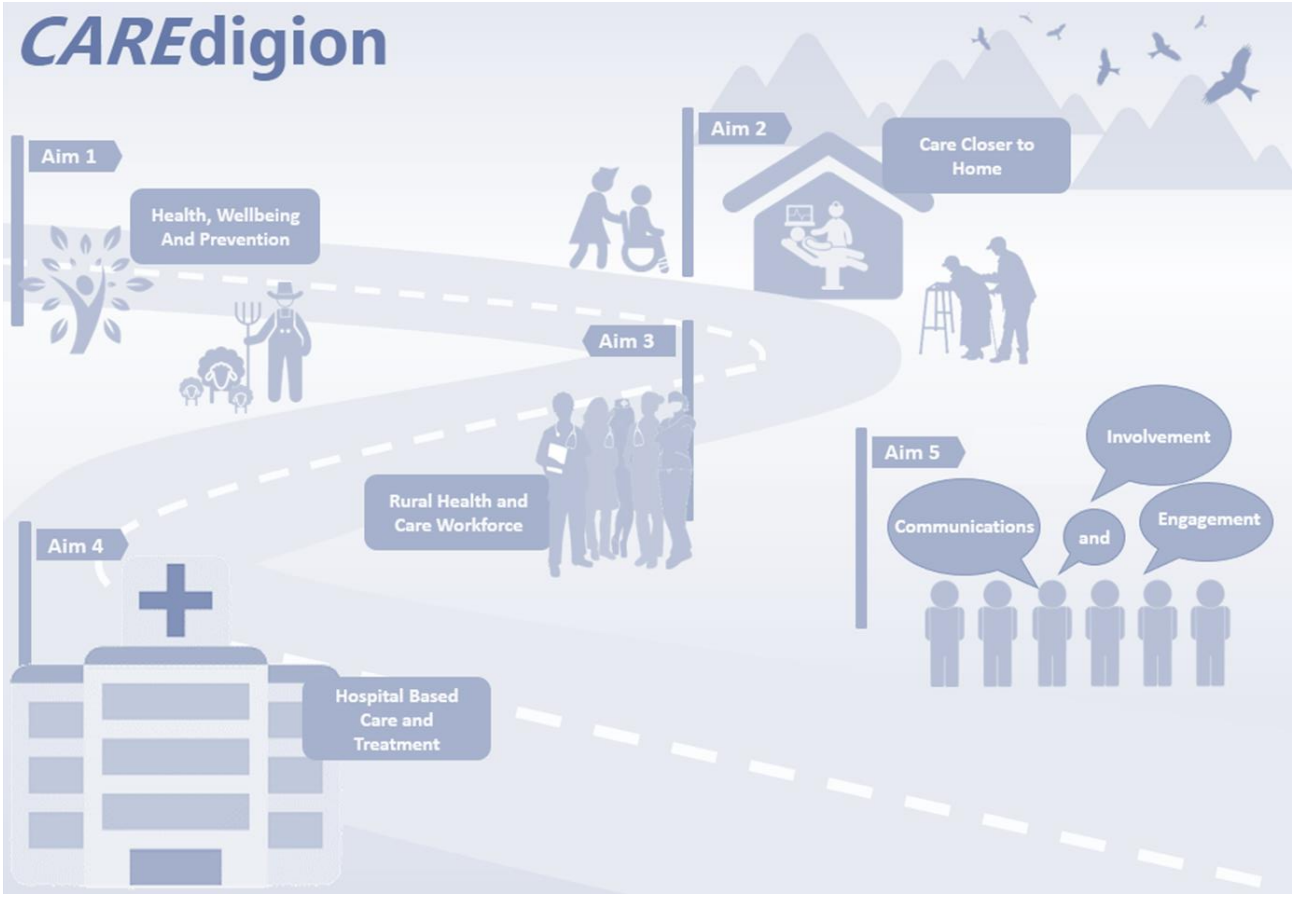
the hospital itself. The importance of ensuring that the whole care system works to support people receiving the care they need, when it is needed in the most appropriate care settings is key to resolving the conundrum and that will ensure the long term success and future sustainability of BGH.



Home First – Alignment with Community Services

In response to the challenges presented by an ageing population with increasing comorbidities who are growing old in a community where traditional models of care based around the family can no longer be relied upon, services in Ceredigion have developed the concept of "CAREdigion". This approach to care will be seamless, working across traditional organisational and professional boundaries so that the population of Ceredigion receive a truly joined-up service across the entire spectrum of care including services provided at BGH.

There will be no significant boundaries between health, social or third sector services and roles within those service areas will be less defined within a narrow band of activity, but reflect the holistic needs of the patient which are more generalised. By blurring the boundaries of care and testing the potential of shared professional responsibility, services will be able to evolve across the whole care system to meet individual needs and respond pro-actively to these as they change.



BGH is a key service partner in "Caredigion", but has traditionally been a place of safety for people in crisis whether this is caused by a deterioration in health or not. By ensuring care is provided along a "home first" principle, "Caredigion" will promote a reduction in avoidable attendance at BGH and prompt discharge home, or to an appropriate alternative setting, when the patient is medically fit and will not benefit further from the care an acute hospital provides.

Partnership Working

Successful delivery of safe, sustainable, accessible and kind services relies on the whole system working together. To do this, partnerships will need to be built and maintained across all partners in mid Wales.

Partnership with the three mid Wales local authorities will be key to ensuring patients accessing emergency and inpatient services at Bronglais receive the appropriate assessment and care planning required so that when admission is not needed, they can return home that same day and, following admission, are discharged when they attain their optimal fitness.

Ceredigion's Health and Social Services have a track record of partnership working and this provides a firm foundation to deliver a seamless, personalised

service to patients that anticipates and responds to change in a person's condition, provides rapid assessment and support when a person presents in crisis and ensures support is provided to let people live fulfilling lives in their communities.

We believe that patients across mid-Wales would be served well by an integrated service so that "trusted assessors" can assess, advise and plan to meet an individual's needs which fully reflects their personal circumstances and what matters to them. We will work with all our partners to establish these arrangements across the multidisciplinary team.

Working Across Regional Boundaries

Although the successful delivery of "Caredigion" is essential to the success of BGH, there is a need to reflect BGH's significant catchment area across mid Wales, including Powys and Betsi Cadwaladr Health Boards.

This adds both complexity and opportunity with six different statutory organisations involved in the planning and delivery of health and social care, combined with a number of specialist pathways commissioned for residents in neighbouring health boards often with different specialist and tertiary partners that do not apply to Hywel Dda University Health Board residents.

The Mid Wales Joint Committee for Health and Care is responsible for ensuring close co-operation and, where possible, integration of functions to establish whole-area multi-disciplinary teams will provide opportunities for innovation to improve care for all patients who regard BGH as their local hospital regardless of where they live.

Promotion of high quality, accessible services will be achieved by the development of a "Bronglais@" service to identify the service provider and associate this with a "Bronglais Commitment" to high quality service provision, on-time and as locally as possible.

Population Health

In order to achieve long-term sustainability, a long-term view of health is required and actions to address inequalities across the determinants of health need to be delivered in order to have benefits for future generations. Long term health conditions caused by lifestyle choices are preventable and health

care professionals working in the acute sector will support health improvement activities starting with expectant mothers, through the early stages of a child's development, involvement in secondary education and engagement with students in further education.

From a rural perspective, services need to reflect the farming seasons which, in a rural sheep and cattle farming area, give windows for engagement during mid-winter, the summer agricultural show season and early autumn. Weekly farmers' markets also provide an opportunity to support farmers during busier seasons. Partnerships with the farmers' unions could help gain access to and target promotion campaigns in ways that will capture the various generations of the agricultural community.

The services in Ceredigion and across mid Wales are committed to public involvement in the planning and delivery of services and we will use Hywel Dda's Framework for Continuous Engagement and those of our partners to ensure this is achieved for all our patients as service plans are developed in response to this strategy. Service leads will be required to assess opportunities for prevention and early intervention to reduce morbidity and occurrence within the population and set these out in the respective plan. We are especially keen to involve groups who have traditionally not been heard, for example people from younger age groups, and will ensure our engagement and involvement activities are inclusive so the views, opinions and aspirations of the whole population inform our future services.

Core Principles

People in remote rural areas:

- Will be provided with access to the full range of services that anyone else in Wales would be able to access
- Will have access to services that are of at least the same quality as those available to others
- Will not have to travel long distances to access services that can safely be provided in their locality
- Will receive timely, appropriate response to their presenting condition

It is not that people should receive a different service to that provided to populations in urban areas, but the way in which the service will be provided and people access those services will be different.

Assumptions

We have made a number of assumptions as we have developed our vision for services:

1. People are born, grow up, live, work, grow old and die in rural areas just as people do in more urban areas. Rurality, however, provides a framework upon which community resilience can flourish and can be harnessed to support population health, although it can never be taken as a resource that can replace essential life-saving services
2. The community elements of the "CAREdigion" model are resourced and functional as set out in Ceredigion's Integrated Medium Term Plan
3. BGH is part of a network of services that reach to the North Coast of Wales, to Stoke, to Birmingham, to Hereford to Cardiff and the South Coast of Wales. Patients will come from and need to return to their homes and services patients receive will be provided in partnership with a significant number of health care providers across the catchment area
4. Mid Wales has significant seasonal population fluctuation due to the academic sector and the tourist industry. These populations present with a range of conditions that need to be met, some of which are relatively unusual in the context of the resident mid Wales population
5. Home first is a statement of intention for all we do. What it will be possible to do at home will evolve, supported by technological development, and this will change the balance of what is provided in various settings and, in itself, releasing acute capacity to do more procedures at BGH
6. Where services cannot be provided at home, we deliver these at BGH or an appropriate community facility close to the patient wherever possible and ensure that the quality and outcomes are at least as good as those in other commissioned providers
7. Patients should be able to access the best possible available care. Patients will, however, have different definitions of what good means to them. The service must respect that for some, local access may be more important than quick access to a service and for some conditions, outcomes can decrease the further a patient travels from their home

What will the service look like?

This plan sets out the services to be delivered from BGH starting at the "front door" for emergency access. This reflects the importance of urgent healthcare provision as an absolute requirement of BGH for the people of mid Wales and then sets out plans for services that will meet this need and which directly and indirectly support its provision.

How will we know it is working?

Healthcare and health services are measured and performance managed through a range of mechanisms. Performance measures, such as the A&E 4-hour target, the waiting time 26-week target and ambulance response and turnaround times give some indication as to how well a system is performing overall. Other measures, such as the number of falls, infection control rates and drug administration errors give us an indication of how well a system is providing.

All have a role to play in understanding what works, but a broader view must also be taken in order to understand how the whole system performs.

To help, Hywel Dda University Health Board describes outcomes from different perspectives against which we will assess the impact of our services and the changes we make:

- Quality and Safety
- Value Based Health Care
- Access (physical, virtual, communication)
- Population Health
- Performance and Delivery

Patients and families are at the heart of delivering a service that is "safe, sustainable, accessible, kind". "What does 'good' mean to you" is an essential question we should ask every patient so that the balance of outcomes and experience meets their specific requirements. There are three patient centred approaches to providing accessible, consistent and relevant information to both clinicians and service users that:

- Identifies what is working well and areas for improvement
- Informs care planning and service delivery

These are:

- ***Patient Reported Outcome Measures (PROMs):*** allow a person's perception of their own health to be captured to understand symptoms, concern and needs which can then be monitored over time
- ***Patient Reported Experience Measured (PREMs):*** capture a person's perception of their experience of the services they are receiving. This will allow matters that often frustrate patients to be understood, such as waiting times, ease of access, communication in language of choice and support provided to manage their condition
- ***"Friends and Family Test":*** which asks whether a patient would recommend a service to their family or friends

We will develop a system of recording and using PROMs. PREMs and Friends and Family tests to support the continuous improvement of services provided to our patients. We will also utilise other surveys, when available, such as the Macmillan Cancer Experience Survey, to inform how we can improve our services.

In addition, we must ensure that the most valuable resource, our staff, are able to report on their experience of providing services and working for the Health Board. A national NHS staff survey is carried out every few years and provides a high level overview of how well an organisation is perceived by its staff. This survey does not, however, provide real time feedback and we will develop a system of Staff Reported Outcome Measures (StROMs) and Staff Reported Experience Measures (StREMs) to ensure that our service improvements truly cover both what patients need and how we support our staff to meet that need.

Although being a small hospital, BGH has a track record of delivering excellent services and has achieved recognition as such:

- British Lymphedema Society Award winning Nurse Specialist
- First Integrated Blood Science Laboratory in Wales
- Surgical Induction Teaching Programme "Above Outlier"
- Best fractured Neck of Femur Survival in UK
- The Best Heart Failure Outcomes in Wales
- Only Consultant Delivered Anaesthetic Service in Wales

- First Joint Advisory Group unconditionally accredited Endoscopy Unit in Wales
- Excellent results in the National Emergency Laparotomy Audit
- Nationally Recognised Osteoporosis Service
- Fastest Radiological Reporting Turn Around in Wales
- Fastest Radiology Procedure Turn Around in Wales (exc. MRI)
- Integrated Multi-Disciplinary Alcohol, Liver and BBV Service
- "**F***ace* **A***rms* **S***peech* **T***ime*" positive (Stroke) Ambulance Direct to Computed Tomography (CT)
- One of the Best Performing Stroke Services in Wales

We will utilise national audits and other external mechanisms to help us understand how well we are doing and what we need to do to improve the services we provide.

The development of services at BGH is of significant strategic importance for the delivery of the Health Board's overall Strategy for Health and Care in Mid and West Wales. As such, the success of the BGH strategy cannot be viewed in isolation and needs to be part of a whole-system evaluation of the wide ranging and complex programme for change across the entire health and care system. Improving outcomes, as set out above, will be a key objective of the service delivery plans and service leads will need to identify measurable indicators within their plans that can demonstrate, or at least be a proxy for, improvement.

Delivering Excellent Rural

Emergency and Urgent Care Services

Rural Emergency and Urgent Care Services

The services provided in response to emergency or urgent care needs are some of the most visible services provided by the NHS and are provided 24 hours a day, 365 days a year.

These respond to:

- Acute medical emergencies
- Acute surgical emergencies
- Acute trauma and orthopaedic emergencies
- Paediatric medical and surgical emergencies
- Obstetric and gynaecological emergencies

The Front Door

The Accident and Emergency (Emergency and Urgent Care) service has traditionally been seen as the front door for emergency health care. For many cases, this is entirely appropriate and admission to inpatient services locally or transfer to higher levels of service further away occurs after assessment, diagnosis and treatment initiation.

There is, however, a need to consider how services are coordinated before a patient arrives at the Front Door so that patients whose presenting condition is best managed in primary care or could, following diagnosis and initial care, be managed effectively at home or in another appropriate community setting are maintained in that setting.

At the same time, it is important to recognise that the benefits of co-location of services in both decision making and efficiency and the need for the interface between services to be fluid to allow a seamless provision of care to patients.

It is anticipated that developments in the provision of emergency helicopter services will mean that the patients who should be transferred from scene to a higher level of service will increasingly so be. However, the significant quantity of relatively high priority conditions that patients self-present within the department means the service must be able to step up to provide higher levels of care when required that will support the stabilisation and, if necessary, commencement of treatment for individuals with conditions that cannot wait.

In order to reduce the risk associated with some rare and life threatening conditions, an anticipatory approach will be taken, for example, by screening for risk factors and early indications of disease so that advice and support can be given to minimise the risk of occurrence together with timely early intervention when disease progression suggests that this would be optimal in preventing it becoming an emergency.

Because of the level of self-presentation, BGH will have to respond to any major condition. Ambulance protocols will, however, direct patients with some conditions that are within certain timeframes to regional centres for treatment in line with best practice protocols and, therefore, BGH would not, usually, receive those patients.

In order to better meet demand, we will work with the Welsh Ambulance Services NHS Trust to develop the role of paramedics in delivering pre-hospital assessment so that care can be appropriately given or directed in the community with rapid access to multi-disciplinary/multi-agency support when

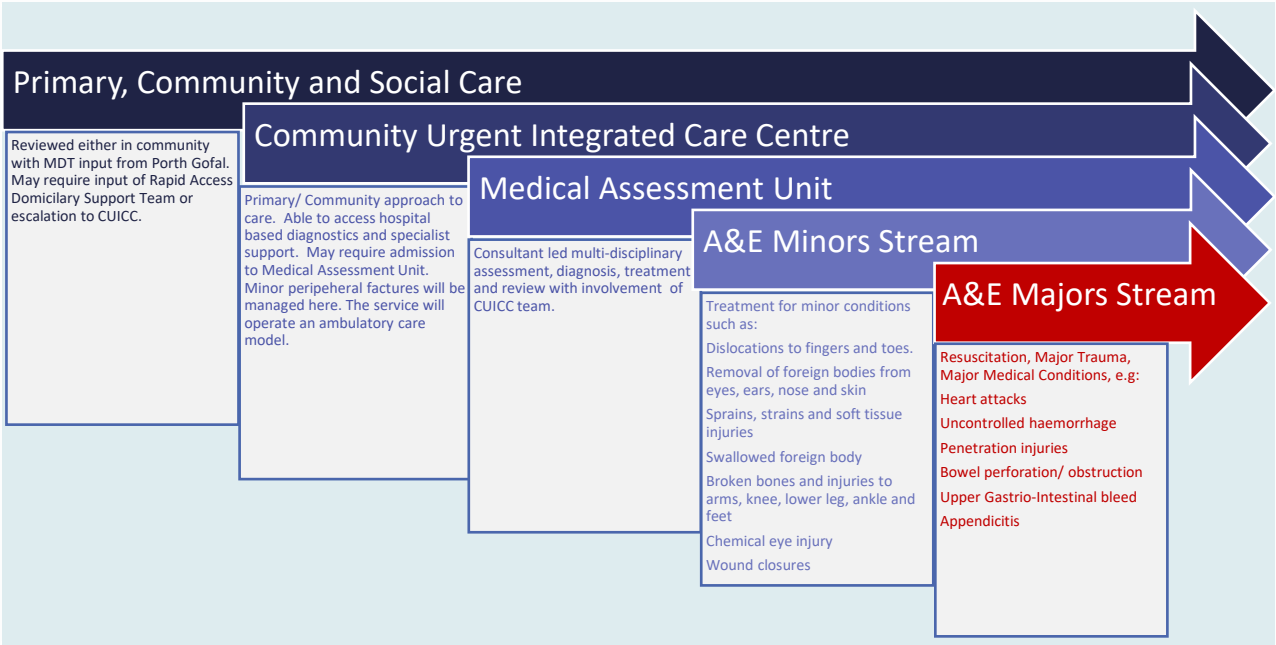
the needs of a patient are not best served by being taken from their home to an acute hospital setting.

Non-blue light GP referrals for hospital care will be referred through the BGH Community Urgent Integrated Care Centre (CUICC) for initial assessment, work-up and treatment. Patients who can be assessed, treated and discharged within the CUICC will be discharged back home or to an appropriate unit if non-health related factors prevent this from being achieved.

Patients requiring further care will be admitted to the hospital's Acute Medical Admission Unit for ongoing care with referral to the appropriate medical team.

Self-presenting patients will be streamed according to their condition.

- Those with minor illness that could be treated within primary care will be streamed to the CUICC for assessment, work-up and treatment.
- Those with minor injuries and illnesses that would not be within the scope of the CUICC will be streamed to the Minor Injury Unit.
- Those presenting with major injury or illness will be streamed accordingly.



Following initial assessment, patients may be transferred to the care of the service that will most appropriately meet their needs (so a patient assessed in the CUICC will be transferred into the A&E Majors stream if appropriate).

Paediatric emergencies will flow through the designated paediatric unit in the minors unit, with cases needing full Accident and Emergency Department care being streamed into resuscitation for urgent intervention.

The Health Board's strategic plan for mental health services will develop local community based mental health services to meet the need of patients who present with mental health conditions. However, from time to time, some patients will present at BGH with a primary or secondary mental health condition and they will be cared for in a dedicated room with 24/7 input from the mental health services being provided from the local community mental health team.

Staffing the Front Door

As can be seen above, a greater involvement of primary care at the front door as part of a multi-disciplinary team (MDT), person-centred approach is a key requirement for system sustainability moving forward.

A "General Practitioner" approach will apply specialist knowledge of "whole person" health to ensure only those for whom there are no other appropriate options are admitted to an emergency department bed and collegiate support between GPs and specialist consultants will ensure that patients receive the most appropriate intervention. Patients who require other support can be triaged appropriately to a range of supporting services with input from, for example, therapies, social care and domiciliary care services with promotion of return to their usual place of residence. Although significant progress is being made on specialist consultant recruitment "inside" the hospital, recruitment to GP posts is currently challenging and the workforce model for the front door needs to reflect this.

In addition, it should be noted that the needs at the front door require a whole-system "CAREdigion" approach and that the staffing requirements, are multi-disciplinary, multi-professional, multi-agency and multi-sectoral.

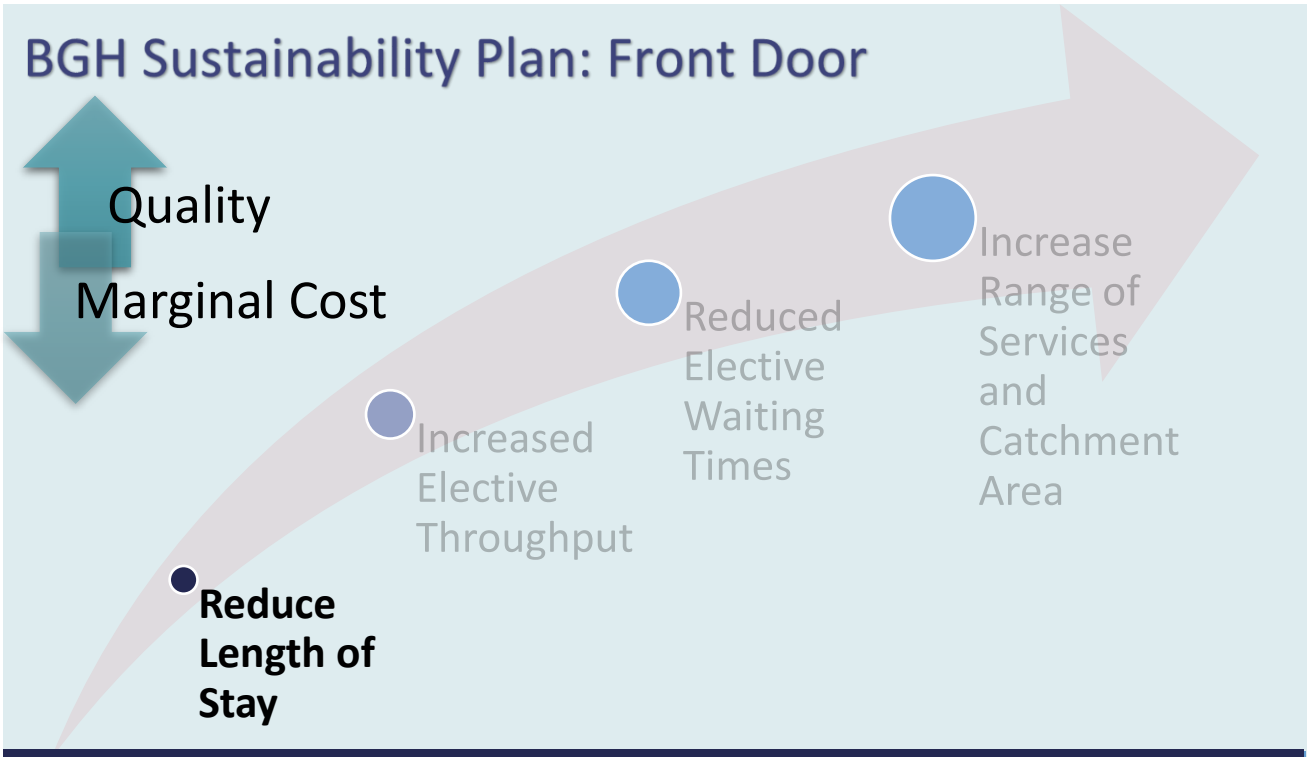
The staff at the front door also need to be versatile so that appropriate care can be delivered when it is required, rather than requiring referral and subsequent wait.

BGH has been part of the Physicians Associates Training Programme since 2016

The utilisation of new and advanced roles, such as physicians' associates, advanced nurse practitioners, consultant nurses and therapists supported by a team of versatile practice assistants (who can apply a wide range of support skills to a broad range of needs) will provide a core of staff to deliver a new front door model so that the specialist emergency department nurses and support staff can focus on the direct care of the most acutely ill patients.

Front Door Model Core Assumptions

Requirement	In Place?	Notes
Clinically led model; integrated with Primary Care.	In part	
Supported by new role applications:		
Consultant Nurse Intensivist	No	
Physicians Associates	Yes	
Senior specialty support provided in AMAU	Yes	
Acute take medical rota	Yes	
Acute take surgical rota	Yes	
Acute take Gynaecology and Obstetrics	Yes	
Acute take Paediatrics	Yes	
All ED nurses complete Paediatric Advanced Life Support Training	Yes	
Paediatric stream to be supported by Registered Sick Children's Nurse on every shift.	In part	See Paediatric Section
MDT working before and across front door services including therapies, paramedics and pharmacy.	In part	Emergency pharmacy and paramedics are 24/7, but whole system, joined up approach needs to be developed to provide consistent input across the whole week.
Mental Health room and 24/7 liaison with Community Mental Health Team	Yes	Response times to be improved alongside the development of the community model for Mental Health Services.
Pathways for referral to Hot Clinics	Surgery	Other pathways to be developed



- Pre-hospital admission avoidance (CUICC)
- Rapid Frailty Assessment
- Whole person MDT approach
- Consultant Nurse Intensivist
- Rapid Response Domiciliary Care Service
- Rapid assessment and treatment
- Daily MRI and ultrasound
- 24/7 full body CT
- Mental Health Liaison
- Reablement/Rehabilitation

Delivering Excellent Rural

Acute Medical Services

Rural Acute Medical Centre

A significant proportion of BGH's emergency demand falls under the General Medical specialty. Although there is also a "planned" general medical stream, where patients are referred for an outpatient appointment, these patients present with a range of acute and chronic conditions that, if left unchecked, could deteriorate leading to a crisis requiring either an A&E attendance or inpatient admission.

General medical services, therefore, are key partners in the anticipatory approach that GPs and community services will provide in order to maintain people at home.

Patients in the community with known health conditions need to be managed by their GP and Primary Health Care Team, accessing specialist support when required. When patients are in crisis, the best outcome may not be achieved by hospital admission and it is essential that services are provided for the rapid assessment of people in their home setting and modification of their care package in response to the presenting circumstances.

When patients are admitted to the Acute Medical Assessment Unit, they will be managed under the care of an appropriate specialist based upon their diagnosis or presenting symptoms.

The general medical service at BGH provides a wide range of sub-specialisms:

- Stroke
- Cardiology
- Respiratory
- Haematology
- Oncology
- Falls
- Endocrinology and Diabetes
- Gastroenterology
- Care of the Elderly
- Palliative Care (via community team)
- Neurology (via telehealth)
- Fracture Liaison

An overall generalist approach in medicine requires all medical staff to have a broad knowledge to ensure patients receive the appropriate care outside of the "normal" working week. Dual accreditation of medical consultants allows them to provide specialist and generalist care.

The diagnosis of general medical conditions requires access to a significant range of diagnostic tests and imaging. Although there are a standard core, there is significant variation between specialties.

Computed Tomography scans (CT) are available 24/7 and the provision of daily ultrasound (US) and Magnetic Resonance Imaging (MRI) would significantly enhance the response provided at emergency admission and, if extended to some "wellness" tests, would promote timely discharge throughout the week.

Elderly Care Model

Keeping older people at home is essential to prevent deconditioning that reduces independence and worsens outcomes. This is especially apparent in patients over the ages of 80.

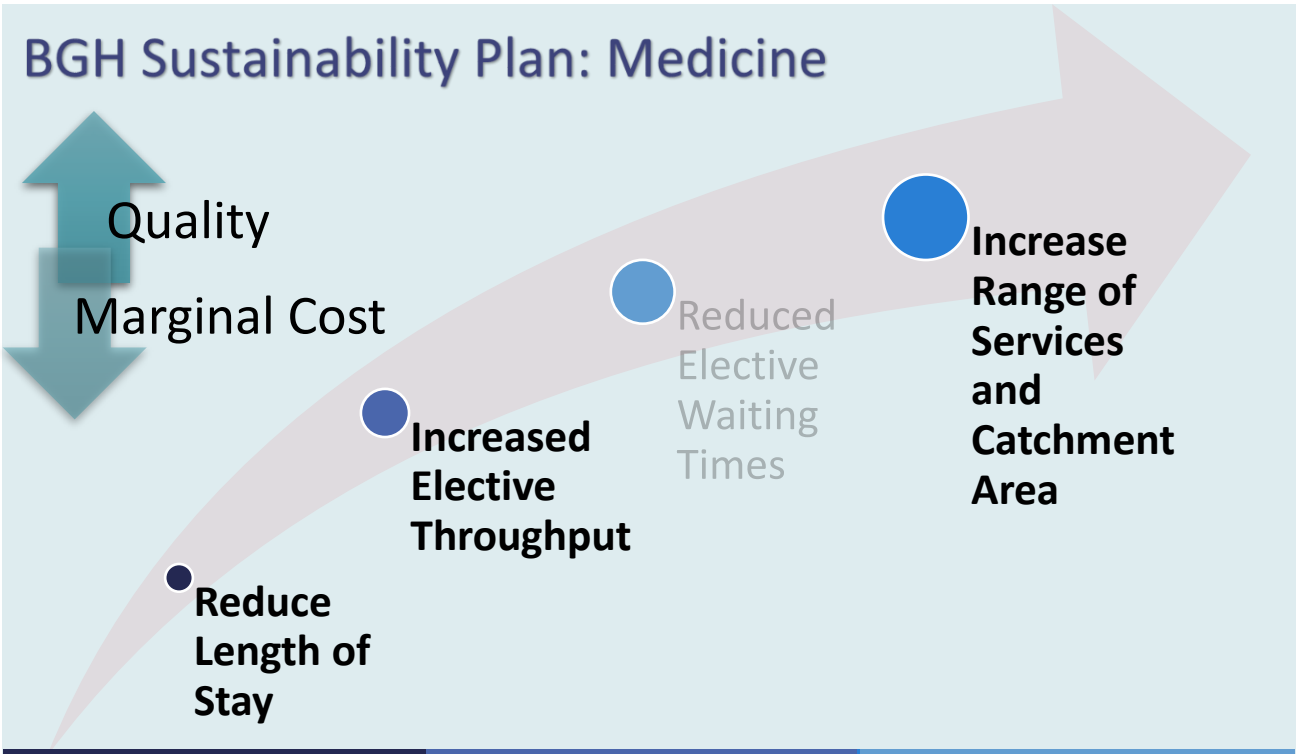
When community admission prevention has exhausted available options, or where patients unknown to the service deteriorate and are conveyed by ambulance to A&E as an emergency, there will be:

- Anticipatory community based approach to manage changes in people's conditions in the community
- Front Door Frailty Team: Delivered in the Community Urgent ICC. Provides rapid holistic assessment by community team to calculate a frailty score and support the provision of emergency home support that allows the patient to return home
- Elderly Care Short Stay Model (Length of Stay 72 hours or less): Dedicated elderly care beds with high levels of therapy input
- Collaborative Care Dementia Service: In line with National Institute for Clinical Excellence guidelines, an integrated acute and mental health shared care older persons unit
- Registered Mental Health Nurse Outreach: Providing support to patients with a dementia co-morbidity

We were visiting Gareth in Talybont. Mari fell as she was coming into the house from the garden. She was in a lot of pain and couldn't get up. The falls response team arrived quickly. The paramedic and occupational therapist suspected Mari had fractured her hip so they called an ambulance, which also arrived quickly. The x-rays taken at the A&E in Bronglais confirmed that Mari had fractured her hip and it would need to be replaced. A nice doctor explained that they will operate within 36 hours. I explained that Mari has early dementia and might get confused, so they made arrangements for her to be admitted to her own room and for the Specialist Dementia Nurse to visit and assess her and ensure that the service she received did not add to her confusion. They informed me of a butterfly scheme so I could let them know what was important to Mari. I was worried about her, but the Consultant Ortho-Geriatrician was able to reassure me and I was told I could visit her whenever I wanted. There was a reclining chair that I could sleep on and I had some meals with her to keep things as normal as possible.

Medical Model Core Assumptions

Requirement	In Place?	Notes
No single handed specialties.	In Part	2 specialities funded for 1 consultant only. Recruitment is underway to fill vacant post.
Specialist Nurses key part of team	In Part	There are opportunities to develop additional roles to meet patient's needs and fill gaps in certain services, e.g. gastroenterology and movement disorder.
Falls service (Safe and Steady)	In part	Development of single point of access and MDT approach pulling together existing services responding to and working to prevent falls.
Fracture liaison service	Yes	
24/7 Full Body CT	Yes	
Daily Ultrasound	No	Currently provided 5 days a week.
Mental Health Liaison	Yes	
Dementia Friendly Working	Yes	



- Elderly care model
- Daily diagnostics
- Reablement/ Rehabilitation

- Recruit to last respiratory vacancy

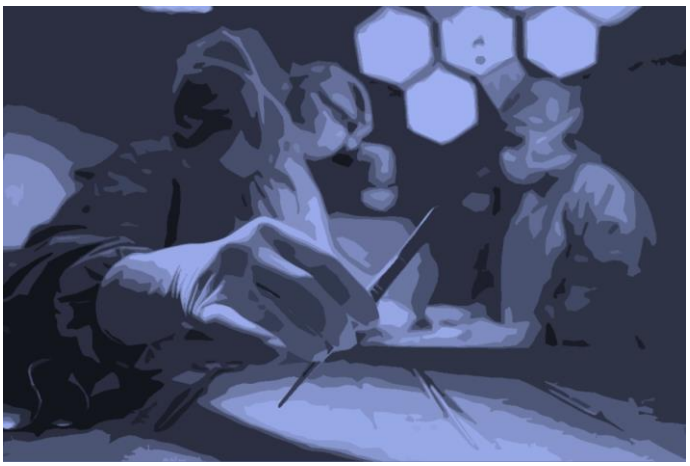
- Sleep disorders
- Develop outreach clinics in Ceredigion, Powys and Gwynedd

Delivering Excellent Rural

Acute Surgical Services

Rural Acute Surgical Unit

Patients presenting at BGH's Accident and Emergency department and those who are brought in by ambulance or referred by GPs requiring emergency surgery will have a wide range of clinical conditions, some of which require rapid surgical intervention.



Some patients presenting with apparent medical conditions may convert to surgical intervention after initial assessment and diagnosis.

The case mix includes patients of all ages and an appropriate response to cover both adult, paediatric and obstetric emergencies needs to be in place.

There are currently no protocols in place for ambulance services to divert surgical patients to other centres as there are with patients who present with certain cardiac or trauma conditions.

The Rural Acute Surgical Unit, will:

- Provide rapid surgical assessment by a senior surgeon
- Access rapid diagnostic imaging and pathology
- Access specialist/multi-disciplinary input where required (this would include discussion regarding appropriate transfer to specialist services if this would provide the best outcome for the patient)
- Agree a diagnosis and recommended definitive treatment plan for discussion and agreement with the patient and family
- Proceed with plan

Some clinical presentations require immediate treatment that should be initiated after the initial assessment (by any senior clinician). These are conditions that must be operated on immediately (either to stabilise prior to transfer or to treat) and include, for example, treatment of ruptured appendix, strangulated hernia, ruptured spleen and other such conditions.

Multi-Disciplinary Team

Multi-disciplinary working across and within medical, surgical, radiological and anaesthetic specialties is essential to the delivery of the front door service. In addition, established partnerships with specialist services provided at tertiary centres, e.g. vascular and neurosurgery, support the management of patients presenting with conditions that are not, usually, easily or successfully managed outside of a tertiary centre. There are, however, a number of multi-disciplinary approaches that, whilst as essential, are not as visible, but need to be recognised, including:

- General Surgery and Obstetrics & Gynaecology
- Gynaecology and Urology
- General Surgery and Paediatrics
- General Surgery and Trauma and Orthopaedics
- Trauma and Orthopaedics and Geriatric Medicine
- General Surgery and Geriatric Medicine
- General Surgery and Palliative/Oncological Medicine
- General Surgery and Radiology (interventional)

The provision of obstetrics and gynaecology, paediatrics and trauma services are set out later in this document.

Emergency and Elective Surgery

Emergency unplanned surgery presents immediate challenges that planned surgery does not. However, the tests, diagnostic considerations and procedures performed are much the same. It is clear, therefore, that surgeons performing emergency surgery must be providing an elective service and that, given the access considerations for the population of mid Wales, this is best provided as locally as possible by BGH.

Hot surgical clinics have been introduced so that a consultant surgeon will assess a patient in the emergency department and identify individuals who can be safely discharged home following pre-assessment with a booked date for the required procedure on the next available day surgery list. This avoids admitting patients who can safely be cared for at home. We will extend the coverage of our hot clinics so that patients presenting in community settings can be appropriately assessed and booked in this way.

High Quality Outcomes and Facilities

Following a multi-million pound investment, BGH now has four of the most modern operating theatres in Wales. It also has a fifth “pod” theatre that is remote from the two main theatre suites, but is ideally suited to providing high volume or low complexity treatments, such as cataract, dental and some ear, nose and throat (ENT) procedures.

These world-class environments support the whole team in their commitment to excellence in the delivery of surgical services to their patients. The services

provided at BGH have demonstrated excellent outcomes in national audits including those for emergency laparotomy and fractured neck of femur.

Elective Surgical Provision

In addition to the need to provide elective care locally, it would not be possible to recruit and retain doctors to an emergency-case only job plan. The provision of a broad range of elective procedures, including cancer and benign surgery, will be provided at BGH to ensure the whole surgical team have exposure to the widest possible range of conditions and maintain and develop their skills in treating these, including:

- Colorectal benign and malignant
- Benign Upper GI and hepatobiliary surgery
- Diagnosis and initial management of upper gastro-intestinal cancer
- Diagnostic and therapeutic endoscopy (including endoscopic retrograde cholangiopancreatography and stenting)
- Urological benign and cancer surgery including kidney
- Breast benign conditions and cancer
- Abdominal wall surgery (hernias)
- Ear Nose and Throat
- Gynaecological

Ophthalmology services are of particular relevance to an ageing population but also provide essential diagnostic and treatment for patients in younger age groups. Outpatient and diagnostic services are provided from the North Road Clinic with surgical procedures being performed at BGH. The ageing population across mid Wales results in an increasing demand for procedures for cataracts and age related macular degeneration alongside the management of glaucoma, diabetes related conditions and other general ophthalmic conditions. There is a significant opportunity to deliver ophthalmology services closer to peoples' homes and we will work with our neighbouring Health Boards to establish local diagnostic and treatment services in their community facilities.

Clinical Pathways

Links with specialist centres that reflect BGH's catchment area will be established so that patients for whom a BGH/Shrewsbury/Telford pathway

provides them with the best outcome, can access the appropriate services seamlessly across that pathway. Similarly, patients for whom BGH/Glan Clwyd/Christie provides them with the best outcome will have access to those services.

Opportunities to utilise new facilities being developed in both Powys and Gwynedd will promote outreach, networking, staff rotation and skills development with specialist and training centres. BGH will become a training hub for surgeons within Hywel Dda to access advanced laparoscopic training provided by Shrewsbury and Telford NHS Trust, significantly enhancing Hywel Dda's overall skills and capacity to the benefit of all Hywel Dda patients.

Delivering Emergency Care – Protecting Elective Capacity

Elective care capacity is best protected when its physical environment is separated from that required for emergency care. At BGH, however, the economies of scale required to deliver financial sustainability do not support physical separation of those facilities and separation of the elective and emergency work-streams will be enforced to ensure that the emergency work is done in a timely way that does not compromise elective cases.

The opening of the new inpatient and emergency theatre suite paves the way for the day surgery unit to move to a 23:59 service model (which promotes patient recovery following day case surgery, but protects the capacity for elective cases).

We were on a short holiday in Aberaeron when Ben became unwell with severe stomach pains. I took him to the local GP surgery for emergency treatment. The GP suspected appendicitis and called an ambulance, which arrived almost immediately. We didn't have to wait in Bronglais A&E. 30 minutes later, Ben had the operation to remove his appendix, and the surgery only took 20 minutes. We stayed for 2 days until Ben was well enough to be discharged. The doctors and nurses were fantastic and looked after us really well. They arranged a reclining chair for me next to Ben's bed for me to stay overnight, which was fantastic for both of us.

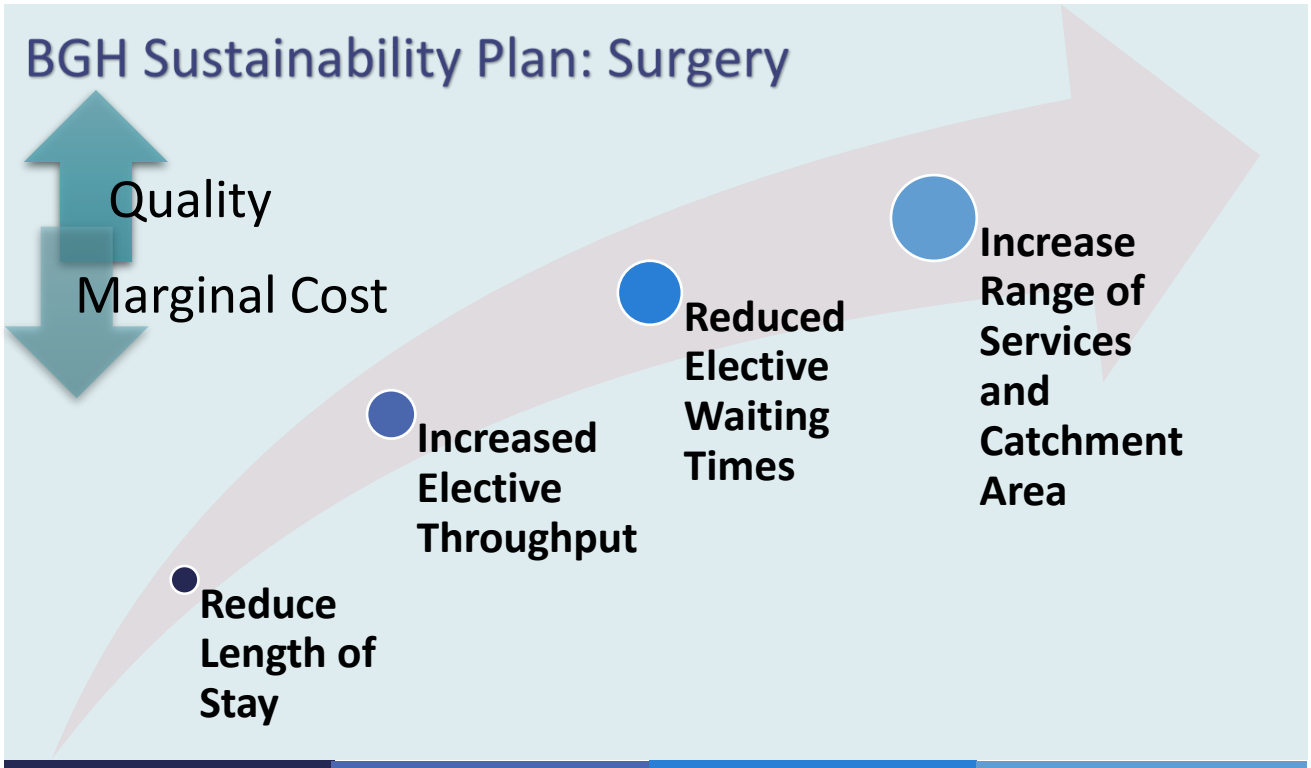
Improvements can also be made with regard to preparing patients for surgery and we will establish “prehabilitation” for patients for whom better outcomes can be obtained following health improvement activities, such as smoking cessation.

In addition to improving wellbeing prior to admission, it is important to ensure that patients receive appropriate support before and after surgery to reduce the time a patient needs to stay in a hospital bed. The provision of physiotherapy and occupational-therapy support seven-days a week is essential to ensure therapy plans are consistently delivered.

More detail on providing “Excellent Rural Planned Care” is provided later in this document.

Surgical Model Core Assumptions

Requirement	In Place	Notes
Move to 6 surgeon rota (to meet Royal College of Surgeons recommended on-call cover)	No	Currently 1:4 as agreed with Royal College of Surgeons. Increased numbers will be supported as workload grows due to repatriation and catchment area extension.
Theatre on-call/emergency surgery/trauma teams to meet guidelines and any emergencies that cannot wait.	In part	Plan to establish appropriate staffing mix and levels to be developed.
24/7 Obstetrics and Gynaecology support for emergency surgery	Yes	
Upper GI Bleed Rota	Yes	Ensure sufficiently trained members of on-call team to cover service.
Rotation of Staff	No	To be introduced as part of Health Board wide programme of staff rotation with options to rotate with other providers relevant to BGH patients.
23:59 “Day Case” Unit	No	To be implemented after the new inpatient theatre suite has bedded in.
Daily therapy support for elective surgical cases	No	7 day support to be developed utilising opportunities of new role development.
Outreach Clinics to Ceredigion, Powys and Gwynedd	In part	In Mid Wales Clinical Advisory Group’s work plan
Vascular Surgery	No	Patients currently travel for appointments. Opportunity to work with partners across Mid Wales to improve access.
Clinical Pathway Development	In Part	Some pathways exist, but full and comprehensive review required to ensure they provide the best possible outcome for the patient and reflect the commissioned services of Powys and Betsi Cadwaladr Health Boards.



• Maximising day case potential • Admission on day of surgery • Optimising pre-assessment screening • ERAS • Patient optimisation • Discharge planning from Day 1 • Criteria led discharge • Daily MRI and ultrasound • Frailty ANP • Rehabilitation • Reablement	• Maximise theatre efficiency • 12 hour elective day • Separate emergency theatre facilities (NCEPOD) • Separate elective and emergency ward base • Develop surgical short stay model • Daily therapy support	• Maximise theatre efficiency • Separate elective and emergency ward base • Local management of elective services • Versatile Operating Department Practitioner roles to take on minor procedures • Promote minor surgery in community	• Outreach to Machynlleth • Outreach to Tywyn • Outreach to Newtown • Increase service provided within specialties • Extend service portfolio (networking north, east west and south)

Delivering Excellent Rural

Acute Trauma Services

Rural Trauma Facility

Major trauma care is a whole-service, networked approach to managing seriously injured adults and children. By providing a multi-disciplinary specialist approach, the Major Trauma Network improves patient outcomes by saving life, reduce disability and improve recovery to functional life.

BGH's remote rural position in Wales results in a level of self-presentation and "nearest hospital" blue light arrivals where travel time to a Major Trauma Centre or Major Trauma Unit is outside timeframes required to attain the best outcome for patients.

When a patient presents with simple trauma, e.g. a fractured leg, that can readily be stabilised with "plaster" then the trauma service comprises a relatively straightforward team of orthopaedic doctor, radiologist, nursing, plaster technician and physiotherapy. However, seemingly simple trauma can, upon imaging, present more complex challenges, such as penetration or risk of penetration of skin, blood vessels, thoracic and abdominal organs. More complex trauma, therefore, requires an enhanced skill-mix to agree and enact an appropriate management plan.

Major trauma services aim is to preserve life, prevent secondary injuries, assess, diagnose and agree a treatment plan for the presenting conditions. Evidence supports a view that these patients are best treated at a specialist Major Trauma Centre as part of a Major Trauma Network. The development of the Emergency Medical Retrieval and Transfer Service (EMRTS) and air ambulance services will facilitate these transfers either directly from the scene or post stabilisation at BGH.

Because of the remoteness of the mid Wales area, the vital initial response and stabilisation of patients within the critical period of time from the trauma will have to be done at BGH for patients who:

- Are too unstable to go directly to a Major Trauma Centre
- EMRTS are unable to attend or where patients
- Self-present

For patients who do present at BGH, decisions regarding their care will be made by a multi-disciplinary team including rapid access to highly specialised support from the Major Trauma Centre to ensure the best outcome possible for the patient.

In some cases, initial treatment of some elements of the trauma will be required prior to transfer to a Major Trauma Centre for repair of more complex conditions (e.g. to manage uncontrolled blood loss or other immediately life threatening condition).

Technology presents opportunities to support decision making and remote treatment, for example cameras can be mounted in theatres to let remote surgeons advise on procedures where patients are too ill to be transferred and this will be explored to support providing patients with the best possible outcome given their presenting circumstances.

High Quality Services

BGH actively participates in the Trauma Audit and Research Network (TARN) and demonstrates good outcomes for Major Trauma patients being managed at or via its services. There are agreed stabilisation and transfer pathways to the Major Trauma Centres that have been developed in collaboration with WAST. Although not classified as Major Trauma in older people, BGH delivers excellent outcomes for patients presenting with hip fractures and meets more of the quality criteria than any other hospital in Wales in the National Hip Fracture Audit.

Fractured Neck of Femur: BGH has demonstrated consistently high compliance with the national hip fracture audit's requirements and has developed practice that challenges some assumptions about what good looks like in this area. Pre-operative optimisation at BGH has shown that for some patients, although time to theatre is longer, overall recovery time and length of stay is shorter, with survival and outcomes improved.

Clinical Pathways

Hywel Dda's Trauma Unit will be based in the new hospital development (temporarily at Glangwili). Tertiary level services will be available across south Wales at the Cardiff Major Trauma Centre. Powys residents receive major trauma care at Cardiff or Stoke and North Wales patients receive their care at Stoke. The Major Trauma Network also includes the tertiary level services for cardiovascular and plastic surgeries provided by Swansea Bay Health Board.

Any trauma currently presenting at BGH that involves an existing joint replacement, is transferred to Glangwili Hospital. This ensures that patients who might require revision surgery are at a facility that is equipped to provide it. A major trauma triage tool will be used to assess the manner of the initial intervention (ambulance/air ambulance/EMRTS) and direct patients to the most appropriate service relative to their presenting need.

Networks with specialist centres provide opportunities for skills maintenance and development together with continued professional development. BGH hosts an annual meeting where the clinical team from Oswestry and BGH meet to discuss case management and networking.

Spinal Trauma

Following imaging and diagnostic tests at BGH, information is sent to the on-call Major Trauma Team at the University Hospital of Wales in Cardiff (UHW). The information is relayed to UHW's spinal team for advice on management locally or transfer. This allows patients to be managed as close to home as will achieve the best outcome for them, but steps need to be taken to guarantee the provision of timely advice or instruction for transfer. For some patients, Cardiff will redirect the pathway to Oswestry which is facilitated by the teams at BGH.

Paediatric Trauma

Common trauma conditions will be treated at BGH.

Core complex and less common paediatric trauma, such as fractured hip, bone and joint infection or slipped upper femoral epiphysis, are transferred to specialist centres in Cardiff or Oswestry following discussion with clinicians specialising in this level of care.

Delivering a Rural Trauma Facility

What is set out above describes the services currently provided from BGH and there is no proposal to change this. While there may be some changes to the protocols for transfers from scene, the presenting cases do require this level of service to be available 24/7 at BGH.

By recognising BGH's unique position as a "*Rural Trauma Facility*" within the national trauma network, BGH will be able to appropriately respond to any level of trauma offering resuscitation, stabilisation, treatment and transfer as appropriate to presenting cases. This recognition will also promote repatriation of patients back from the Major Trauma Centres to their local hospital for ongoing care and rehabilitation.

To better support the current service provided and seek to develop the service to meet the increased demand that will be placed upon BGH, a number of services need to be provided:

- Access to urgent full body CT within 1 hour 24/7
- Access to MRI within the "day", (24/7 for spinal cord compression)
- Consultant review will be required daily with two ward rounds required for the most acutely ill patients
- Trauma Specialist Nurse
- Daily trauma theatre list including all support services (e.g. imaging intensifier)
- Daily therapy input
- Pathways for transfer to the Major Trauma Centres at Cardiff and Stoke and, where appropriate, to the specialist orthopaedic hospital in Oswestry
- Protocols for transfers between the Hywel Dda Major Trauma Unit and the Rural Trauma Facility for Hywel Dda patients

Rehabilitation

Rehabilitation post trauma should start on day 1, even if this is only planning. The timescale for active mobilisation will depend upon specific condition, but in general, evidence suggests that the sooner someone becomes mobile, the better their outcome.

It is important to have access to daily physiotherapy, occupational therapy and, where appropriate other therapy support such as clinical psychology, which may be provided by qualified or appropriately trained support staff, to ensure that mobilisation and rehabilitation is a continual process that will reduce the time spent in hospital and improve the patient's outcome.

Input from Consultant Orthogeriatricians improves outcomes by supporting the care of older people following trauma as part of a multidisciplinary team and is provided at Bronglais.

For more complex trauma, e.g. spinal, a higher level of support is required. In order to achieve the optimal outcome for these patients, this needs to start as soon as possible. We will ensure that networks are in place so that specialist advice from the centre, that if required would receive the patient, is provided to promote the delivery of seamless care.

Rehabilitation post specialised care delivered by tertiary centres is not just required for trauma, but for a number of other conditions and consideration will be given to the development of a mid Wales rehabilitation unit in a central location. By combining the rehabilitation pathways into a single unit, we will be able to deliver high quality, sustainable care as locally as possible to the patients of mid Wales.

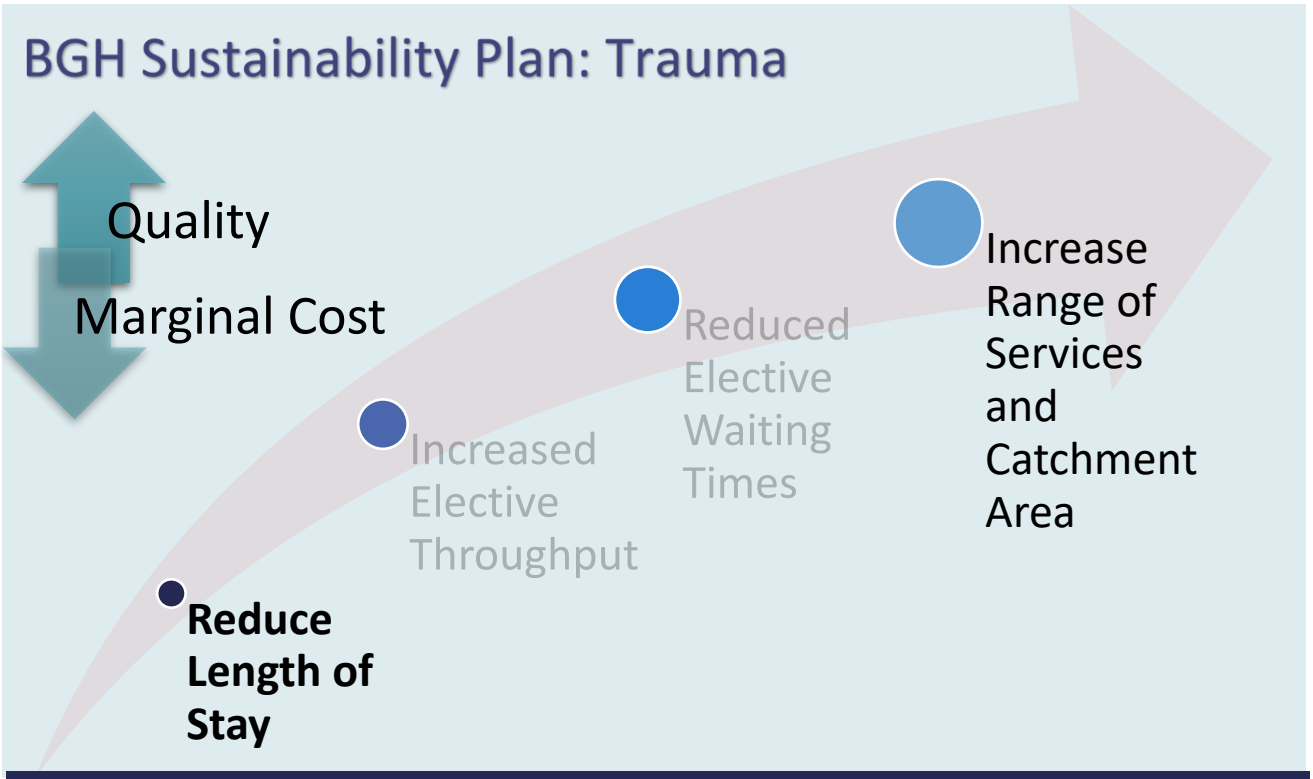
Care for the Family

For patients where the prognosis is clear that potentially curative treatment will not be appropriate, the trauma service enables the provision of best supportive care to ensure pain management, comfort, family support and rituals to provide the best possible death.

Because of the rurality of the area and the distances to the trauma units and centres, the needs of the family in being able to have last moments with their loved one will be promoted and maintenance of patients locally or access to rapid transport to and return from Major Trauma Centres is essential in the provision of a holistic model of care that recognises the both the promotion of the best outcomes for the patient and the best experience possible for the family.

Trauma Model Core Assumptions

Requirement	In Place?	Notes
5 Consultant Orthopaedic Surgeons	No	Currently 3 of the 4 funded posts are filled. Increased numbers will be supported as workload grows due to repatriation and catchment area extension.
24/7 Full body CT in 1 hour	In Part	Service available; review as to root cause of non-compliance to be undertaken
Daily MRI (24/7 MRI Spine)	No	Not first line diagnosis except for spinal cord compression. Following installation of the new MRI, this service could be considered initially on the basis of a call-in service if clinically essential.
Specialist Trauma Nurse	Yes	We have an elderly trauma advanced nurse practitioner in place managing complex fractures
Trauma Theatre List	Planned	Will be introduced as part of new theatre roll-out.
24/7 radiology support for trauma theatre	Yes	Currently provided by on-call radiographer.
Daily Poly-therapy input	No	Essential for rehabilitation initiation, progression and discharge.
Clinical Pathway Development	In Part	Protocol for transfer to Major Trauma Centre in Cardiff are in place. Protocols for transfer of patients from Powys and Gwynedd to the Stoke Major Trauma Centre are in place but will be reviewed. Pathways between Hywel Dda Major Trauma Unit and the BGH Rural Trauma Facility to be agreed.
Telemedicine Links	No	Theatre cameras and tele-links to specialist centres to be installed/created as appropriate.
Staff Rotation	No	Rotation of staff to the major trauma centres in South Wales and Stoke to establish key relationships, develop skills and support clinical pathways.



- Discharge Planning from Day 1
- Patient optimisation
- Daily therapy input
- Daily “care and repair”
- Trauma Theatre List
- MDT
- Cross border liaison for complex discharges
- Elderly trauma advanced nurse practitioner
- Daily MRI and Ultrasound
- Major trauma pathways supported by transport arrangements

Delivering Excellent Rural

Acute Obstetric Services

Rural Obstetric Unit

Consultant led obstetric services are an essential part of a 24/7 unselected acute emergency service. The need to respond to maternity emergencies necessitates 24/7 cover which in BGH's case is supported by the 24/7 on-site consultant anaesthetic service. Obstetric services are closely linked with gynaecological and paediatric services in the hospital and with community mid-wives and paramedics pre-hospital, all of which must work together to provide safe services for mothers and babies.

Because of the remoteness of the population served, BGH provides essential access to families who would otherwise experience significant disruption to their lives in order to access services at other units.

Maternity services at BGH are provided by teams of staff including midwives, obstetricians, paediatricians, anaesthetists, and other support staff. The pattern of care provided to women will depend on each woman's individual needs. Our maternity services have been developed to meet the needs of local women and their families.

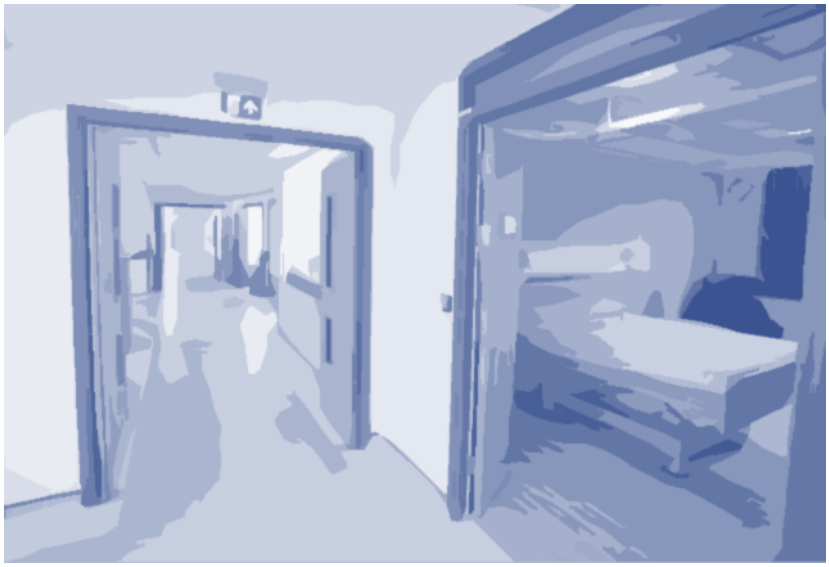
Midwifery services are provided across acute and community services and ensure that mothers (and families) to be, are provided with the support they need during their pregnancy and consultant supervision is provided to those who require additional support. Antenatal care is provided in a variety of settings such as at home, community or hospital settings.

Community Midwives also provide care for women having home births, and are available to give advice to women throughout their pregnancy.

Ceredigion has the lowest fertility rate in Wales at around 47 births per 1000 women of child bearing age each year. With services at Glangwili being more conveniently located for families in the southernmost part of the county, this means that, together with relatively low numbers of births from the remote areas of Powys and South Gwynedd, the total number of births at BGH is low at around 400 births per annum, although this has been higher in the past.

In order to balance quality and access with the low number of births, the BGH service is provided from co-located consultant and midwifery led units which includes a stabilisation and step-up short term enhanced care environment (providing a more specialist care for those babies who require transfer to a higher level of care in another centre) so that the service can respond to a wide range of complications that present unexpectedly at BGH (e.g. unexpected breach/premature labour); the consultant team networks with specialist centres to ensure appropriate management of mother and baby in these cases.

When required, a dedicated emergency surgery/maternity theatre is provided three floors above the maternity unit allowing access to surgery well within the required timescales for emergency caesarean sections.



The Gwenllian maternity unit provides a high quality environment for mothers, families and staff. Health Inspectorate Wales' unannounced inspection of BGH's maternity services (January 2017) found that:

> "Overall, Gwenllian ward provided safe and effective care, which met with the Health and Care Standards. Patients were satisfied with the care they received and spoke highly regarding the professional, courteous and supportive attitudes of the staff."

Stabilisation, Enhanced Care and Risk Management

The low number of births in BGH mean it is not viable to provide a permanent Special Care Baby Unit at BGH and criteria are applied for delivery:

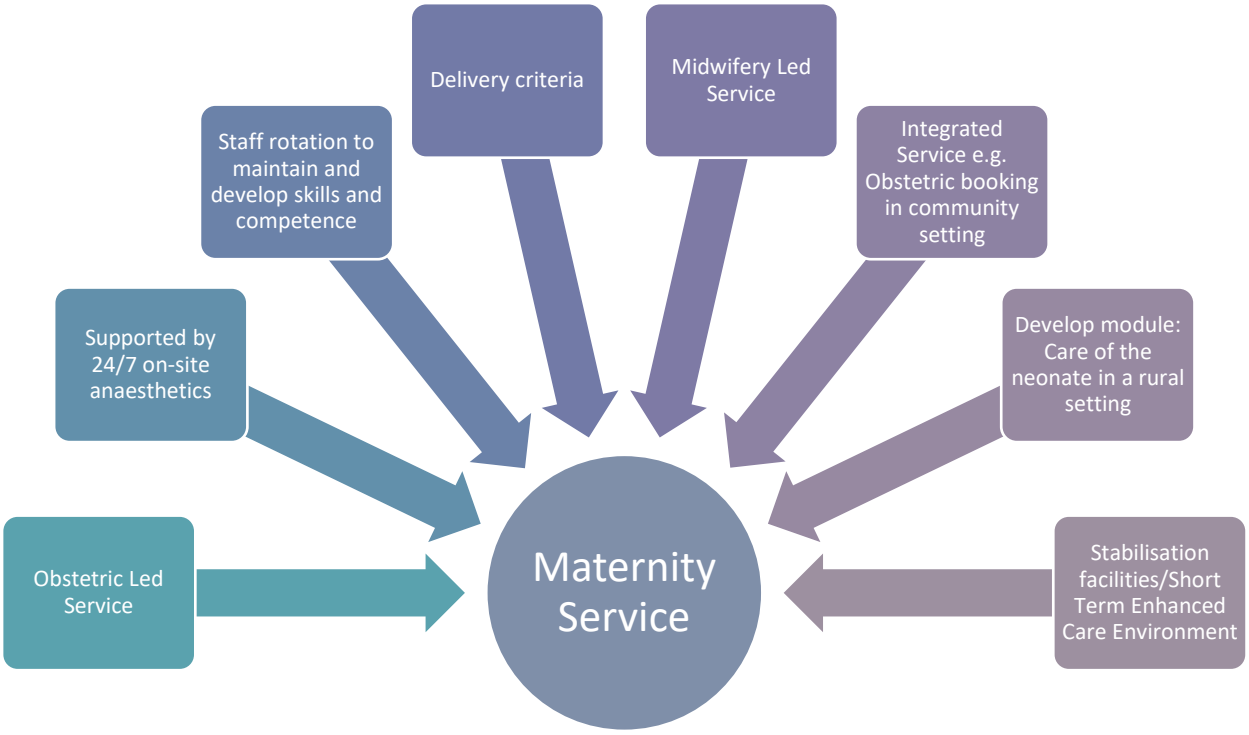
- Deliveries at 37+ weeks
- No twins or higher multiples deliveries
- No high-risk factors (baby)
- No insulin-dependent diabetic mothers

These criteria will continue to be applied in our future model.

We will implement a development of our existing ultrasound scanning service to improve screening for risks of later complications. The provision of a 5-minute scan at 20 weeks would:

- Identify babies at higher risk of later growth related complications
- Enable better planning by the service and families with timely referral for pregnancies that require higher level support
- Reduce the burden on the sonography department by screening out the low-risk pregnancies

The provision of 24-hour on-site consultant provided anaesthetic services at BGH is a key enabler of safe paediatric and maternity services. BGH will also have an established 24/7 on-call rota model for maternity, 24/7 theatre access for caesarean section deliveries, and stabilisation facilities for rescue and transfer of neonates which can step up when needed to provide enhanced care when remote assistance is not available.



Staff Rotation

The low number of births at BGH will require us to ensure a programme of rotation is in place to enable midwives and obstetricians to maintain their skills and competence. We will ensure these staff maintain and develop their skills and knowledge, e.g. one 'hot' week every three months in a specialist unit.

Integrated Service

We believe that some of the services that are traditionally provided in a hospital can in future be provided in a community setting. For example, obstetric booking will take place in the Integrated Care Centres being developed in the community, rather than at BGH.

The health of a new born child starts with the health of their mother and maternity services have a key role in ensuring children get the best start possible by supporting mums to be, in attaining optimal health and wellbeing during their pregnancy.

Midwives are part of the local community and are able to appropriately focus support that is relevant to the needs of the mothers they are supporting. This may be by one to one support or by group sessions. Offering holistic assessment will support the take up of healthy activities and behaviour changes that will benefit not only the health of the baby, but can have significant benefit on the health of the mother and the wider family and the opportunity to discuss parenting and child development should be taken when appropriate to help the attainment of a healthy, happy childhood.

To better meet the needs of mothers from Powys and Gwynedd, we will explore the establishment of virtual clinics that will reduce the need to travel to BGH with local provision of ultrasound scanning the day before the appointment to enable a meaningful consultation to take place.

Care of the Neonate in a Rural Setting

Recognising the particular challenges of providing maternity services in an isolated setting we will work with Aberystwyth University to develop a training module for paediatricians, midwives, paediatric nurses and therapists in Care of the Neonate in a Rural Setting.

Obstetric Triage Unit

The current obstetric service at BGH is geared towards “delivery” and the current pathways do not sufficiently promote obstetric outreach to support the management of non-obstetric emergency presentations to ensure best outcomes for the baby and the mother.

We will establish a 24/7 Obstetric Triage Unit to ensure that all patients who are pregnant and who attend the emergency department with a non-pregnancy related condition are assessed appropriately by a multidisciplinary team, including:

- Consultant Obstetrician
- Advanced Midwifery Practitioners
- Integrated referral pathways to other specialties
- Access to high quality diagnostic ultrasound
- Pathways to specialist centres

This service would also support the management of concerns relating to mothers under community midwives so that escalation to obstetrician support is done in where there is an identified need. It could function as a “Porth Mam” providing a single point of contact for support, advice and intervention relating to maternity matters.

System improvements will also be made to ensure that health care professionals caring for mothers who are deemed, by their consultant, to be of higher risk can be alerted to the need to alert a member of the obstetric team for assessment.

Modernising the Maternity Record

Mothers to be are given the "All Wales Hand Held Maternity Record" that they are asked to keep with them at all times. While this provides easy access to information for health care providers when needed, it is bulky to carry and could allow access to personal information should it be mislaid or misplaced.

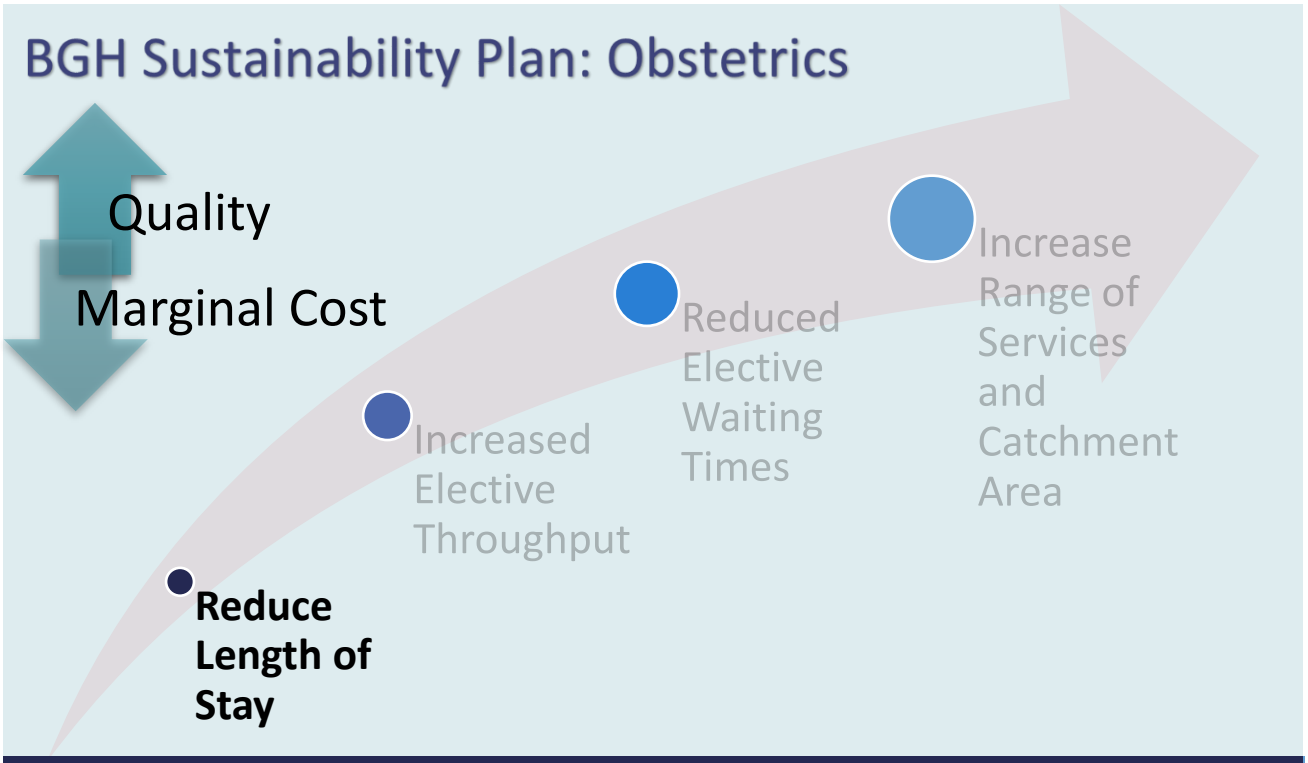
A move to a digital health hand held record that updates from a secure information cloud would allow this information to be carried securely and be accessible to healthcare providers when required, with their updates being available to all who need to access that information in the delivery of care.

Streamlining and computerising assessment processes would improve efficiency and enable sharing of information with key members of the wider health care team. Partnership working with services in and commissioned by our neighbouring health boards would be promoted by the provision of computer based integrated health records so that the latest information is readily available when needed, wherever a patient presents. This development is currently being pursued on an all Wales basis and we will ensure that the scope of such developments include the provision of information to NHS organisations both inside and outside Wales.

Ayesha had a very healthy pregnancy and kept active throughout. We had discussed her labour plan with the midwife and chose to have the baby in the midwife led unit, rather than the labour ward, as we wanted a calming environment for the birth of our third baby. Ayesha stayed at home for as much of the labour as she could, but after a few hours we travelled the short distance to the midwife led unit. The midwife explained the risks and benefits of different forms of pain relief and encouraged Ayesha's use of the breathing exercises she had learned during pregnancy. The labour was relatively straightforward and our third child - our first daughter, Bethan - was born safe and well with no intervention needed. Our experience of the midwife led unit was entirely positive; we felt listened to and well cared for at all times.

Obstetric Model Core Assumptions

Requirement	In Place	Notes
1:4 Consultant Rota	Yes	
24/7 Anaesthetic support	Yes	
24/7 Colorectal and surgical support	Yes	
24/7 Obstetric Theatres	Yes	
Stabilisation Unit (and Short Term Enhanced Care Environment)	Yes	
Community and hospital based midwifery	Yes	
Obstetric Ultrasound	Yes	
24/7 retrieval service within target time	No	CHANTS provided 12 hours a day; nationally provided.
Pathways with specialist units for Powys and Gwynedd	Yes	
Obstetric Triage Unit	No	Current arrangements to be reviewed to ensure effectiveness



- Review and develop services to promote next day discharge after caesarean-section.
- Promote community deliveries
- 24/7 Retrieval Service within Target Time
- Obstetric Triage Unit

Delivering Excellent Rural

Acute Paediatric Services

Rural Paediatric Unit

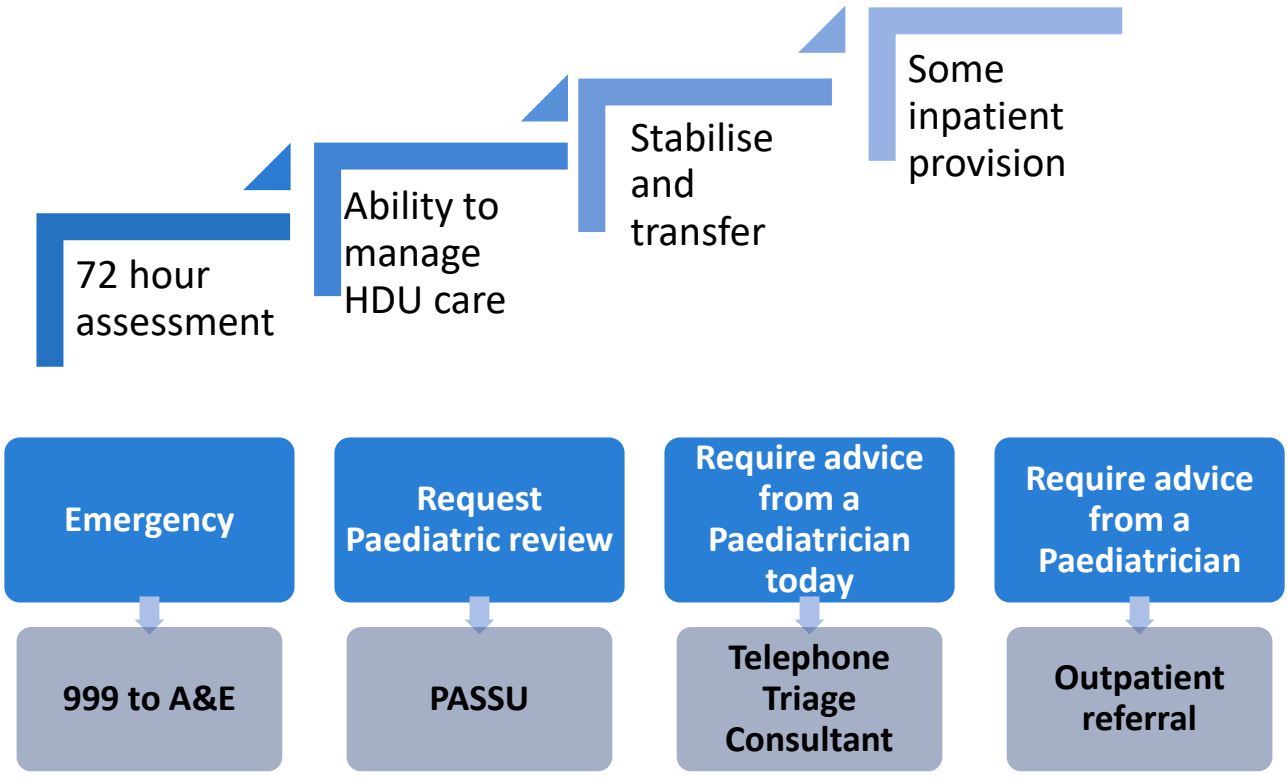
A 24/7 consultant-led, paediatric service is essential to support an unselected emergency care service.

General paediatric units are moving to a Paediatric Ambulatory Care Unit model which aims to provide support and treatment that does not require inpatient admission. In the context of BGH's dispersed catchment population, this model would not work and our plan is to develop it to provide a Paediatric Assessment and Short Stay Unit (PASSU).

The PASSU will provide:

- 72 hour assessment facility
- High Dependency Unit (HDU) care
- Inpatient provision for children requiring specialist input for more than 72 hours
- Community nurse referrals

Where a child has been assessed in a community setting by a competent health professional (e.g. GP, Community Nurse), there are four pathways available to them:



Emergency Services

The consultant-led paediatric service, working with the consultant provided anaesthetic service, will provide care and treatment for the majority of children presenting and referred to BGH. In addition emergency surgery will be provided in partnership with the surgical team at BGH where children presenting with life, limb or organ limiting conditions.

While this will ensure that all children and babies presenting receive high quality specialist support, not all will be able to be treated at BGH. Some will be diagnosed with non-urgent conditions that can be referred to the appropriate specialist centre, others will have a more complex diagnosis that will require rapid transfer to a specialist centre and this will be done in accordance with clear agreed clinical pathways reflecting the child's area of residence so that they are transferred to the most appropriate and local specialist centre in a smooth and timely way. There are three main transport services relevant to patients who attend BGH:

- Wales & West Acute Transport for Children service (WATCh) linked to Cardiff and Bristol Paediatric Intensive Care Unit
- North West and North Wales Transport Service (NWTS) linked to Paediatric Intensive Care Units in North Wales, Manchester and Liverpool
- Emergency Medical Retrieval and Transfer Service (EMRTS) providing pre-hospital critical care at the scene of an accident prior to transfer to the most appropriate unit for ongoing treatment

Where retrieval is not immediately possible, there are options to transport specialist teams to BGH to take over management of care until such time as the patient can be transferred. It is essential that transport services acknowledge the remote and rural nature of both BGH's location and the population served. When required, pathways for transfers out of BGH should be to the specialist centre closest to, or at least closer to the patient's home, to enable onward care and support by and of the family.

Pathways and Surgery

The paediatric team at BGH support a wide range of services in both inpatient and outpatient settings where children come into contact with "general"

specialist services, such as orthopaedics, ophthalmology, ENT and general surgery. The service also reaches into accident and emergency when children present and is also a point of referral and support for primary care services. Importantly, the service supports BGH's obstetric services, providing essential input during deliveries and input to the Special Care Baby Unit (SCBU) for stabilisation of unexpected sick new-born babies pending transfer to more specialist care as required.

Emergency surgery for children is performed at BGH where it is required to save life, limb or organ. There are protocols in place for the transfer of children to other units as required.

Pathways are in place with Cardiff and Liverpool for highly specialist support and with Glangwili for less complex elective surgery and Oswestry for orthopaedics.

Elective surgery for children is, in general, kept to a minimum and when required should be provided by surgeons who are operating on sufficient numbers of children to ensure they are suitably experienced. The most common procedures and pathways are:

- Inguinal Hernia repair at Glangwili
- Umbilical (belly-button) hernia repair at Glangwili
- Correction of undescended testis at Glangwili
- Circumcision at Prince Philip Hospital

Referral pathways for children from Powys and Gwynedd are to the respective hospitals in North Wales and Telford.

We will seek to work in partnership with colleagues within Hywel Dda and with specialist centres so that routine elective paediatric surgery is returned, where appropriate, to BGH. The surgical facilities at BGH do not have a designated paediatric unit, so surgery will need to be managed in such a way that it was separated from adult care. Surgeons performing procedures would need to be part of a rotation that would allow them to perform sufficient operations to maintain their skills and competence. We will also provide additional training for anaesthetists and ensure that a Registered Specialist Children's Nurse is present in theatres.

Paediatric Staffing

The service is a consultant-led service supported by middle grade doctors, an Advanced Paediatric Nurse Practitioner (APNP), Registered Sick Children Nurses (RSCN), children's trained nurses and health care support workers. Hospital play specialists provide support Monday to Friday. The paediatric unit delivers education and training opportunities including overseas post-graduate trainees from Sri Lanka and Medical Students from Cardiff. The provision of training opportunities is essential in order to meet the challenge of recruitment and retention to the team and ensure the provision of a 24/7 service.

BGH's unique situation offers an opportunity to provide trainees with a rural perspective which provides a highly diverse and unpredictable case mix that will support the development of their case management and collaboration skill-set to meet the demands and resources available.

The adjacency of BGH to Aberystwyth University and the drive to develop clinical education in mid Wales will help deliver the academic and practical support structures that doctors working towards specialisation required.

The appointment of an Advanced Paediatric Nurse Practitioner to BGH has allowed us to explore alternative workforce solutions to providing the services. This includes the assessment, examination and management of acute presentations including decision to refer on, admit or discharge supported by access to a full range of diagnostic tests.

Advanced Paediatric Nurse Practitioner

APNPs support the acute medical team and enhance access to paediatric care.

They use independent clinical judgement to assess, investigate, diagnose, plan, implement and evaluate the clinical management and care of children. They are able quickly exclude serious illness and identify those children who are sick from those who are well, but presenting as a concern.

APNPs work across the acute paediatric, ambulatory and out-patient care settings and provide nurse-led clinics to assess both new patients as well as follow-up reviews reducing the number of children attending the ward for services that can be provided in a more appropriate setting.

Prudent healthcare is an essential component of health care for children; too much or too little intervention can have long lasting effects on wellbeing. APNPs are ideally placed as part of a wider multi-disciplinary team to provide a

skilled holistic clinical assessment and recommendation and we will develop our service so that APNPs are available 24/7.

By developing additional APNP posts within the department, it would be possible to remodel the service to provide a 24/7 nurse led service with access to call-in consultant support. This would support the delivery of accident and emergency liaison whilst delivering safe, accessible and patient focused care in a local setting. The consultant team will focus on the specialist care needs presenting in the department and across the community.

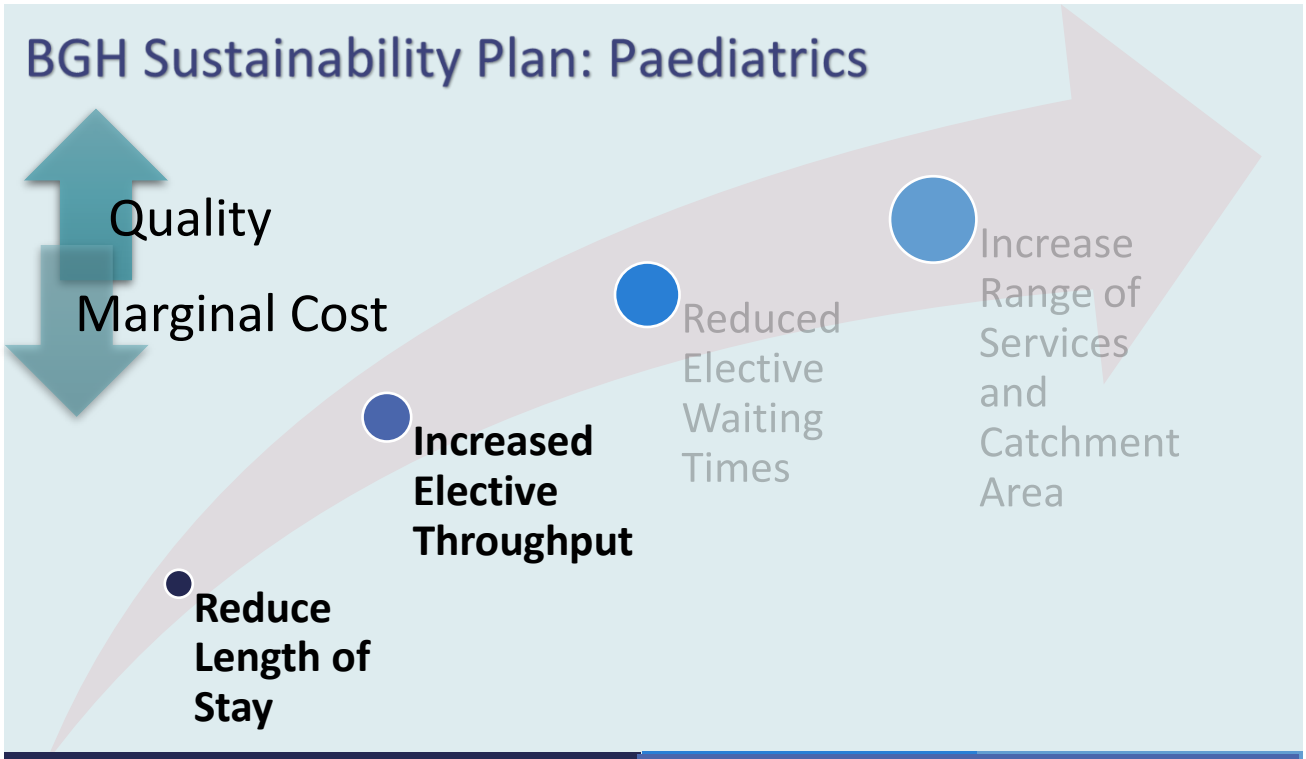
Care of the Paediatrics in a Rural Setting

We will work with Aberystwyth University to develop accessible modules for supporting clinical staff and teams to maintain and enhance their skills in providing care for paediatric patients in isolated, rural locations.

Baby Bethan was six months old when she developed a barking cough and shortness of breath. I rang the GP out of hours' service. The GP said it sounded like a case of croup and that most cases are relatively mild and can be managed at home, but because of the baby's breathing difficulties I should take her to A&E for assessment. We were seen quickly and the doctor diagnosed croup. We were admitted to the paediatric unit where an Advanced Paediatric Nurse Practitioner reviewed Bethan and after a short period of time with an oxygen mask the baby started to recover quite rapidly. We were discharged with medication and we were reassured we could access advice if Bethan had got any worse, but she was fully recovered within a few days.

Paediatric Model Core Assumptions

Requirement	In Place	Notes
Consultant rota (4 consultants)	Yes	
Middle Grade rota	Yes	Recruitment and retention of staff to be enhanced
Advanced Paediatric Nurse Practitioner	Yes	1 ANP in post. To provide 24/7 rota as alternative service model, 5 more will be required. This would also support emergency paediatric take.
Area single point of access for paediatric advice	In part	Angharad ward informally provides this service, but consideration should be given to developing formal protocols.
Return of elective paediatric surgery	No	To be considered by service in partnership with commissioners and other providers.



- APNP Rota
- Single point of access

- Paediatric surgery

Delivering Excellent Rural

Critical and Intensive Care Services

Rural Intensive Care Service

BGH's Intensive Care Service is the only unit in Wales that is consultant delivered. This unique service has evolved to ensure that there is senior presence to respond to the highly unpredictable presentations BGH receives due to its remoteness.

The anaesthetists provide a clinical foundation for the whole hospital and their 24/7 presence allows essential services to be provided that may otherwise be challenging so to do.

All the Anaesthetists are trained in paediatric life support and work in pairs to provide step up special care baby support when required prior to transfer to a specialist unit. All Anaesthetists are trauma trained and are equipped and skilled to lead on trauma care out of hours until the specialists arrive (within 30 minutes).

The Intensive Care Service is provided in multiple locations across BGH, but is based in the Intensive Care Unit in the surgical block.

Anaesthetic Services

The Anaesthetists provide:

- Anaesthesia for all elective surgery and emergency surgery required
- Pre-assessment clinics (nurse and doctor led)
- Ventilation, invasive monitoring and care of very sick patients in the Intensive Care Unit (ICU)
- Medically induced coma to aid treatment
- Stabilise sick children prior to retrieval; short term care of sick children not needing or offered transfer to a specialist centre. Supporting transfer of very sick children if not transferred to a specialist unit.
- Stabilisation and transfer very sick patients if not retrieved. In the majority of cases, consultant anaesthetists accompany the patient during transfer. The transfer distances are usually longer than in other areas.
- Haemofiltration

Highly specialised critical care services, such as neurology and burns, are provided in tertiary centres and will not be provided at BGH.

Intensive Care Unit

BGH's Intensive Care Unit comprises 3 beds and 1 isolation room. A fifth bed-space is available if additional capacity is required.

Staffing levels allow the unit to care for 3 of the most seriously ill patients (level 3/ITU) at any one time or, up to 4 level 2, high dependency patients (HDU).

Organisation of Intensive Care Services

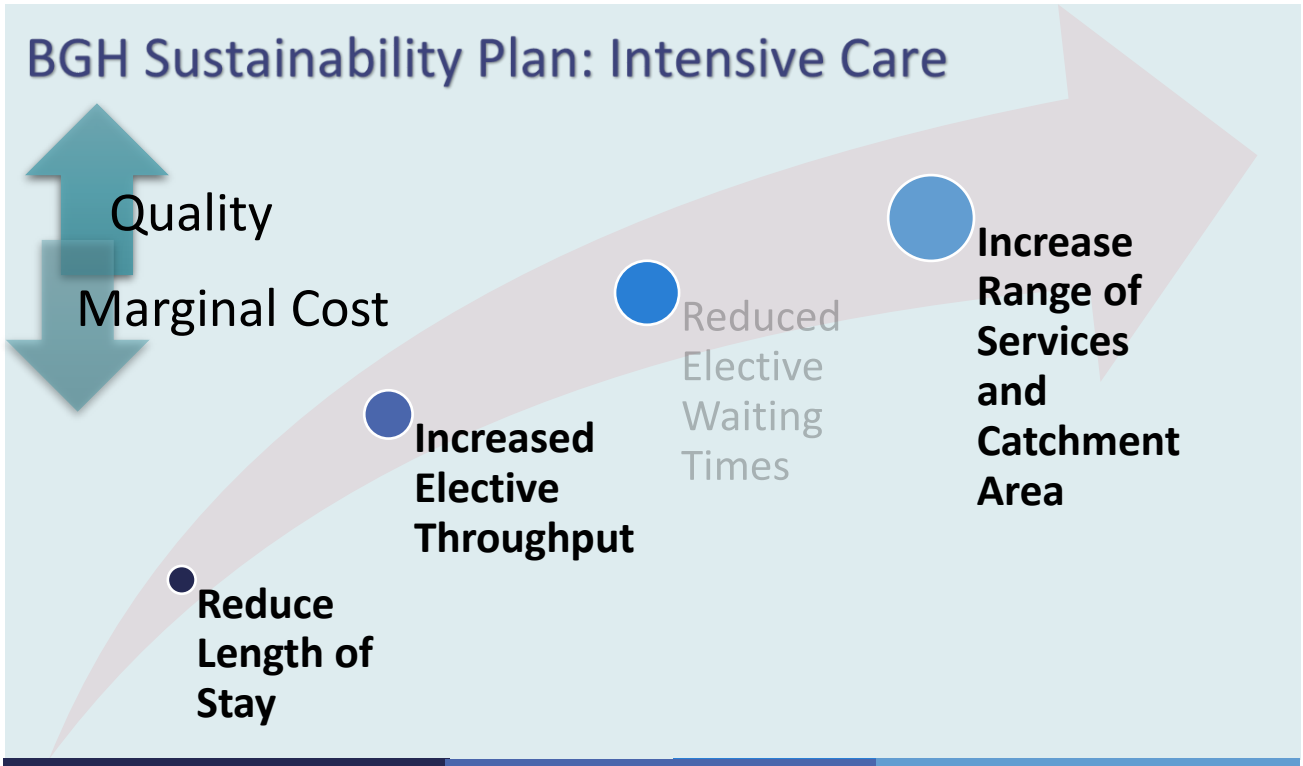
The services currently provided generally meet the presenting needs of BGH's patients. There are some areas where improvements could be made:

- Repatriation of level 1 patients to wards; management of some patients would require availability of suitably trained staff on the wards to manage specific medication regimens.
- Outreach service to the wards to support acutely ill patients in a ward environment and provide advice to their medical and nursing team.
- Utilisation of fifth bed space to improve access to intensive care beds and guarantee space for complex elective care cases that require higher levels of post-operative care than is provided on an inpatient ward
- Development of multi-disciplinary pain management service to deliver both acute pain in the hospital setting and work with community based colleagues to manage chronic pain in community settings

The provision of 24-hour on-site consultant provided anaesthetic services at BGH will continue in order to ensure the delivery of support to all other services.

Intensive Care Model Core Assumptions

Requirement	In Place	Notes
Outreach Service to Wards	In Part	Plan for development of nurse led ward outreach service to be produced
Level 1 repatriation to Wards	In Part	Protocol to be developed alongside outreach service and review ward capacity to accept.
Formalisation of 5th Bed Space	No	Plan to be developed alongside the planned care repatriation and expansion.
Chronic Pain Management	No	Service specification to be developed across primary, community and secondary care with focus on community based delivery supported by multi-disciplinary team.



• Outreach service to wards • Level 1 repatriation to wards	• Formalise 5th bed space	• Pain management

Delivering Excellent Rural

Acute Cardiac Services

Rural Cardiac Unit

BGH has a track record of delivering high quality cardiac services in partnership with specialist centres and by the utilisation of technology to improve patient experience and outcomes. The provision of highly specialised surgical services relating to cardiology and the thorax will remain the preserve of the specialist centres and while patients with specific type of heart attacks (ST elevation myocardial infarction (STEMI)) will be identified in the community, or Accident and Emergency, and immediately transferred to the Morriston Heart Attack Centre, all other adults living locally presenting with cardiac conditions will need:

- Investigation
- Stabilisation
- Treatment

This is provided by a multi-disciplinary approach to care at BGH, where the consultant-led service supported by specialist cardiac nurses will have access to:

- On-site cardiac-monitored beds
- A designated state of the art cardio/respiratory diagnostic suite including:
  - Transthoracic echocardiography
  - Transesophageal echocardiography
  - Stress echocardiography
  - Exercise stress testing
  - CT Coronary angiography
  - Pacemaker implantation

By utilising the above services, the large majority of patients will be able to have their definitive care locally. Patients requiring more specialist services, such as inpatient coronary angiography, angioplasty and stenting (Percutaneous Coronary Intervention) or cardiac surgery will be transferred to Morriston, Swansea on a "treat and return" basis.

Improving Access

There are significant opportunities to utilise technology to improve patient access both in terms of timeliness and distance travelled with added quality improvements, with CT angiography being a good example:

CT angiography increases the overall capacity of cardiac diagnostic services in the South West Wales Cardiac Network, reduces unnecessary invasive procedures and reduces the distances travelled by mid Wales' patients.

CT angiography also has the potential to provide rapid diagnosis for patients presenting at A&E with chest pain:

Rhian is 58 years old and the neighbour of Gareth and Ayesha. She smoked until she was age 40 and has high blood pressure and long standing knee problems. Rhian has experienced chest pains on a number of occasions in the past month and is uncertain about what it means. Her son is getting married this summer, and this has heightened Rhian's anxieties about her heart health.

"*I have been experiencing chest pains recently. One evening, they were very strong so Ayesha took me to A&E in Bronglais. The doctor ruled out serious cardiac problems and recommended I see a GP for consideration of possible angina. I had similar symptoms but more pain on the weekend so went back to A&E. The A&E team recommended a cardiology review, which I had the next day. The specialist didn't think the pain was cardiac in origin. She was very reassuring and spoke with me about my history of smoking and my ongoing anxiety, and how these might be causing my symptoms. I wasn't able to have an exercise test because of the arthritis in my knees. I had a CT angiography that same day in Bronglais, as there has been a cancellation. The results were clear – I do not have problems with my heart, which is a huge relief. I was discharged from the Medical Assessment Unit the same day and do not need a follow-up. But I have seen the GP about my anxiety and have started an online cognitive behavioural therapy course to help deal with my anxiety.*"

Remote Monitoring

Work is underway to look at the application of remote monitoring for patients with pacemakers and cardiac monitors that will allow early detection of significant events to promote timely intervention and improved patient outcome. This will also reduce the inconvenience and geographical challenges to accessing follow-up clinics and expert advice. Such a development is key to the ability for patients to be managed on an "anticipatory" basis which reduces their need for emergency intervention and resulting hospital admission.

Developing Diagnostics

The installation of the new Magnetic Resonance Imaging suite at BGH opens up the opportunity for some provision of Cardiac MRI to allow an increased range of diagnostic imaging techniques to be available to aid diagnosis and disease management.

Pathway Development

The established cardiac network links BGH to the specialist services provided by Swansea Bay University Health Board. However, as with all services provided at BGH, the patients who present have commissioned pathways to other centres that may, geographically, be more convenient for them, for example Shrewsbury and Glan Clwyd hospitals for patients from Powys and North Wales respectively. These broader networks will need to be incorporated into service plans so that patients who may be known to any centre or service can be seamlessly and safely supported wherever they present in an emergency.

On-going follow-up and support will be provided by the local Cardiology Clinic Service for all patients who require it post intervention. This service will also be where all local adult patients referred by primary care with symptoms of cardiovascular disease receive their initial assessment and diagnosis, using predominantly the diagnostic services stated above, but with access to invasive coronary angiography at Morriston Hospital, Swansea, and, in future, in the dedicated Hywel Dda Cardiac Catheterisation laboratory, located in the south. Demand for interventional angiography will increase over time and future capacity profiling should examine the potential for delivery of a mid Wales service.

While some patients with specialist needs due to, for example, Adult Congenital Heart Disease will need routine follow-up at Specialist Centres in south Wales, patients with complex needs and implanted Cardiac Devices (such as Defibrillators) will be able to receive shared care with some follow-up visits provided locally to limit the burden of travel with telemedicine being utilised where appropriate.

The Cardiology Team

Although the service will be led by BGH based Consultants, success is dependent upon a wide range of professionals, without whom a comprehensive service could not be provided:

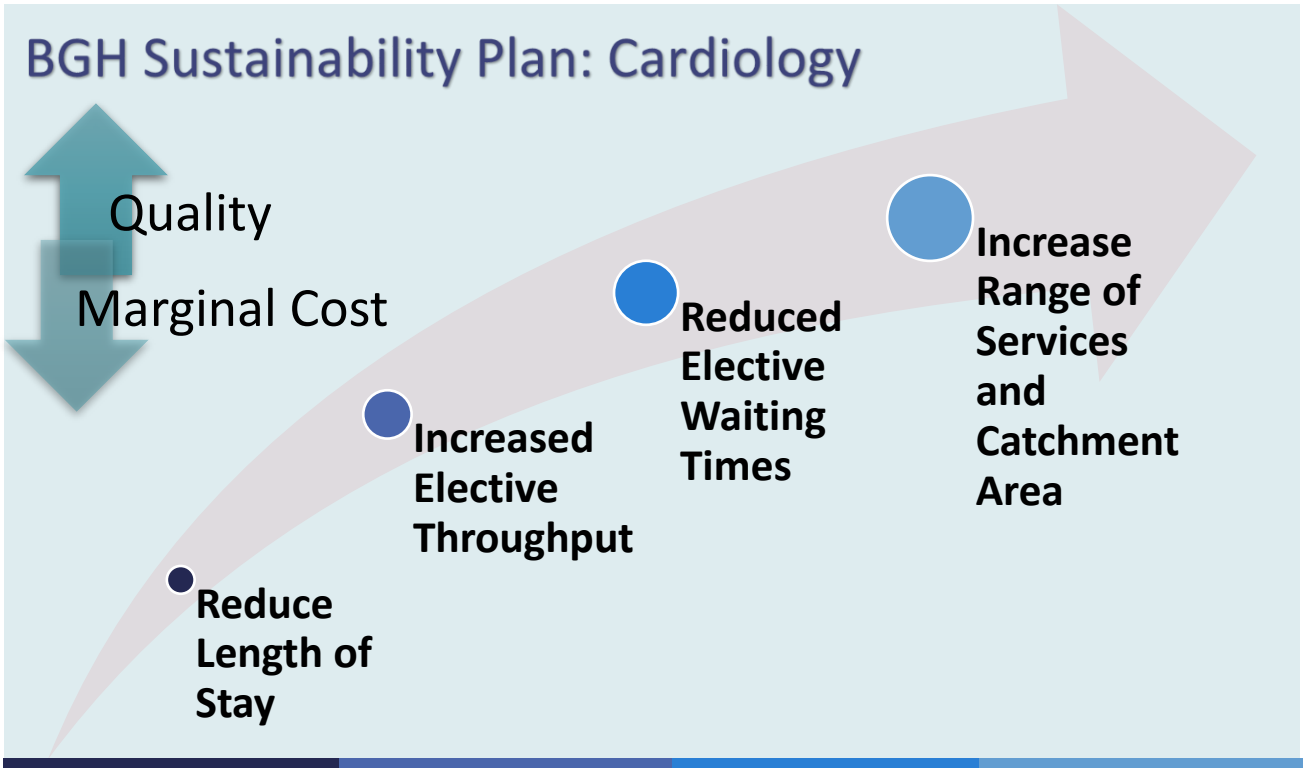
- Hospital and Community Specialist nurses
- Advance Nurse Practitioners
- Cardiac Physiologists
- Exercise rehabilitation specialists
- Psychologists
- Community palliative care team

Cardiac rehabilitation services are an essential part of the cardiology service working with patients to promote healthy lifestyles to reduce risk of recurrence. It is important to ensure that the team providing the service are appropriately resourced and provide a multi-disciplinary support to their patients.

GPs and primary care teams provide a key role in both the initial identification and ongoing care and support of patients. As the relationship across “care” evolves and matures, the ability to deliver truly holistic care and support for patients will become a key cultural driver for the service. This will ensure that the “care” system works to ensure that services are personalised, as far as possible, to the individual circumstance in a way that supports and promotes independence.

Cardiology Model Core Assumptions

Requirement	In Place	Notes
3 Consultant Cardiologists	Yes	
Dedicated cardio/respiratory diagnostic facility	No	Current provision too small with no designated patient waiting area. Plan for development currently in draft.
Heart Failure Nurse	Yes	Recruiting to a second post. Nurse also in Powys and Gwynedd.
Advanced Nurse Practitioner	Yes	
Outreach Clinics	In part	To be developed in line with Mid Wales Clinical Advisory Group's work plan
Cardiac Rehabilitation	In part	Support from Occupational Therapy, Physiotherapy and Dietetics to be developed to promote MDT approach.
Clinical Pathway Development	In Part	Pathways exist for certain conditions, but do not reflect pathways and opportunities provided by services commissioned by Powys and Betsi Cadwaladr Health Boards for their patients.
Remote Telemetry	Pilot	Remote telemetry for patients is being piloted. Development subject to evaluation, but is anticipated to deliver significant benefits for outcomes.
Cardiac MRI	No	Options to be explored once MRI unit installed.



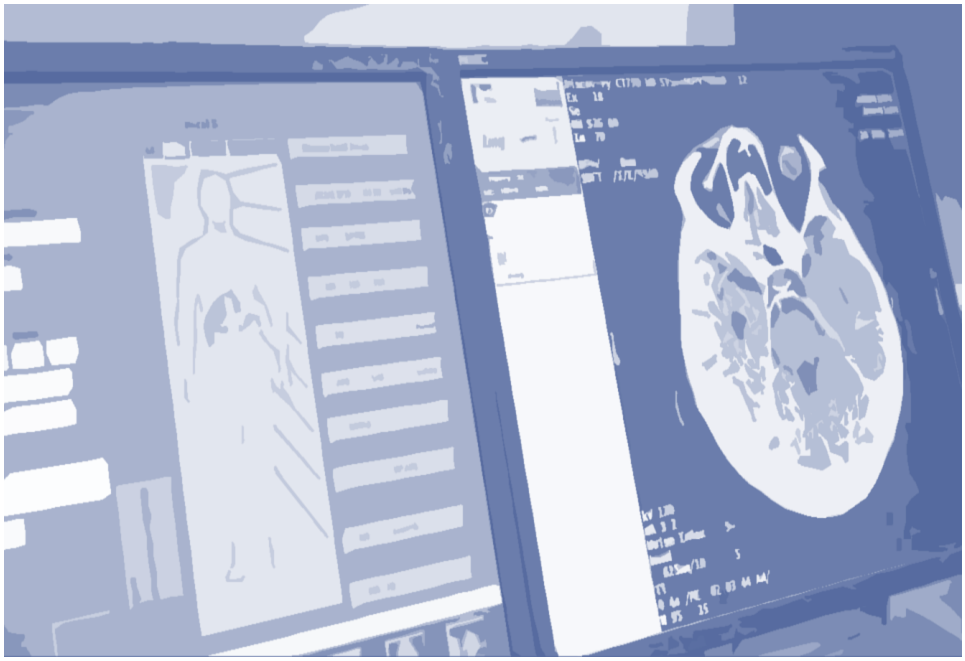
• Develop remote monitoring service • CT Angiography	• Develop remote monitoring service • CT Angiography	• Extend CT Angiography • Develop remote monitoring service	• Cardiac MRI • Outreach to Machynlleth and Newtown (Shrewsbury) • Outreach to Tywyn (North Wales)

Delivering Excellent Rural

Radiology Services

Rural Radiology Services

Radiology services play a key role in the delivery of both urgent and planned care. The service provides both imaging using ionising radiation (e.g. “x-rays” and Computed Tomography (CT) and non-ionising radiation (e.g. ultrasound and Magnetic Resonance Imaging (MRI)).



While all staff using radiological imaging equipment must be appropriately trained, there are strict rules and regulations regarding the use of ionising radiation and only highly trained staff, known as Radiographers or assistant practitioners (under the supervision of Radiographers), may use this equipment. Some non-ionising imaging equipment, such as ultrasound, can be used by a wider range staff who have the appropriate training.

Once an image is taken, it needs to be “reported”. Traditionally, reporting has been provided by Radiologists (doctors who specialise in radiology) and in more recent times, Radiographers have been trained to report on certain types of images to help speed up the time it takes to obtain a result.

Doctors in other specialties are also able to access and assess images to inform initial diagnosis and case management whilst awaiting a formal report so that more minor conditions, such as some fractures, can be treated before a radiologist report has been received. The specialised reporting skills of a Radiologist or Reporting Radiographer may identify additional important information of relevance to the treatment plan and it is a legal requirement that all imaging is fully reported in this way.

Fast track reporting pathways exist for certain key conditions (e.g. for a CT in a suspected stroke patient) so that confirmation can be received within the critical response period. To ensure a 24/7 reporting service, some images are reported by Radiologists in Australia utilising the digital images which can be transferred via protected networks.

Although MRI is not a first line diagnostic for urgent care except in the case of spinal cord compression and spinal infection, provision at BGH needs to be increased to at least 2 sessions per day, 7 days a week (it is currently provided Monday to Friday). This will improve access to urgent MRI and reduce the number of patients who have to travel for this service. The level of demand at night would not support the delivery of a 24/7 service at BGH.

Ultrasound provides a relatively inexpensive imaging tool for both acute and non-acute presentation which can also be provided in community settings without having to build specialist facilities to accommodate it. Ultrasound is currently available 6 days a week at BGH and we will enhance this to deliver daily coverage in addition to re-introducing community based services both within Hywel Dda and in our neighbours' community facilities.

More specialised imaging, which utilise radioactive isotopes, such as Positron Emission Tomography (PET) scanning, to identify body parts and pathology, are not provided at BGH.

Radiology Equipment

The equipment used in radiology is very expensive and due to its reliance on modern IT technology requires frequent updating and replacement. Staff receive specialist training in order to maximise its utilisation and we will offer our services to an increased catchment population by providing outreach and support to community services both within Hywel Dda and in our neighbouring health boards.

A summary of the radiology equipment at BGH and in the health care buildings that comprise the Ceredigion and Mid Wales area, is shown below.

Mid Wales Radiology Service	
Service locations	BGH. General radiography*, CT*, MRI, ultrasonography, dual energy X-ray absorptiometry (DEXA), Mammography and Fluoroscopy. All available 5 days a week (ultrasound 6 days) with * available 24/7 Cardigan Hospital General radiography available 5 days a week 9-5 Machynlleth Hospital General radiography available 1 days a week Newtown Hospital General radiography available 5 days a week 9-5. US 2 days a month Welshpool Hospital General radiography available 5 days a week 9-5. US 2 days a week. Dolgellau Hospital General radiography available 5 half-days a week Tywyn Hospital General radiography available 1 day a week
Image reporting	Undertaken by Radiologists, sonographers and reporting radiographer based in BGH, and Betsi Cadwaladr University Health Board.
Staffing	There are several vacancies, radiologists, radiographers, sonographers and support staff. Recruitment has proven difficult.

Funding to replace the existing MRI unit at BGH was approved by Welsh Government in 2017. Because of the limited footprint of the site in its current format, siting the new scanner required innovative thinking to bring a currently unused area into service. Works commenced in 2018 and the unit is scheduled to open by December 2019. The new scanner will be much faster than the one it replaces and this will significantly increase the number of patients who will be scanned at BGH and also the range of conditions that can be scanned and for which patients have to currently travel for their scan.

The CT scanner at BGH is currently nearing the end of its serviceable life and needs to be replaced by 2020. A general x-ray room is already provided within the A&E department and we will consider the replacement CT's location in order to improve access for patients from the emergency department without impacting upon that for patient in the Intensive Care Unit.

The MRI development will enabled the provision of increased ultrasound provision and reporting facilities which will allow reporting radiographers to increase the service's reporting capacity which will both improve scan to report times and allow some reporting that is currently "sent away" to be performed within the NHS (NHS Wales currently spends approximately £6m per annum on out-sourced reporting).

We will review core opening hours and staff skill mix within both BGH and the community hospitals with the aim of providing a responsive and local service.

Radiology Network

The services provided at BGH provide a hub for services across the mid Wales area. For some services, such as MRI and CT, BGH will be a sole provider of services for patients. For other services provided in community locations BGH can act as a hub for staff, training and reporting.

Additionally, mobile scanners can be used to provide outreach into areas that do not have access to services, although this may not be the most cost effective way in which to deliver a service if there are not enough patients needing a particular type of scan in an area so such services will need to be scaled accordingly.

Additional reporting room provision at BGH will allow the Reporting Radiographers based there to provide hot reporting on images taken at community sites, thereby speeding up the time to diagnosis and potentially reducing the need for a patient to travel for urgent diagnostics.

We will work with both Powys and Betsi Cadwaladr Health Boards to explore models to best provide outreach services to community settings, balancing patient demand with efficient use of staff and equipment. We will also explore the potential of mobile services to deliver care as close to home as possible.

There is a need to ensure the current radiological provision in community settings is maximised. Not all community based services are open 5 days a week and patients may have to wait or travel for a scan. A mid Wales radiology appointments service will be introduced to co-ordinate waits across mid Wales and offer patients an appointment that meets their individual requirements of access and timeliness. Reporting radiographers would provide outreach clinics so that scan and report are completed at the same time.

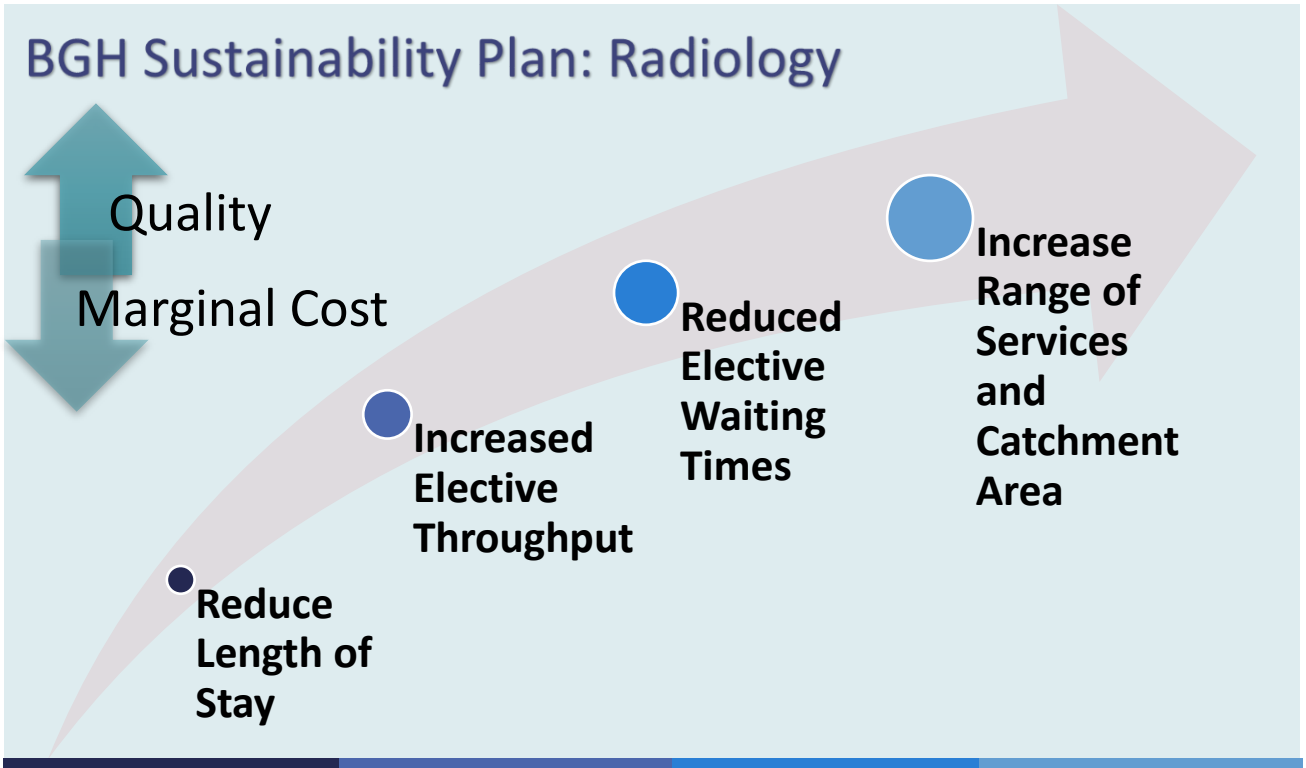
The development of advanced roles such as Reporting Radiographers is key to delivering both increased service capacity and providing career development for Radiographers that will improve recruitment and retention. The opportunity to develop clinic based approach to the delivery of services across the large geographical area covered will also be attractive to potential staff.

Improving access to services will also require additional Sonographers (who perform ultrasound), the development of trainees and additional support staff, Assistant Practitioners (specially trained support workers able to undertake x-ray procedures) and clerical staff.

Because of the many different pathways for patients at BGH, it is important to ensure secure links with NHS providers throughout the UK to ensure relevant images can be shared in order to promote the best possible patient care.

Radiology Service Core Assumptions

Requirement	In Place?	Notes
3 Consultant Radiologists	Yes	
4 Reporting Radiographers	Yes; 2 general, 1 CT, 1 MRI	Plan for development and expansion of role including supporting community delivered radiology to be produced.
6 Sonographers	In Part	6 posts providing 4.2wte. Increasing application for ultrasound will require investment in staffing.
2 Assistant Practitioners	Yes	The potential for assistant practitioners to support radiographer provided care will require the further roll out of these posts.
CT Colonography.	Yes	
CT angiography	Yes	First unit in Health Board to delivery service.
27/7 CT	Yes	Full body CT available
Out of hours urgent specialist cover	Yes	Provided by third-party company
Daily MRI	No	Service will be required to support trauma care.
Daily US	No	Currently 5 day service.
Weekday DEXA	Yes	



• Develop remote monitoring service • CT Angiography	• Develop remote monitoring service • CT Angiography	• Extend CT Angiography • Develop remote monitoring service	• Cardiac MRI • Outreach to Machynlleth and Newtown (Shrewsbury) • Outreach to Tywyn (North Wales)

Delivering Excellent Rural

Laboratory Services

Rural Laboratory Services

BGH's facilities have received significant capital investment over the past 15 years. This investment has included the provision of state of the art laboratory facilities.

There are four main laboratory services:

- Haematology (analysis of blood)
- Biochemistry (analysis of chemical processes in the body)
- Microbiology (analysis of microorganisms in the body)
- Histopathology (analysis of tissues and cells)

Haematology and Biochemistry tests are those most commonly used for rapid diagnosis with many tests being ready within 30 minutes of samples arriving in the laboratories. Haematology includes blood bank provision and both Biochemistry and Haematology provide more specialist tests in their own laboratory spaces.

Microbiology provides a range of facilities up to Category 3 (for use with pathogens such as Tuberculosis). Samples of more dangerous pathogens, such as Ebola, require Category 4 facilities of which there are fewer than 10 in the UK and are currently managed as part of the European Network of Biosafety-Level-4 Laboratories. Some microbiological tests can also be provided relatively rapidly, but because much microbiology require the growth of bacteria, tests, including antimicrobial susceptibility, can take a few days to provide results. The implementation of genetic testing and other automation, however, has speeded up this process where technology and finance allow.

The Microbiology service, provided by Public Health Wales, is accredited to ISO 15189 for the majority of its tests. The Haematology and Biochemistry (collectively "Blood Sciences") laboratories, have recently moved to the ISO 15189 scheme and are working to implement this within their respective areas.

Histopathology can also provide rapid diagnostic information through use of certain processing techniques, but in general requires tissue processing and fixing prior to slides being made up for review by a Pathologist. All Histopathology work is currently undertaken at laboratories in GGH.

The BGH laboratories are Consultant led with a multi-disciplinary team of healthcare scientists and nurses providing:

- Routine analytical services for diagnosis (acute and non-acute)
- More specialised analytical services for the wider Health Board
- Blood bank services and Blood Transfusion training
- Specialist nurse services (Haematology and Coagulation)
- Phlebotomy services
- Educational services
- Point of Care Testing (POCT) – professional and governance

Haematology and Biochemistry are highly automated and all major analysers have been updated within the past 2-3 years. This also includes a pre-analytical sorting and sample portioning (*aliquoting*) instrument.

Automation is, however, increasing and the laboratory 20 years in the future may well look very different to the laboratory today. We must ensure that the BGH laboratory service responds to the opportunity technological advancement presents to provide quicker and better access to our services.

Microbiology services are introducing automated urine analysers to replace manual microscopy. This will provide a fully quality controlled process with improved reproducibility, reducing staff hands on time.

The BGH laboratory services, as a hub for care in mid Wales, will need to respond to demands to do more in community settings and innovative approaches to meeting this need will need to be employed.

The need to provide rapid turnaround times and the ability to deliver service improvements in-house necessitate the continuation of the current laboratory configuration. Transportation to other laboratories is not suitable for all specimens and is not available 24/7. Some specimens need to be processed within strict time limits which prevents their centralisation. It is important, therefore, that the BGH laboratories, in meeting the requirements of the UK Accreditation Services, ensure their overall benefit is maximised so that their essential presence is sustainable.

Advancements in equipment have allowed many tests to be delivered at the "Point of Care". This may be within the hospital or in remote community settings. It is anticipated that the application of point of care testing will expand in time. The provision of point of care testing requires robust checks of the devices being used to ensure they are accurate and this needs to be managed

within a quality assured framework. This will require new staffing models and ways of ensuring that the appropriate training, support and governance is assured, whether within hospital or community setting.

Samples taken in community settings that are not able to be analysed using point of care devices will need to be transported to the BGH labs for processing and analysis. This is currently achieved by a once-a-day collection by the "hospital van", but this is not a rapid delivery service that will help GPs and community health care staff respond to needs as they present in the community. Homing pigeons were used in the late 1970s/early 1980s to provide rapid and affordable transport between Devonport and Plymouth hospitals in England and the potential for drones to be used to achieve similar benefit is currently being explored by the University of Aberystwyth. The establishment of a "droneport" adjacent to the laboratories would allow autonomous drones to be sent from GP surgeries, community hospitals and by community staff from remote locations so that urgent samples are delivered quickly to the laboratory and can be processed with results available before the end of surgery or a nurse's round so that appropriate actions can be taken more quickly than they might otherwise have been; at the same time the development of point of care testing may reduce the numbers of tests that need to be sent to central laboratories for testing.

The services provided to our neighbouring health boards also form a key component of laboratories' work. Opportunities to develop services in these areas to better meet the needs of mid Wales' patients will help to deliver a sustainable service that maximises efficient and effective use of resources across the whole health community.

Analytical services

It is essential that pathology services continue to modernise and ensure that they continue to provide timely results to aid clinicians in both diagnosis and monitoring of individual patients.

We will continue to adapt our working practices in line with clinical need. Sample analysis will still benefit from the cost efficiencies of automated laboratory analysis, but the equipment used is very expensive and may only be operated by appropriately trained staff. We will ensure that we make best use of this by offering our services to an increased catchment population and by

providing outreach support to community services both within Hywel Dda and in our neighbouring health boards.

We anticipate a growth in the use of point of care testing as technology advances in this area and the new working practices take patient diagnosis and care into the community and closer to patients' homes. We will review how the emerging technology will impact upon future workforce requirements and will invest accordingly to ensure we have an appropriate skill mix to support the service. There will be an opportunity to develop a new community point of care testing worker role acting as liaison with the hub laboratory and offering practical training and trouble-shooting advice to users within the community.

Hours of Operation

Laboratory services provide a full range of services during the "working week" with a restricted number of tests and the blood bank service available "out of hours" from on-call staff.

We will review the service's core opening hours and staff skill mix with the aim of providing a responsive and local service.

Role Development

The development of advanced roles such as Physician Associates with specialist interests in, for example, lipids, cardiovascular and metabolism, is being explored in some health boards. This would assist in delivering both increased service capacity and providing career development for healthcare scientists that will, in turn, improve recruitment and retention. The opportunity to develop clinic based approach to the delivery of services across the large geographical area covered will also be attractive to potential staff.

Education

Laboratory services provide essential education to its users by formal lecture, tutorials or practical training. As newer specialist roles are created for health professional who, perhaps, have never received formal pathology training, it will become increasingly important for senior pathology staff to be involved in educative roles, whether regarding appropriate test selection, result interpretation or practical skills such as phlebotomy, blood transfusion safety, point of care testing training or quality control competencies.

Research has shown that where people train influences where they work. The availability of training and development necessary for maintaining professional registration and advancing ones skills is also important to staff in the health care profession and if this is not reasonably easy to access, the ease within which health care professions can transfer between differing NHS organisations means that staff may decide to move to where they feel that their career ambitions will be more easily met.

Building upon our past training programmes for medical students and phlebotomists, we will continue to provide, and expand, our education function as clinical need arises. The provision of GP and nurse training at Aberystwyth University will necessitate the provision of training to equip them with the essential knowledge and skills to enable them to better fulfil their roles and professional development.

Aberystwyth University have expressed an interest in the provision of a Biomedical Sciences Degree which, if accredited by the Institute of Biomedical Sciences, would offer significant benefit in attracting staff to the area and offer potential lecturing opportunity for BGH clinicians or relevant health professional staff. We will work with the University to ensure the benefits of our proximity can achieve maximum potential for both institutions.

We will also continue to provide continuing professional development for our own staff and focus on cross-training of newer staff to increase the robustness of our staffing and provide interest for recruitment and retention. We will increasingly develop the role of bands 3, 4 and 5 staff within the laboratory areas.

Service improvement/Audit

Laboratory services must develop in line with changing models of clinical care, ensure safe and efficient use and that the services provided meet the necessary quality requirements.

We will continue to audit and improve our services – working in line with prudent healthcare principles to ensure best use of resources, minimise wastage and understanding of variance.

Service development

As services evolve, both because of technological innovation and users expectations, we will need to regularly review our mix of services to ensure they support the provision of the best outcome for patient. This will include opening hours, range of tests provided and the skill mix both within BGH and in the community to providing a responsive and local service.

Recent improvements in services include:

- Earlier phlebotomy to enable earlier discharge
- Point of Care Testing blood gas machine for A&E and maternity
- Genetic testing in Microbiology to reduce turnaround times for flu and other diagnoses

Developments in laboratory services involve the development or utilisation of new tests, using old tests in new ways or adopting new technologies such as genetic testing and metabolomics (the study of the chemistry of the metabolism).

With colleagues across the Health Board, we will also build on our experience of developing new tests or bringing tests in house where possible and enabling their use for the benefit of all the Health Board's patients.

The Microbiology service at BGH is the first laboratory in Wales to introduce molecular enteric testing facilities which is a single test for multiple infections that can be more quickly performed, thereby reducing the need for unnecessary infection control precautions, improving decision making regarding treatment and, therefore, improving the overall patient experience. The laboratory also provides genetic testing for the flu virus which allows the results to be available in hours rather than days. The provision of these services allows a quicker and more appropriate response from Public Health teams in the event of a potential outbreak and, consequently, more appropriate and timely patient management. These tests are expensive and, in order to support their use, there should be demonstration of benefit in terms of reduced length of stay, reduced time of barrier nursing and other similar measures that, in effect, can be classed as a saving to the service overall.

Because all three laboratories are co-located, significant economies of scale can be obtained through common processes (e.g. reception and waste

management). In addition, the modern facilities at BGH enable us to work in ways which may not be possible for other sites and will allow BGH to adopt new analytical technologies that are common across the pathology disciplines and we envisage further cross disciplinary working over the timescale of this plan. Services also link with other laboratories within the Health Board and across the region so that non-urgent tests can be provided in the most cost effective way whilst also promoting quality. Regional working also promotes contingency planning which reduces risk of service failure.

Research and Development

Unique within the Health Board, BGH is directly adjacent to the National Library of Wales and the University of Aberystwyth.

A shared campus brings many opportunities for the development of partnerships and research that cover health services, the determinants of health, interventions to improve health and the information and communications used to support and deliver care.

The development of health and care has increased and this will continue in the future. R&D is an essential part of any developing service and one that pathology will continue to embrace.

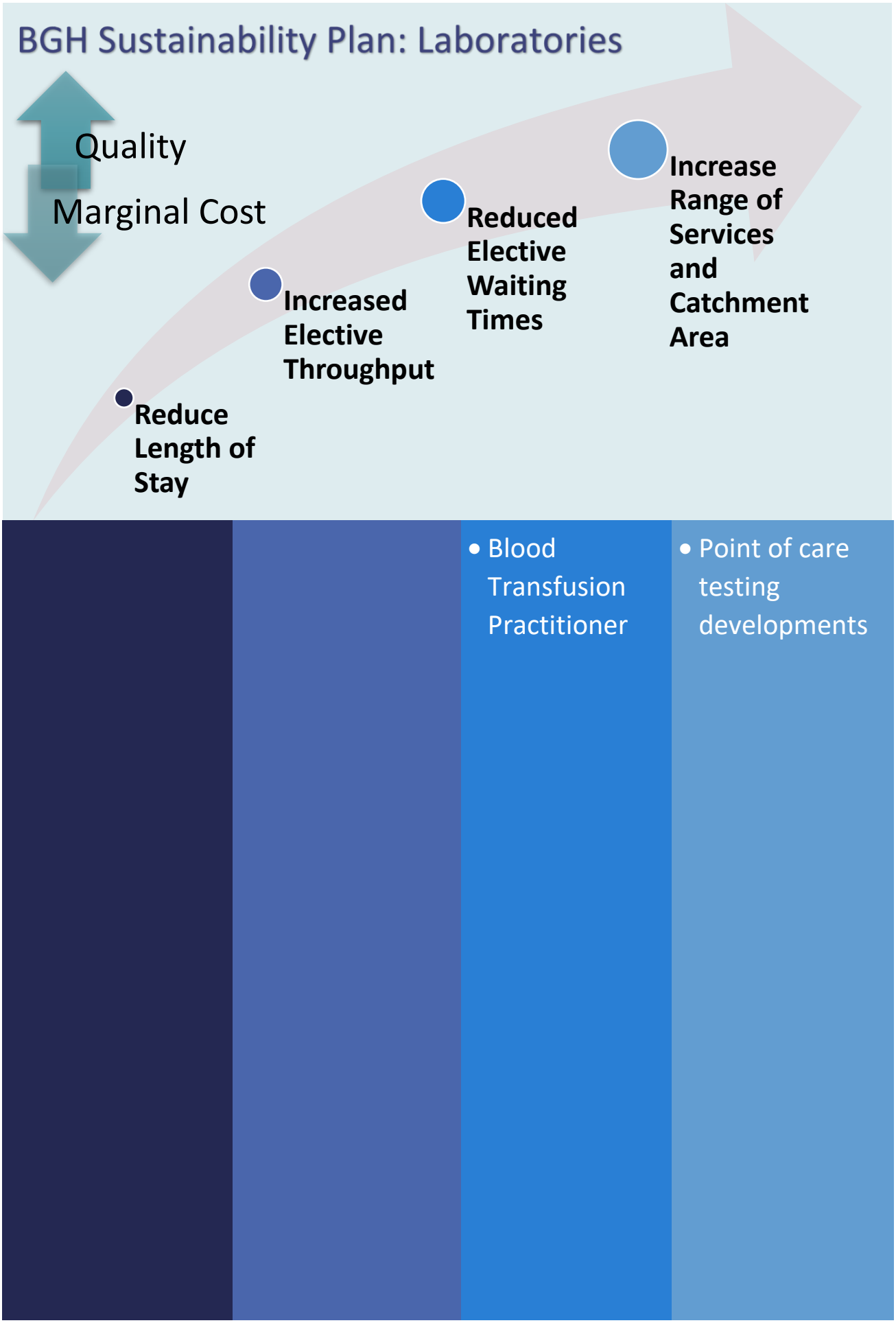
We will build on our track record of research involvement, providing support both to clinicians and others requiring pathology testing for their studies, but also for professional development of our staff and services for all our patients.

Over the last two years, the BGH laboratories have supported studies jointly with the University of Aberystwyth and is a partner in the University's Well-being and Health Assessment Research Unit's project with the University of Grenoble which brings within it both reputational benefit and income to the department.

We will continue to build and strengthen working relationships with our academic colleagues to develop further joint projects and find better ways of true partnership working. This will require shared governance arrangements, but must be progressed in pursuit of closer working practices to benefit both and the health of our residents.

Laboratory Service Core Assumptions

Requirement	In Place	Notes
1 Consultant Clinical Biochemist	Yes	Also Cons Haem/Micro
Microbiology service to be provided by Public Health Wales. Minimum staffing levels 5 BMS plus support staff to ensure out of hours cover.		
Blood Bank	Yes	
Hot Haematology Tests	Yes	
Hot Biochemistry tests	Yes	
Cold Haematology/Biochemistry tests	Yes	For service economy and viability
Specialist nurses Haematology Coagulation	 Yes Yes	Succession planning for posts required
Blood Transfusion Practitioner	P/T	Scoping required for Full Time service
Point of Care Testing lead Band 7 to oversee increasing requirements Roving Point of Care Testing support worker	New New	This is an urgent need that will be resourced by increased automation in core labs.


BGH Sustainability Plan: Laboratories
Quality
Marginal Cost
Reduce Length of Stay
Increased Elective Throughput
Reduced Elective Waiting Times
Increase Range of Services and Catchment Area
• Blood Transfusion Practitioner
• Point of care testing developments

Delivering Excellent Rural

Hospital Pharmacy

Rural Hospital Pharmacy

Most public contact with pharmacy services is with community pharmacists who are readily accessible, not only to sell "over the counter" medications or dispense prescriptions, but who can also provide a range of other services and support, including health screening and consultation for minor ailments.

Within a hospital setting, the highly specialised training and continued professional development pharmacists undertake, is applied to a wide range of functions that, although not always visible, provide essential support across all services provided.

Pharmacists can provide:

- Clinical review of patients' medications to identify any drug related issues that maybe latent or contributing to the presenting condition and recommend changes to optimise therapeutic outcomes
- Medicine reconciliation in a timely manner
- Advice, support and training to clinical colleagues
- Review and advise on formulary and national guidelines to ensure compliance and identification of opportunities for efficient utilisation of resources
- Governance structures for the introduction, storage and administration of medication
- Chronic condition clinics
- Support to prevent drug-resistance (anti-microbial guidelines)
- Support for research, development and clinical trials
- Diagnosis and treatments of minor illnesses and ailments
- Health Screening and counselling

Pharmacy services at BGH are available 24/7 either by on-site support or an on-call rota with medicines made available at the point of need

Lord Carter's report "Shaping Pharmacy for the Future" (2015) set out a blue print for the model pharmacy provision, including:

- Increased front-line patient facing activities to improve medicine optimisation

- Increased use of Information Technology to improve governance , patient outcomes and safety

Pharmacy services can directly support the attainment of many health care targets and are well placed to support the broader strategic objectives set out within this document.

Modernising "Front Door" Pharmacy

By increasing the pharmacy team, the emergency department will benefit from daily provision. The team would deliver "acute interventions", including:

- Review and reconcile medication of all patients attending the emergency department within 24 hours
- Be part of a holistic frailty service to identify patients where a medication review would reduce likelihood of re-attendance
- Provide daily support to the Community Integrated Urgent Care Service

This will be supported by

- ED team of 2 pharmacists, 2 technicians 1 assistant technical officer
- Community Integrated Care Centre input from 1 pharmacist,
- Implementation of Medicines Transcribing and e-Discharge system (MTeD) in the Clinical Decisions Unit
- Development of e-links with community pharmacy to support unified patient record

Modernising Ward Based Pharmacy

Pharmacists provide ongoing review of patients who have been admitted to a hospital bed.

MTeD had been established on most inpatient wards, but additional resources are needed to maximise the benefits of a full roll-out. Automated stock holding facilities on all wards will provide safety and financial governance to the site. Further training of pharmacy support staff to will allow for enhanced roles such as Pharmacy Technicians performing "medication rounds" to support nurses in meeting the increasing care needs of their patients.

A satellite pharmacy has been established in the surgical block. One pharmacist, a medicines management technician and an assistant technical officer provide a service between 9:00 and 15:30 to support timely patient discharge. A similar arrangement will be implemented on the medical side once a suitable space has been identified.

Pharmacy should be supporting consultant ward rounds. To do so would require additional pharmacy time and is challenging because BGH does not provide specialty based wards. A move to ward based working for consultants would allow pharmacy to provide better support and more actively be involved in the broader MDT activities.

Investment will allow members of the pharmacy team to take ownership of the medicine prescribing process at discharge to support the clinical teams. This will allow a more timely discharge for patients and improve patient flow through the site.

Supporting Chemotherapy Services

There is a national move towards chemotherapy medication being produced by regional licensed “production” sites which will support the delivery of chemotherapy treatments in local units. The implications of this for local services and access is being reviewed, but it is expected that this will enable pharmacists to have increased clinical engagement with patients to enhance care delivery.

Pharmacy Led Care

We will increase the number of pharmacist Independent Prescribers (IP) who would use their expertise to run their own clinics to support the increasing demands of chronic conditions. This will allow medical teams to focus on more complex cases.

Pharmacist are also well placed to ensure seamless integration with the primary care teams.

Training and Workforce Development

The pharmacy at BGH provide placements for pharmacy students from Bath and Cardiff Universities and the development of a School of Pharmacy at Swansea University will build upon this.

In addition the department provides:

- Clinical Pharmacy Diploma training
- Pre-registration pharmacy training
- Vocational placements for undergraduate and 6th form students
- Pre-registration technician training
- Assistant Technical Officer training

As the potential for pharmaceutical roles to be applied to wider benefit is realised, there will be a need to explore how pharmacy technician and assistant technical officer roles can be developed to enhance care delivery and provide support to enable the training and development required to achieve this.

The opportunity presented by working with Aberystwyth University to facilitate training and development will be explored.

Modernising Prescribing

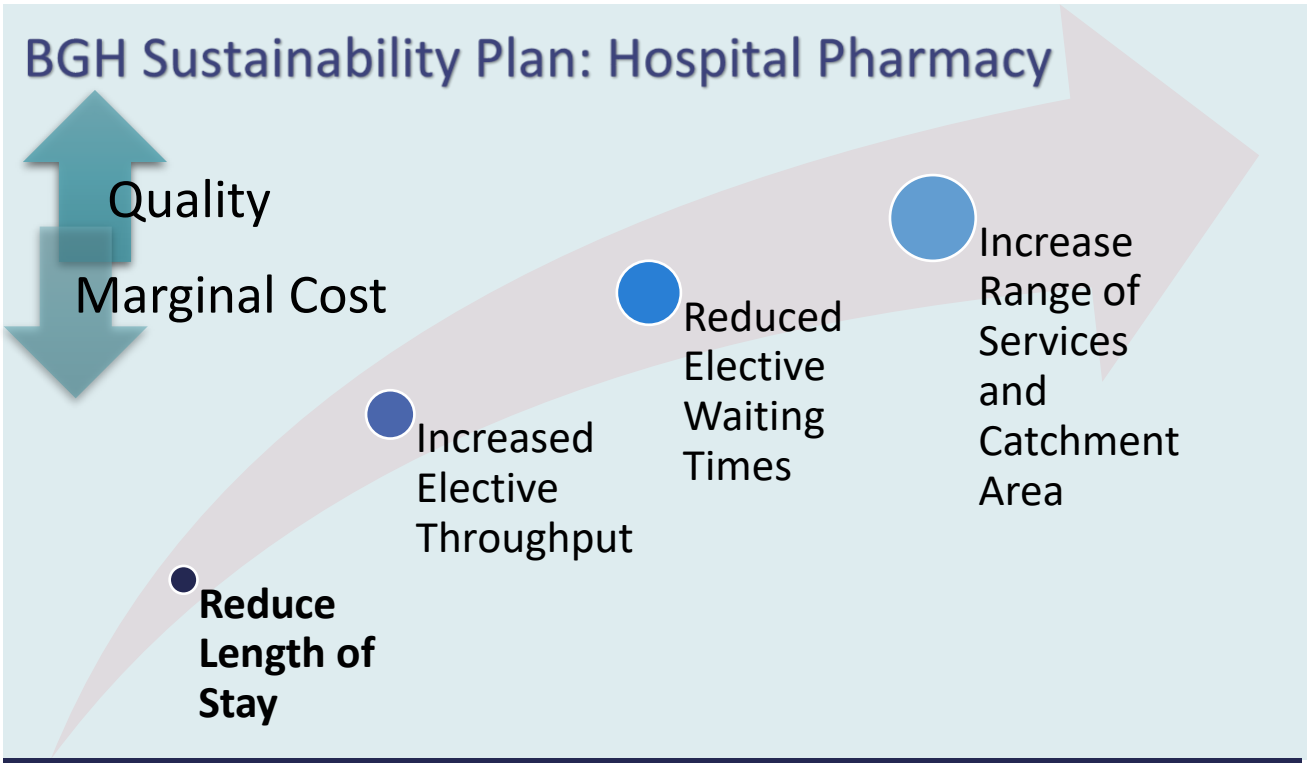
Writing of prescriptions has moved from handwritten to computer printed "scripts"; the latter improving readability and dispensing accuracy. The next step is to move to full electronic prescribing as part of a centrally held electronic patient record which will:

- Improve patient safety by reducing medication errors and potential adverse drug events
- Support the delivery of virtual clinics in the community setting and the resultant medication requirements
- Improved compliance with agreed formulary and guidance to ensure medicine optimisation and financial governance
- Streamline medication prescribing , administration and supply at discharge

We will explore the potential to be a beacon in the implementation of e-prescribing so that the benefits for patients in remote rural communities can be realised.

Hospital Pharmacy Core Assumptions

Requirement	In Place?	Notes
24/7 pharmacy service	Yes	On-site 5.5 days per week with on-call out of hours.
Pharmacy delivered medicine reconciliation within 24 hours of ED attendance	No	Extend on-site pharmacy to 7 days presence (i.e. 0.5 days on a Sunday).
Participation in frailty service to identify when medication review would reduce likelihood of re-attendance	Yes	0.5 wte currently involved; to be reviewed as frailty service development.
Provide daily support to the Community Integrated Urgent Care Service	No	To be developed alongside plans for service. Estimated 1wte member of staff.
Fully integrated Emergency Department pharmacy service	No	Team of 2 pharmacists, 2 technicians 1 assistant technical officer would maximise the potential for pharmacy-led care at front door.
Medicines Transcribing and e-Discharge system (MTeD) in the Clinical Decisions Unit	No	Included in staffing plan for fully integrated ED pharmacy service above.
Pharmacy Independent Prescribing	No	Programme in place to replace IPs when they leave and participate in Health Board programme to train more IPs and develop roles to allow involvement in clinical settings.
Pharmacy Robot	Yes	The unit is now 10 years old and will need to be replaced.
Aseptic pharmacy service	Yes	
Ward-based-working for clinical teams	In part	Surgical patients are, generally managed, in specific wards and ward level dispensing is achieved for these patients. Space required to establish on medical wards.
Developing support roles through training and education to release qualified staff.	Yes	In house training of Assistant Technical Officers is in place.
e-prescribing	No	Part of all-Wales programme. Discuss opportunity to deliver a pathfinder project at BGH.



- Pharmacy delivered medicine reconciliation within 24 hours of ED attendance
- Participation in holistic frailty service to identify patients where a medication review would reduce likelihood of re-attendance
- Support Community Integrated Urgent Care Service
- MTeD in Clinical Decisions Unit
- Pharmacy Independent Prescribing
- Ward based working for pharmacy.
- e-Prescribing

Delivering Excellent Rural

Therapy Services

Rural Therapy Services

Therapy services are provided across the entire care system by "allied health professionals". Although they are a relatively small proportion of our total expenditure, they are involved in almost every service we provide and therapy services will play a significant role in the delivery of our strategic aims.

Therapists holistically assess and evaluate patient needs to plan and deliver interventions that enable people to recover from and self-manage conditions so that they can live fulfilled lives to their maximum.

There are many different registered therapy and health science disciplines supporting patients across a wide range of conditions and across all age groups. This strategy does not underestimate the impact of all of these on the health and wellbeing of patients. There are, however, five therapies that are more commonly seen supporting patients in acute health care settings and upon which we focus:

- Dietetics: Nutritional and dietary advice, education and support
- Occupational Therapy: Skills and abilities to enable activities
- Physiotherapy: Restoration of movement and function
- Podiatry and Orthotics: Treating feet and ankles to promote mobility
- Speech and Language Therapy: Assessment, management, education and support for dysphagia (swallowing difficulties) and communication difficulties

Different conditions require a different mix of therapist input and, within each therapy, application of different techniques. An individual's age, social circumstances and nature of their condition also influence the therapy input they require.

- Early detection and management of Dysphagia will prevent some patients ending up as nil-by-mouth and reduce the risks of aspiration pneumonia and its associated complications, which can result in longer hospital length of stay and clinical outcomes

An integrated approach to therapy services is required to ensure:

1) That there is sufficient resource in the community to:
    - Support population health improvement through supporting wellness, interventions to optimise people's physical and functional ability
    - Empowering people to manage their own conditions (e.g. pulmonary rehabilitation)
    - Provide anticipatory support to maintain people in their homes
    - Support prehabilitation for patients who are waiting treatment
    - Support rehabilitation for patients after treatment
    - Provide palliative care for patients in the community living with life limiting conditions
2) That there is sufficient resource in the acute setting to:
    - Provide rapid and holistic assessment planning for emergency patients
    - Provide specialist input to the management of certain conditions (e.g. stroke, major trauma, progressive neurological diseases, inflammatory bowel disease, pain)
    - Support rehabilitation and reablement as part of an integrated recovery pathway
    - Allow participation in ward rounds, board rounds and MDT meetings
    - Deliver education and training to enable other staff groups to effectively support patients with lower level therapeutic needs
    - Support the development of hospital ward environments and models that improve patient outcomes

Working across acute and community settings, therapists also support broader population health by, for example:

- Maintenance of movement, function and self-care in a person's own environment promotes exercise and independence.
- Nutritional interventions can be targeted to support the 30% of people admitted to hospital who are at risk of malnutrition which effects both hospital length of stay and clinical outcomes.

The availability of timely and consistent therapy input is a factor in determining how long a patient takes to recover following elective or emergency treatment. By developing other clinical staff to perform less specialist therapy functions we will promote attainment of both improved patient experience, patient outcomes and service performance, for example:

- Delivery of stroke swallow screening training to registered nurses, empowering nursing staff to assess and make clinical decisions regarding stroke patients' nutrition and hydration needs, within 4 hours of admission

Longer lengths of stay impact upon the overall wellbeing of patients and this is especially apparent in older people who can rapidly become less able to remain independent following an inpatient stay in hospital. Longer lengths of stay also compromise delivery of both urgent care performance (i.e. the 4 hour A&E waits) and the ability to treat elective patients on time.

Frailty

An ageing population presents an increasing demand on our health services as people become increasingly frail. Evidence shows that when older people with acute health problems are admitted to hospital, better outcomes are achieved by returning them home as soon as possible to reduce confusion and promote the continuation of their usual routine. Patients can return home on a discharge to recover or discharge to assess pathway to provide the support and care required in the home.

A multi-disciplinary team led ambulatory care approach will be able to support patients who are suitable for same day return and this will be provided by the Community Urgent Integrated Care Centre. Some patients will, however, be unable to return home on the same day and will be provided with treatment and intensive therapy support with a view to returning them home within 72 hours of admission.

Multidisciplinary team working that ensures appropriate skills are available where and when required is key to success. By providing targeted intervention to meet both the patient's acute needs and any adjustments required in their home to support their return, we will delivery effective patient focused care.

Rehabilitation

As discussed previously, therapy services play a significant role in patient recovery after major trauma. The proposals for Hywel Dda's trauma service are currently being consulted upon and the final service structure is as yet unknown. However, as set out earlier in this document, BGH will receive and need to treat some trauma and will also be the most local hospital for patients returning home after treatment in a trauma centre or trauma unit.

Therapy input will, therefore, be required both within BGH and in community settings in which patients will receive support post discharge from the acute services. Networks with other trauma rehabilitation services will need to be established so that patients can seamlessly move closer to their home whilst receiving the care appropriate to their needs.

Major Trauma is not, however, the only service where specialist tertiary level care will be centralised to one or two sites and a consistent step down rehabilitation service will need to be developed to support people recovering from, for example, neurological conditions, complex orthopaedic surgery, stroke and cardiothoracic surgery in addition to support for patients who receive their treatment for these conditions locally.

The rehabilitation "prescription" provided to patients will be specific to their presenting condition, but will be provided by a wide range of therapists including the five listed previously, but there will also be support from a wider range of therapy services to address specific presentations, but most notably Clinical Psychology and Psychological Therapy input needs to be strengthened to support patients with mental, emotional and behavioural consequences of their conditions.

A mid Wales approach is required, which could be a therapist-led service, and we will work with our partners to develop proposals for a community delivered rehabilitation service to meet the needs of the populations of Powys, Gwynedd and Ceredigion.

Developing Therapy Services

It is essential that therapy services are developed to work seamlessly across acute and community, resourced to enable them to be responsive to patient need. It is also important to recognise that community therapy services for

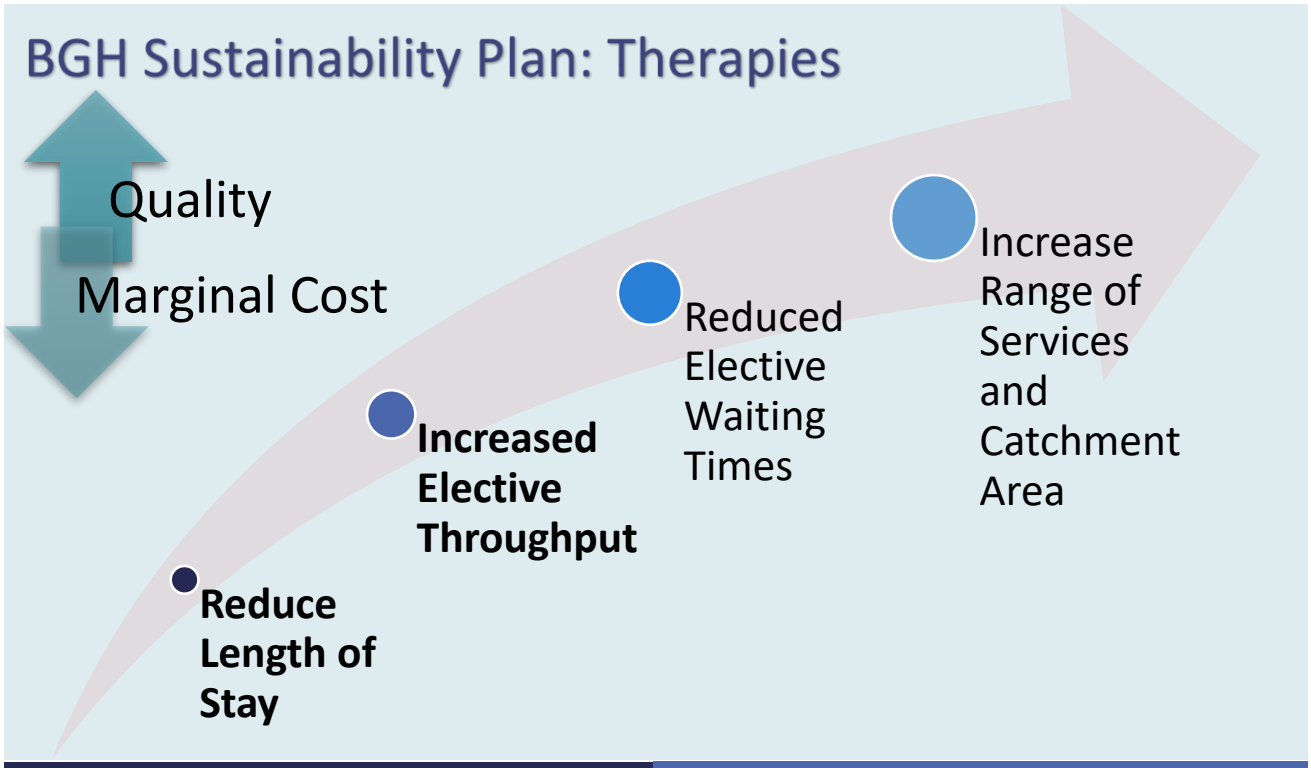
patients in Powys and Gwynedd are provided by their respective Health Boards and that there will need to be consistency in approaches for patients who are admitted to BGH in order to promote timely discharge.

By strengthening therapy presence at BGH, we will be able to deliver services in a timely way that promotes patient outcome, time to recovery and a reduction in length of stay. There is a need to move towards a 7 day service across the five therapy services, although some will be in more demand than others, so that there is no break in the therapy patients receive.

Because of the range of support provided by therapy services, there is a need to move towards a versatile model of provision to ensure that appropriate care can be delivered across the whole care system. The development of linked roles across, say, physiotherapy and occupational therapy, will enable a timely response to be delivered without delay.

Therapy Services Core Assumptions

Requirement	In Place	Notes
Therapy workforce plan	No	Service delivery plans will set out the essential support therapy services will provide to their specific client group. These will need to challenge conventional assumptions about roles to ensure opportunities for the development of enhanced roles such as advanced practitioners, therapy support workers and therapy assistant practitioners.
Therapy Education and Training programme	In part	Competency development at every grade needs to be standardised and accredited. Local provision in mid-Wales to be promoted by partnership working with Aberystwyth University.
Mid-Wales Rehabilitation Plan	No	
Research Programme	No	To be developed in partnership with Aberystwyth University which will support recruitment, retention and service growth.
Recruitment and resourcing plan	No	To be developed in line with service delivery plan outputs.



- Therapist at Front Door
- Frailty MDT
- Rehabilitation

- Prehabilitation
- Developing therapy support workers and therapy assistant practitioners

Delivering Excellent Rural

Elective Care Services

Rural Elective Care Services

As described earlier in this document, BGH has a requirement to deliver planned (elective) care in support of the delivery of its essential emergency function.

A typical elective care pathway is:

- Referral
- Waiting List
- Outpatient Appointment
- Diagnostics
- Follow-Up Appointment
- Decision
- Discharge / Treat and Follow-up/ Waiting List for Procedure
- Preoperative assessment
- Procedure
- Recovery
- Discharge
- Follow-up

The national targets for elective care waiting times is that no patient should wait more than 26 weeks from the date of referral to their treatment with significantly shorter waiting times for cancer patients.

It is important that elective care is protected from the pressures of emergency care so that patients are treated as soon as possible.

Ensuring Capacity

BGH has five operating theatres.

- 1 Emergency Surgery/Trauma/Maternity Theatre
- 1 Inpatient Theatre
- 2 Day-case Theatres
- 1 Head and Neck Theatre (for ophthalmology, ENT and dental)

Not all treatments need to be done in a theatre and some can be done in clinic rooms and some need to be done in other specialist environments such as:

- Endoscopy (for gastrointestinal and respiratory treatments)
- X-ray (for interventional radiology)

Nationally, there is a drive for making as many procedures as possible managed on a day-case basis. "Day Case as the Norm" has been helped by technological advancements in surgical techniques, such as minimally invasive surgery, that reduce the need to be admitted to hospital to recover.

For some procedures inpatient admission is required, either because the surgery is such that post-operative pain and recovery will need to be managed or because the home circumstances of the person would not allow them to be discharged safely the same day.

Emergency department "Hot Clinic" cases will be booked onto a day case list, when appropriate, to avoid unnecessary admission

BGH will aim to deliver the majority of its elective care under one of the following pathways:

1. Procedure room
2. Day surgery
3. 23-hour stay
4. 72-hour stay

In order to achieve this a number of developments are required which are set out below.

Decision to Treat Pre-Operative Assessment

When a patient and doctor have agreed that a procedure is required, an initial health screening relevant to that procedure will be done so that action can be initiated immediately to resolve any "red flag" conditions (high blood pressure, poorly controlled diabetes, high body mass index (BMI) too high, medication cessation etc.)

For patients where there is reason to suspect that there may be some underlying health problems, there will be rapid referral to a full pre-operative assessment as soon as possible.

All routine patients will receive a full pre-operative assessment by 4 weeks prior to their planned date of procedure. If all is well, their admission date will be confirmed. Urgent cases will be prioritised as required by their relevant pathways.

Patients who have issues identified at the pre-operative assessment may require reassessment after another two weeks or postponement of their procedure until the matter has been resolved.

Pre-Operative Assessment Location

Pre-operative assessments have traditionally been provided at BGH. Some patients can have their pre-operative checks by phone, others need to attend a clinic because they need some biometric measurements, such as ECG, blood tests etc.

Pre-operative tests do not require highly specialised equipment and are able to be done in a variety of locations provided that the patient's history is available to inform the discussion and there is access to an ECG machine. Patients who need enhanced diagnostics following their assessment will need to attend BGH, or any other convenient location where available, to have these done.

Our aim is for the majority of pre-assessment to take place in community settings and we are involved in an all Wales initiative to develop community-based pre-assessment and will take advantage of opportunities to deliver this as they arise.

We will utilise improvements in our IT system to help streamline pre-assessment and support remote pre-operative assessment.

"Prehabilitation" – Getting Fit For Surgery

The best recovery after elective surgery starts before the surgery has happened and pre-operative assessments will identify lifestyle factors that can be changed to optimise a patient's health to give the patient the quickest possible return to normality after their surgery. The provision of prehabilitation would include physical training supported by exercise prescription, nutritional optimisation, reduction of smoking and alcohol consumption.

Macmillan Cancer Support currently supports a transformation scheme to inform the design and implementation of rehabilitation opportunities for people with cancer across Hywel Dda. Alongside this, work to develop

prehabilitation for patients with lung cancer by incorporating it into the tele-health pulmonary rehabilitation service (VIPAR) is underway.

In addition, occupational therapy services are developing a model of care that will include falls, stroke, cardiac, respiratory, cancer and diabetes patients to optimise their wellbeing to promote positive outcomes.

Admission on day of surgery

There are very few clinical reasons that require a patient to be admitted to hospital before the day of surgery. On rare occasions, the remoteness and distances travelled by some patients to BGH does mean that some complex patients are admitted for a procedure that starts early the next day. Clearly this is not good use of a hospital bed and we will find alternative ways to meet these patients' needs in the future, for example by providing local accommodation where appropriate.

Enhanced Recovery After Surgery

"Enhanced Recovery After Surgery" is an initiative that currently requires some patients to be admitted to an inpatient bed prior to their surgery so that their condition can be optimised ahead of the procedure. We will explore how this can be delivered in community settings or in patients' own homes to reduce the need for patients to be admitted prior to the day of surgery and how ERAS can be provided across the whole mid-Wales area.

Separation of Elective and Emergency Care

The separation of elective and emergency care is key to ensuring that elective beds are protected for elective patients. For the foreseeable future, BGH will not be able to achieve geographical or site separation and we would need to ensure that if this was proposed, the economy of scales that co-location achieved were not compromised.

In order to protect elective beds, robust management procedures must be put in place. The current levels of cancellations demonstrate that more needs to be done and the opportunities to do so are:

1) ***23:59 Unit in Day Surgery:*** The opening of the new inpatient theatre suite will allow us to manage the Day Surgery Unit on a 23:59 basis so that patients who have had a day case procedure, but need a bit

longer to recover can do so in the unit rather than having to be admitted to an inpatient bed. This will mean that day case surgery should never be cancelled.

2) ***Community Integrated Urgent Care Centre:*** Admission avoidance and reduction activities will provide a range of alternatives to reduce the need to admit patients in emergencies and thereby reduce the risk that beds required for elective procedures will need to be used.
3) ***Alternative Emergency Pathways:*** Enhancements in community services will allow some patients who, having presented as an emergency, but who are having conservative treatment (for example after a non-complex fractured humerus) can be appropriately cared for in non-acute hospital settings.
4) ***Surgical Assessment Unit/Hot Clinic:*** A surgical assessment unit model will stream surgical patients presenting at the front door which will promote rapid assessment and treatment planning including booking onto a rapid access day case list.
5) ***Surgical Short Stay:*** A short stay surgical unit will allow appropriate clinical management and care for patients who need slightly longer recovery than can be provided in the 23:59 unit.

Efficient Operating Theatres

The way in which our operating theatres are organised and work impacts upon the number of cases we can treat.

“Theatre Utilisation” is a measure of how effectively we are utilising our operating theatres. Even in the most efficient theatre, it is not possible to achieve 100% utilisation due to essential functions such as cleaning and maintenance.

BGH aims to meet or exceed best practice in theatre management procedures and we recognise the need to make good use of our assets and plan to optimise theatre utilisation over 7 days to maximise efficiency. Our aim is a target utilisation of at least 83% in our elective theatres.

To achieve this we will:

- Ensure theatre capacity and allocation is locally managed so that it reflects the overall teams' skills and capacity
- Run our elective theatres for 2 extended 5½ hour sessions which we believe to be the most efficient configuration
- Run dedicated trauma lists
- Provide daily emergency theatre sessions for emergency cases
- Separation of elective and emergency procedures
- Run a specialty-based theatre model e.g. specific kit stays in a dedicated theatre

Repatriation of activity

As BGH recruits more substantive consultants into post and starts to be able to provide an assurance that planned activity will happen when it is scheduled, we will be able to bring more work into the hospital.

We aim to provide everything at BGH that does not need tertiary level hospital support. Presently, this includes a full range of elective:

- Colorectal surgery
- Upper gastro intestinal surgery
- Orthopaedic surgery
- Gynaecological surgery
- Breast surgery
- Ophthalmic surgery
- Urological surgery

In time, this will be extended to include:

- Ear Nose and Throat surgery
- Orthodontics

Some services will be provided by visiting consultants with patients being operated on at BGH and cared for after their surgery by the highly skilled team based here.

Other surgery may need to be provided at specialist centres, but patients will be repatriated back to BGH as soon as possible for recovery and rehabilitation so

that they are only away from their home area for the shortest time that is required.

Clinical and activity coding provides essential information in support of service planning, delivery and quality improvement. It is acknowledged that there is variation in coding within the Health Board, between Welsh Health Boards and the countries that comprise the United Kingdom of Great Britain and Northern Ireland. It is accepted that improvements in the data collected within Hywel Dda would give greater granularity and allow better definition and quantification of services provided in support of future models of service provision and we will work with our commissioning partners and the Health Board's information team to achieve this.

Outreach Services

Outreach services are provided into Powys and Betsi Cadwaladr Health Boards. These are mainly outpatient clinics with patients travelling to BGH for treatments.

We will expand our outreach services to meet patient need and look to provide more procedures in local settings. There are opportunities to provide some procedures currently performed at BGH in community hospitals across all three Health Boards and this opens up opportunities to build strong links with other providers to improve patient access and flow.

By providing more treatments on an outreach basis, BGH will be able to meet its commitments in terms of waiting times and quality to patients in Powys and Gwynedd while freeing up capacity at BGH to treat the more complex cases.

Outpatient Services

Outpatient services are currently the beginning of most elective care pathways. These are currently mostly provided from BGH with some outreach to community hospitals. There are opportunities to change how outpatient services are provided including:

- Increased range of outpatient clinics provided in community settings
- Video and telephone consultation (especially for follow-ups)
- Allied Health Professional led clinics
- GP direct referral to diagnostic tests
- Screening

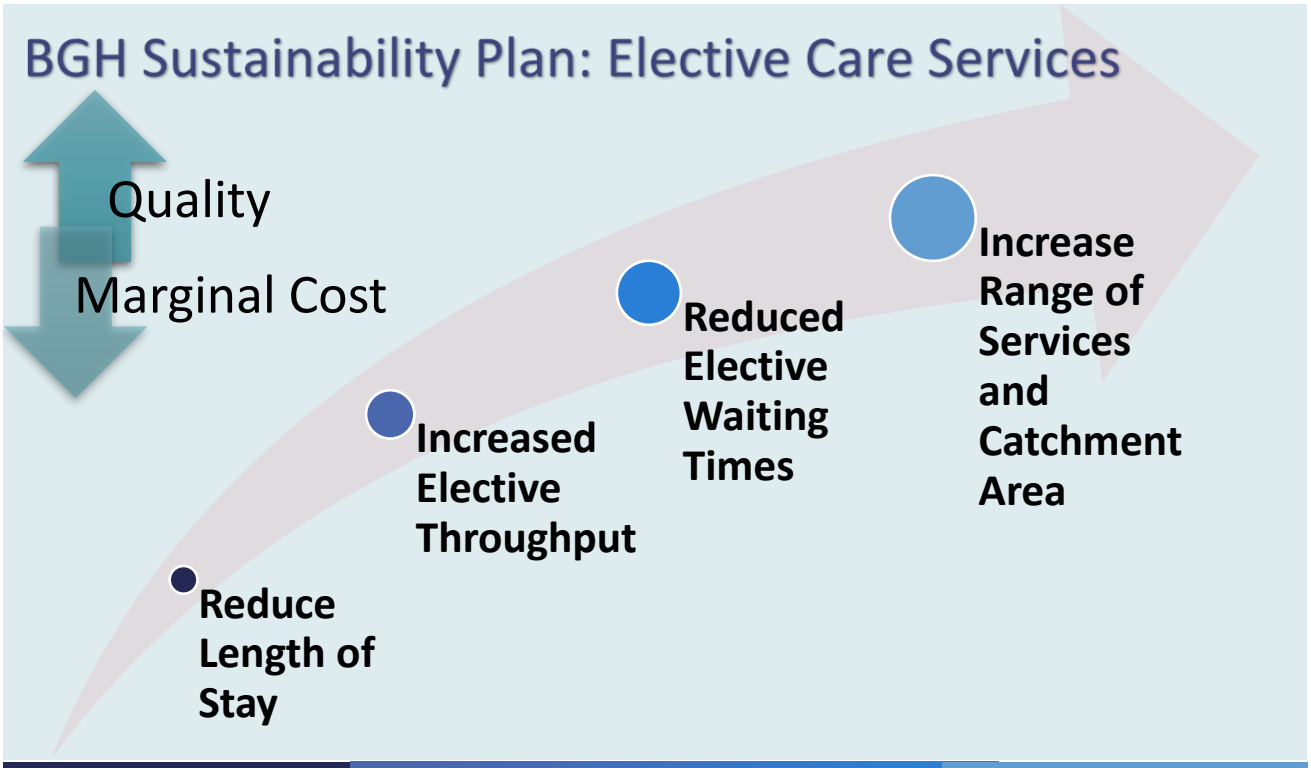
By reducing outpatient waiting times to a maximum of 4 weeks, there will also opportunities to provide direct booking into a suitable slot at the point of referral by the GP. Improvements in waiting times can be achieved by a number of means including a reduction in the number of follow-up appointments and reducing “did not attend” rates and best practice in outpatient provision will be delivered by the whole service.

To achieve greater agility, local booking arrangements will need to be in place so that geographical sensitivity can be applied to ensure mid-Wales patients are offered the most appropriate local setting for their appointment.

The opportunity to do more and work differently and the ease with which this can be implemented will vary from specialty to specialty. Pathways will be reviewed and opportunities to do things differently so that the patient is at the centre of the service being provided. Opportunities to utilise technology and new workforce models will be reflected in service specific plans.

Elective Care Services Core Assumptions

Requirement	In Place?	Notes
Day Case as the “norm”	Yes	
Surgical Assessment Unit/Hot Clinics	No	Plans to introduce being discussed.
Pre-op at DTT	No	Protocol to be developed.
Community Pre-Op	No	
Prehabilitation	In Part	Informal at moment.
Same day admission	Yes	Review outliers to understand any variation.
23:59 Day Case Unit	No	Review estate and options as part of capacity plan.
Surgical Short Stay	No	
Site led theatre management	No	
Extended theatre sessions	No	Requires job plan review
Dedicated trauma lists	No	In plan.
Daily emergency theatre list	Yes	
Separation of Elective and Emergency surgery	In part	Theatre lists separate, but facilities are shared.
Specialty based theatres	No	Requires capacity review.
Expanded range of services (ENT and Orthodontics)	No	
Coding improvements	No	
Powys/Gwynedd/Ceredigion Outreach Clinics	In part	Opportunities to utilise ICCs and Tywyn, Machynlleth, Dolgellau, Llanidloes and Newtown hospitals.
Outpatient Tele-clinics	No	
AHP Outpatient Clinics	No	
GP Direct to Test	In part	Requires capacity review.
4 week maximum outpatient wait	No	Will enable direct booking by GPs.
Mid-Wales regional outpatient booking service	No	Currently centralised in Llanelli.
Clinical pathways for mid-Wales	In development	Included in work of Mid Wales Clinical Advisory Group



- Day Case as "norm"
- Surgical Assessment Unit/Hot Clinics
- Prehabilitation
- GP direct to test

- 4-week OPD waiting times and move to direct booking by GPs
- Pre-Op at DTT
- Same day admission
- 23:59 Unit
- Surgical Short Stay
- Extended theatre sessions
- Trauma Lists
- Emergency Theatre List

- Community Pre-Op
- Local theatre logistical planning
- Specialty based theatres
- ENT
- Orthodontics
- Coding Improvements
- Outreach clinics
- Tele-Clinics
- AHP-Clinics
- Mid-Wales booking service
- Mid-Wales Clinical Pathways

Delivering Excellent Rural

Technology Enabled Care

Future Technology Campus

Unique within the Health Board, BGH is directly adjacent to the National Library of Wales and the University of Aberystwyth.

A shared campus brings many opportunities for the development of partnerships and research that cover health services, the determinants of health, interventions to improve health and the information and communications used to support and deliver care.

The development of health and care has increased and this will continue in the future. Innovation in response to new challenges is being supported by both the exponential increase in the ability of humans to build ever more powerful computers, miniaturisation and the development of nanotechnology.

This rapid advancement creates a need for organisations to look further ahead and adopt a view of the possible, rather than being constrained by the current limits of technology and industry. A future vision for health care is likely to have increased ability to understand biometrics via non-invasive devices so that the requirement to "take bloods" will, largely be a thing of the past. When a blood test is required, robotic development will mean that this can be done at any time in a wide variety of locations. The concept of homes being designed with a "health chair" that takes the most common readings such as blood pressure, oxygen saturation, and, if necessary, "takes blood" which is then transported by drone with any other required samples to the nearest lab for processing may sound far-fetched, but many of the technologies to do this already exist.

Non-invasive blood tests already exist for blood counts, lipids and glucose; this is the start of an exciting development in biomedical science that will help people manage their lifestyles in a health conscious way that will allow signals of early changes that warrant further investigation to be identified so that appropriate and timely action can be taken.

The "Internet of Things" has provided smart fridges that could be utilised to help a patient with diabetes manage their insulin levels and ensure that they are always

stocked up with supplies. Drone delivery systems are being piloted for a number of applications across the world.

You wake in the morning and you stand in front of the bathroom sink. The mirror turns on and shows your weight and BMI and how this has changed over the past few weeks. The body condition monitor has auto analysed your biometrics and your key indicators are normal, except that you are a bit more dehydrated than you would normally expect and a message informs you that you should drink more fluids today; a reminder is sent to your smart device and, since you selected the option, to your work calendar to remind you when you get in. You're good to go.

Such opportunity does come with certain cautions. It is not healthy to be obsessed by being healthy to the point where a person becomes socially dysfunctional or cannot derive any pleasure from life. Life is about living and technology must support people in understanding how they can be healthy for as long as possible so that they can have the maximum potential for happiness; there is a proven link between being happy and being healthy. Whether a person chooses to avail themselves of the opportunities technology presents or take action should one biometric change is that person's individual choice. We must also never forget that as humans, we are social animals and that no matter how far technology evolves, the need to have contact and be able to empathise with others, especially during major life events, is unlikely to be found in artificial intelligence systems or androids. Simply holding someone's hand provides both emotional comfort and has been shown to help dissipate pain.

Building upon the development of rural doctor training and the world-class Institute of Biology, Environmental and Rural Sciences, the development of a school of nursing and health sciences will add to the potential for partnership across all faculties and departments. Partnerships between the hospital and departments such as Psychology and Biology are relatively obvious. There is also significant potential to develop partnerships with other departments, such as Geography, Computer Science and Mathematics so that their knowledge and skill sets can be applied to health and care models and solutions to help understand population health and how our actions impact upon outcomes.

Research and Development

The Health Board's Research and Development department seeks to gain participation in as many studies and trials as possible across the whole Health Board. These studies allow patients to access new and novel treatments for their condition while helping to inform the direction of care in the future. The Research and Development department at BGH supports participation in studies and trials within the hospital.

Recognising the shared campus, the department is building stronger links with Aberystwyth University and is establishing a triumvirate of research champions, one from the university, one from the medical library and one from the clinical research team. The champions will be points of contact for new research and seek to promote the engagement of nurses and other non-medical health professionals in research, supporting and encouraging people to conduct their own research and promoting participation in multi-centre studies.

Healthcare studies involve hospital based face to face patient research and, therefore, requires a hospital presence. Outpatient studies can be delivered in other settings and WARU already deliver a number of these on the University Campus. The current facilities in BGH are not purpose built and we will explore options to develop such alongside improvements to the post-graduate facilities in partnership with the Universities of Aberystwyth, Swansea and Cardiff.

The opportunity to develop a University Hospital model is something that BGH should explore as part of a package of incentives to promote recruitment and retention while also supporting initiatives to strengthen local economy and industry.

Application of Current Technology

The Telemedicine Strategy for Mid Wales sets out four key areas for development:

- Development of specialist consultant in-reach services to BGH from patient to clinician and clinician to clinician.
- Development of clinician outreach into rural communities.
- Supporting Primary and Secondary care joint working.

- Establishing Mid Wales as an exemplar for the deployment of telemedicine.

Services will utilise a number of technologies to promote care:

- Telecare: The use of technology to provide continuous, automatic and remote monitoring of real time emergencies, impact of lifestyle changes in order to manage the risks associated with frailty and independent living.
- Telemedicine: The practice of medical care and consultations using interactive audio-visual and data communications.
- Telehealth: The use of technology to provide remote monitoring of people living with a chronic condition and to support self-management and delivery of care (e.g. monitors).
- Tele-coaching: Telephone or remote audio-visual advice from a coach to build people's knowledge, skills and confidence to change behaviours.
- E-health: Information and communication tools and services that can improve prevention, diagnosis, treatment, monitoring and management of ill health.
- Self-care apps: Internet-based software applications that raise awareness and help people self-manage their health and wellbeing via smartphones, tablets or websites.
- General Wellness Devices or 'Wearables': These devices are worn on the person to help promote, track and/or encourage the lifestyle choices and healthy activity for general wellness.

BGH, as part of the "Future Technology Campus" will be the hub for the mid Wales telemedicine strategy, offering both formal outreach as well as virtual clinic options for patients via telemedicine. This is already provided in Care of the Elderly, falls, and movement disorder clinics, Respiratory, Cardiology and General Surgery.

We will work with our neighbouring health boards to understand the patient needs that can be fulfilled through expansion of this portfolio to promote access to the population we serve.

Implementing Excellent Rural

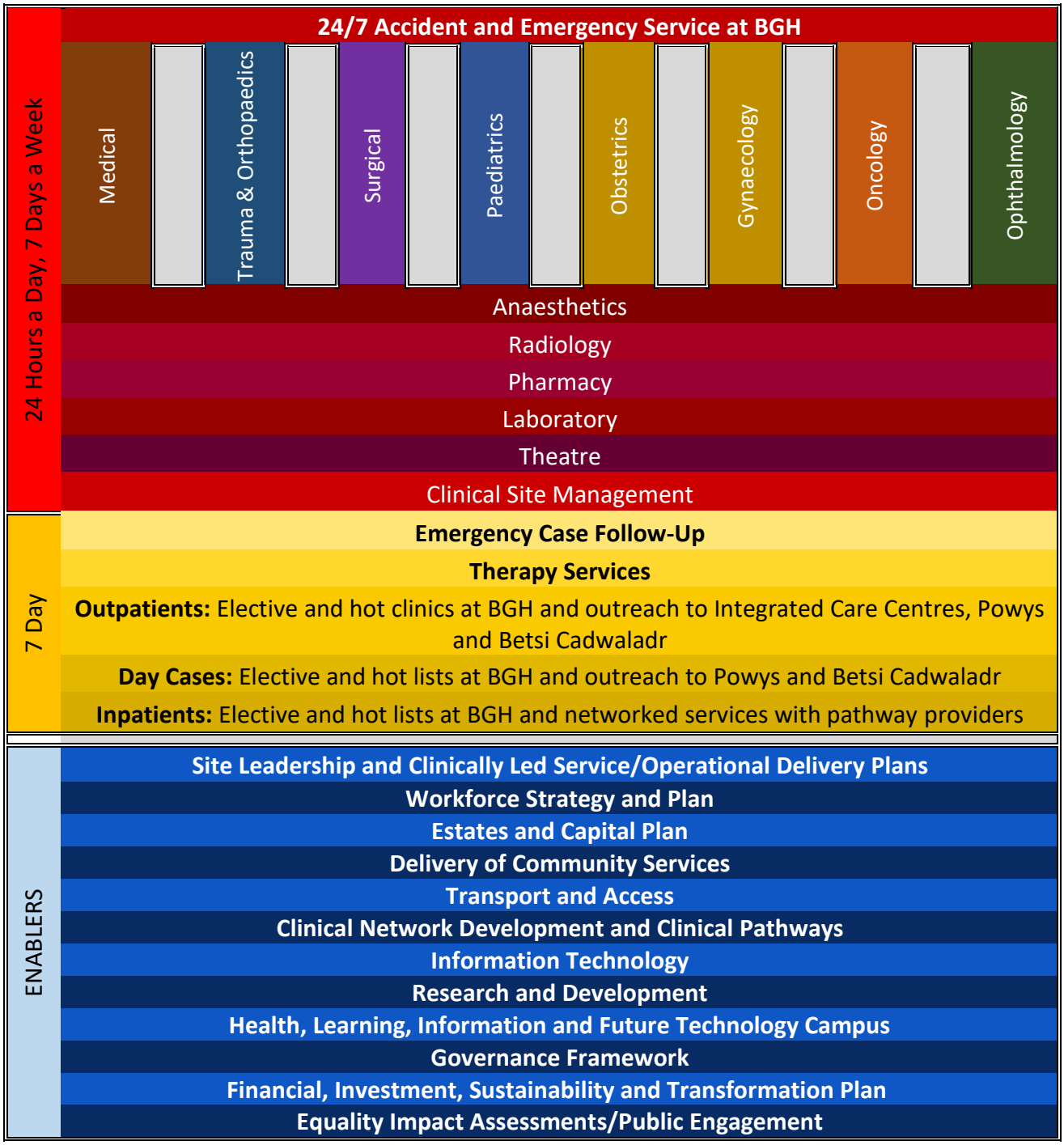
Acute Services

Implementing Our Strategy

This strategy is, by design, focussed on acute health care and the services provided by BGH.

Setting out our ambition is the first stage of our journey and much more work is required if we are to achieve what we have presented.

To deliver, we will require development across of a number of areas that are set out below.



Site Leadership and Operational Delivery

The delivery of the highest possible levels of services within a remote, rural environment requires a leadership style that can gain support both for a strategic vision and the work required for its implementation.

Visible and credible leadership is required to drive a culture of delivery towards one that knows what it needs to do. Accessible leadership for all services will be provided locally to deliver the operational delivery plans that emerge from this strategy.

Leaders will support and develop the people delivering the services and encourage creativity and innovation in order to meet the services' objectives. Management, direction and involvement need to be finely balanced and avoid feelings of a punitive culture from evolving within the organisation.

Within an effective quality management framework, the fact that, from time to time, mistakes will be made can be embraced as an opportunity to learn, develop and evolve.

In order to deliver a rural service that understands and reflects the values and culture of the population served we will establish a local management team with accountability for all services provided within BGH. Some services will, necessarily, be provided by services outside of the hospital, but the local management team will be accountable for ensuring the effectiveness of these arrangements and that they meet the current and future needs of the service.

Workforce Planning

This plan has set a vision across key service areas within BGH. In so doing, it identifies high level and, to some extent, overly simplistic gaps in services. There are a number of other strategic goals that need to be reflected, such as the minimum ward staffing levels, in an overall plan for delivery. Ultimately, the attainment of service improvement will need to be resourced either by savings made in other parts of the service, efficiency improvements or additional investment. Technological improvements offer an opportunity to re-profile our workforce as, amongst other developments, automation increases which will allow us to increase the direct patient care element across a wide range of staff groups.

Detailed service plans will need to be developed to meet BGH's vision and these will inform the development of a workforce investment plan.

Alongside this, the development of high quality locally available training will be implemented in partnership with Aberystwyth University so that we develop a wide range of health care professionals locally which will support our recruitment and retention requirements. In addition, we will develop contracts of employment that reflect the services accessed by patients from mid-Wales so that clinicians can be appointed by, and work across the respective provider organisations to promote seamless care for the patient across their care pathway wherever that care is provided.

Developing Roles

Workforce is threaded throughout this strategy and, as the NHS' single most valuable resource, our present and future staff will be key to its successful implementation.

The Health Board has adopted extended and advanced roles to support service development and to meet the needs of the population where traditional roles are hard to recruit or require modernisation and in June 2019 introduced an apprenticeship programme to offer people who are studying an opportunity to gain practical experience to support their learning.

Specialists, enhanced roles, extended scope practitioners and advanced and assistant practitioners have a huge role in supporting the Health Board to modernise workforce models. It is key that staff maximise the use of their knowledge and skills and that we use every opportunity to support staff through career pathways to 'grow our own' staff for the future. This will be the strategic programme to drive future developments across all staff groups.

This will be key to the attainment of this strategy and the Health Board's Excellence, Assurance and Governance in a Learning Environment framework (EAGLE) will allow us to develop extended, expand and adopt new roles in the absence of statutory regulation.

Centre of Excellence for Rural Health Care

BGH is ideally situated to establish itself as a centre of a network that develops and delivers excellent rural care. The scale of BGH promotes effective cross-

specialty and multi-professional team working to deliver comprehensive and holistic services.

Opportunities to work creatively with the wider network of services across the whole of BGH's catchment area will be utilised to develop an agile network of care services that promotes adaptation and innovation to meet patient needs and service outcome expectations.

Strong research links will be created with the University of Aberystwyth and other research centres to facilitate development, introduction and evaluation of new ways of delivering care whilst also allowing clinical staff to become involved in teaching and other academic pursuits.

School of Medicine, Nursing and Health Science

The University Partnership Board is an important collaboration between Hywel Dda University Health Board, the University of Aberystwyth, Swansea University and University of Wales Trinity Saint David promoting the health, wellbeing and education to the population of Hywel Dda. Partners work together to deliver improvements across the region by brining health and education closer together. This provides a solid foundation upon which we can build academic and clinical collaboration to address the issues of rural care in Wales.

Research has shown that where people do their undergraduate and postgraduate training influences where they work. The availability of training and development necessary for maintaining professional registration and advancing one's skills is also important to staff in the health care profession and if this is not reasonably easy to access, the ease within which health care professions can transfer between differing NHS organisations means that staff may decide to move to where they feel that their career ambitions will be more easily met.

BGH is uniquely located within the Health Board in that it is adjacent to the University of Aberystwyth campus. This provides an opportunity to define a Penglais Health, Care and Learning campus that incorporates the hospital, university, Coleg Ceredigion and the National Library. We will also utilise other forms of learning and professional development, such as that provided by the Open University, to provide accessible learning to those for whom traditional models of education provision are not suited.

Both Cardiff and Swansea Universities are providing rural general practitioner training in partnership with Aberystwyth University and plans are in development to provide a nursing course from Aberystwyth.

The World Class “Institute of Biology, Environmental and Rural Sciences” at Aberystwyth already provides opportunities for joint working and research and this will be developed into a School of Medicine, Nursing and Health Science in a phased approach starting with the delivery of nursing degrees.

Along with the training and development of healthcare professionals the University offers excellent opportunities for joint research across a wide range of academic and health care disciplines. We will bring academics and clinicians together to pursue mutually beneficial research opportunities and anticipate that such activities will be attractive to potential future members of staff.

Rural Acute Care Facilities

BGH’s facilities have received significant capital investment over the past 15 years and patients are able to access care in some of the highest quality and most modern environments available in Wales.

BGH’s key challenge is the relative small footprint it occupies with little opportunity to extend this further.

The shift of some services that are provided at BGH into more appropriate community based settings will release some space to allow reconfiguration and improvements which will allow some of the development needs identified in this document to be realised.

The installation of a new MRI scanner is underway and due to complete in December 2019. In addition, a programme of site development is currently underway to provide an integrated care ward for older people, a new chemotherapy day unit, a cardiorespiratory diagnostic suite and an ambulatory/medical day unit to improve those environments and enhance capacity. The time-frame for completion is approximately 24 months, with individual elements becoming operational throughout this period.

Future demand on acute hospitals will be fundamentally changed by the move to “home first” and this will allow increased ring-fenced beds for specific clinical conditions and for the protection of elective care pathways.

The future strategic direction of BGH is to do more and there may come a time when the bed base is no longer sufficient for the cases requiring admission. Maximising theatre productivity and a move to day-case will to some extent balance each other out and a 10 year forward view could require additional beds or other facilities as demand increases and technology evolves.

With lateral expansion space limited, other options need to be explored including:

- Integration of Post-Graduate and accommodation areas with Aberystwyth University and re-development of area release for appropriate facilities, such as a Health Research Centre.
- Building on top of the "Front of House" (which houses the Emergency care and Day-Case units) to generate additional floor space for service development.

The current capital plan for BGH will be reviewed in light of the vision set out in this strategy to ensure the opportunities to maximise the value provided by the site's available footprint are delivered.

Delivery of Community Services

A core assumption in this plan is that the community services improvements as set out in the Integrated Medium Term Plan and the Health Board's Strategy will be delivered. The "bedless" model in Ceredigion needs to be fully functioning in order to ensure timely discharge either home or to other appropriate environments. In addition the move towards an anticipatory care service in the community which works towards appropriately managing changes in peoples' needs must be delivered in order to reduce the emergency demand placed upon the acute services.

Transport and Access

Feedback from the Transforming Clinical Services public engagement exercise indicated that transport and access to services are major concerns for service users, particularly when they have to travel further to access services.

The need to ensure patients can access services is, therefore, paramount. A transport and access plan will be developed that will meet the needs for:

- Emergency Patient Transport

- Non-Emergency Patient Transport
- Discharge within and outside of Wales
- Public Transport
- Car Parking
- Green Transport and Alternatives

The Welsh Ambulance Services NHS Trust (WAST) is responsible for delivering unscheduled care services (999 and NHS Direct) and planned patient transport services to the people of Wales and is the principle employer of paramedics who provide first line response and care during patient transport.

Changes to the way in which services are delivered can have significant impact on the demand for transport services and the roles required of paramedics.

We will work with WAST to ensure that our service plans are aligned so that we maximise the benefit that can be gained from a collaborative approach for the people of mid Wales.

The majority of patients make their own way to BGH and we will work with public transport companies and Local Authorities to promote access that is both convenient and environmentally responsible.

In a rural area, however, it is inevitable that some patients will need to use a car to access the hospital and we will work to provide sufficient protected parking spaces on the BGH site including sufficient protected spaces for “blue badge” holders.

Clinical Networks and Clinical Pathways

As described throughout this document, BGH has links with a number of health care providers on a regular basis that are not common at the Health Board’s other acute sites.

In order to ensure patients receive the best outcomes possible, the development of pathways with commissioned service providers for patients from Gwynedd and Powys will be developed to promote patients being as close to their home as possible when specialist care is required.

Development of clinical pathways will embrace wider population health aims and ambitions so that opportunities to promote health and wellbeing are exploited to their fullest.

Information Technology

The future opportunities provided by advancements in information technology provides many opportunities to do things in different and more efficient ways and will support the delivery of the BGH vision.

Services will ensure technological improvements are identified within their development plans and these will contribute to an overall Information Technology Plan to support our vision.

Bronglais' services will ensure technological improvements are identified within their development plans and these will contribute to an overall Information Technology Plan to support our vision.

Financial, Investment, Sustainability & Transformation Plan

Bronglais has, over the years, faced particular financial challenges being unique within Wales in the provision of small scale rural acute care to a remote and sparsely populated catchment area with a marked seasonality.

In purely financial terms the comparative efficiency of service delivery, when set against other acute hospitals in Wales is at the lower end of the range. Nevertheless, it has been recognised by policy makers, for many years now, that Bronglais is a strategic healthcare asset serving a large area of mid Wales. In the "Healthier Mid and West Wales" Health and Care Strategy, Hywel Dda University Health Board agreed to preserve and enhance the service provision in Bronglais and the allocation by Welsh Government of £27m "Zero Based Review" monies reflected in part the scale, rurality and remoteness challenges faced in delivery services to the Health Board's population.

It is important that the Financial, Investment, Sustainability and Transformation Plan, that underpins the delivery plan, is able to clearly articulate the cost drivers, outcomes and therefore the value that the transformed services will deliver. This needs to quantify the "rurality premium" (the additional costs associated with the provision care in a remote, rural environment) that was recognised in the "Zero Based Review" allocation whilst at the same time ensuring that current and enhanced services are delivered in the most efficient way possible consistent with the population health ambition expressed in the strategy.

Recognising and testing BGH's contribution to the residual underlying deficit, after the "Zero Based Review" funding, is a key deliverable, notwithstanding the fact that this strategy outlines the need for targeted investment and that Hywel Dda University Health Board expects the greatest efficiency in acute care will be delivered in the south of Hywel Dda.

In order to achieve high value service delivery locally, this strategy identifies the need to integrate services with partners across mid Wales, to establish transformative and sustainable workforce models and to target increased workload from our wider catchment area. These patient activity opportunities are influenced in part by strategic change in neighbouring areas and the changes to acute care in the south of Hywel Dda that are increasing distance to current acute care providers at the borders of our existing catchment area. Service delivery plans will be required to identify this potential and, alongside the need to assure equality commitments are met, will ensure a broad definition of value is taken that reflects the various patient, population and service focussed variables and factors.

The key to sustainability in Bronglais has always been leveraging the opportunity presented by having onsite access to a range of consultant led specialty rotas for emergency and urgent care. These facilitate planned care capacity that is both high quality and can deliver at or within target waiting times. It is essential, therefore, that the integrated financial assessment recognises the interdependencies between services whilst ultimately proving that they are embedding optimal service efficiency within agreed parameters of access and quality.

Clinical and Staff Engagement

BGH Vision and Strategy Group Engagement Phase 1, 11/6/18 - 19/2/19

Name	Job Role/Title	Group
Peter Skitt	Director Ceredigion County/Mid Wales Joint Committee	Core Group
Maggie Collingborn	Consultant Anaesthetist, BGH	Core Group
Allison Brooks	Programme Manager	Core Group
Bec Hill	Principal Project Manager	Core Group
Meinir Jones	Clinical Director Transformation	Core Group
Matthew Willis	Head of Service Development and Integration	Core Group
Dawn Jones	Acute Site Lead Nurse	Core Group
Dr Annette Snell	Consultant Physician; Joint Hospital Director	Core Group
Dr Sion James	GP/Cluster Lead North Ceredigion	Core Group
Hazel Davies	Hospital General Manager, BGH	Core Group
Lou Cullum	Service Delivery Manager, BGH	Core Group
Tracy Walmsley	Senior Workforce Development Manager	Core Group
Gina Callanan	Senior Workforce Manager, Ceredigion	Core Group
Ann Taylor Griffiths	Clinical Site Manager (Staffside Representative), BGH	Core Group
Katie Darby	Clinical Lead Occupational Therapist	Core Group
Kerrie Phipps	Occupational Therapy Service Lead	Core Group
Mandy Davies	Asst Director of Nursing	Core Group
Angie Oliver	Asst Director of Workforce & Organisational Development	Core Group
Stephen Forster	Strategic Change Finance Director	Core Group
Mr Said Awad	Joint Hospital Director BGH	Core Group
Dr Shiblee Hafeez	Joint Hospital Director BGH	Core Group
Emma Pritchard	Transformation Facilitator BGH	Improvement
Mr Mark Henwood	Clinical Director Scheduled Care	Scheduled Care
Steph Hire	General Manager Scheduled Care	Scheduled Care
Selina Marshall	Service Delivery Manager	Scheduled Care
Mr Taha Lazim	Consultant Surgeon, BGH	Scheduled Care
Mr Mohamed Omar	Consultant Orthopaedic Surgeon, BGH	Scheduled Care
Susan Griffith	Operational lead: Acute & Community Physiotherapy	Scheduled Care
Karen Barker	Head of Nursing, Scheduled Care	Scheduled Care
Gordon Wragg	Service Delivery Manager, Scheduled Care	Scheduled Care
Diane Knight	Service Delivery Manager, Scheduled Care	Scheduled Care
Rita Stuart	Service Delivery Manager, Scheduled Care	Scheduled Care
Lydia Davies	Service Delivery Manager, Scheduled Care	Scheduled Care
Lisa Lewis	Service Delivery Manager, Scheduled Care	Scheduled Care
Dr Khan	Consultant Radiologist, BGH; Radiology Lead, HDuHB	Diagnostics
Mark Sherratt	Lead Radiographer BGH	Diagnostics
Amanda Evans	Head of Radiology	Diagnostics
Andrea Stiens	Head of Pathology	Diagnostics
Dr Karen Poyser	Consultant Clinical Scientist, BGH	Diagnostics
Dylan Jones	Blood Sciences Manager	Diagnostics
Dr Jeremy Williams	Clinical Director Unscheduled Care	Unscheduled Care

Name	Job Role/Title	Group
Chris Edwards	Accident and Emergency Sister, BGH	Unscheduled Care
Dr Martyn Sawyer	Accident and Emergency Consultant, BGH	Unscheduled Care
Laura Price	Women's Health Physiotherapist	Women & Children
Janet Millward	Senior Nurse Paediatrics	Women & Children
Dr Francis Kumar	Consultant Paediatrician	Women & Children
Dr Kausik Khan	Consultant Paediatrician	Women & Children
Paula Evans	Directorate Nurse, Paediatrics	Women & Children
Margaret Devonald-Morris	Service Delivery Manager, Women and Children	Women & Children
Julie Jenkins	Head of Midwifery	Women & Children
Angharad Eynan	Paediatric Physiotherapy	Women & Children
David Morrissey	Service Delivery Manager, Paediatrics	Women & Children
Diane Towell	Health Care Support Worker Angharad Ward, Unison Rep	Women & Children
Dr Prem Pitchaikani	Paediatric Lead Consultant	Women & Children
Louise Hughes	Senior Sister, Angharad Ward, BGH	Women & Children

BGH Vision and Strategy Group Phase 2, 19/2/19 - 16/5/19		
Name	**Job Role/Title**	**Date**
Core Group Members	Members attended meetings/received updates	
Dr Alwyn Jones	Specialty Doctor Accident & Emergency Department, BGH	27/03/2019
Sr Chris Cook	Accident and Emergency Department, BGH	27/03/2019
Dr Donogh McKeogh,	Consultant Cardiologist, BGH	28/03/2019
Dr Graham Boswell	Consultant Geriatrician, Emergency Department, BGH	28/03/2019
Mr Taha Lazim	Consultant Surgeon, BGH	29/03/2019
Mr Samy Mohamed	Consultant Surgeon, BGH	29/03/2019
Mr Zeyad Sallami	Consultant Surgeon, BGH	29/03/2019
Mr Mohamed Omar	Consultant Trauma and Orthopaedic Surgeon, BGH	09/04/2019
Mr Said Awad	Consultant Obstetrician & Gynaecologist/Hospital Director	02/04/2019
Jenny Pugh-Jones	Health Board Head of Medicines Management	04/04/2019
Mark Sherratt	Lead Radiographer BGH	23/04/2019
Dr Karen Poyser	Consultant Clinical Biochemist, BGH	23/04/2019
Dr John Williams	Consultant Paediatrician, BGH	01/05/2019
Dr Martin Sawyer	Accident & Emergency Department Consultant, BGH	07/05/2019
Chris Edwards	Accident & Emergency Department Senior Sister, BGH	07/05/2019
Carys Williams	Accident & Emergency Department Sister, BGH	07/05/2019
Rita Stuart	Service Delivery Manager, Scheduled Care, BGH	07/05/2019
Mr Alan Treharne	Consultant Obstetrician & Gynaecologist, BGH	08/09/2019
Donna Robson	Pharmacy Site Manager, BGH	09/05/2019
Geraint Morgan	Pharmacist (former County Lead Pharmacist), BGH	09/05/2019
Elin Guest	Advanced Paediatric Nurse Practitioner, BGH	09/05/2019
Dr Mike Simmons	Consultant Microbiologist, Public Health Wales	10/05/2019
Caroline Longman	Microbiology Manager, Public Health Wales (BGH)	10/05/2019
Sarah Jones	Lead Research Nurse, BGH	13/05/2019
Further discussion regarding specific service detail:		
Louise Quincy	Clinical Lead Nurse, EUCC and Site, BGH	24/5/2019
Mark Sherratt	Lead Radiographer, Ceredigion	28/5/2019

BGH Vision and Strategy Group Draft Consultation; responses received from		
Name	**Job Role/Title**	**Date**
Stuart Gill	Clinical Lead Major Trauma Service	21/5/2019
Kerrie Phipps	Lead Occupational Therapist, Ceredigion	24/5/2019
Susan Griffiths	Senior Physiotherapy manager	
Karen Thomas	Joint Head of Dietetics	
Eleri Sargent	Dysphagia Clinical Lead	
Dr Prem Pichanikani	Consultant Paediatrician	26/5/2019

Name	**Date**
Hywel Dda University Health Board Executive Team Meeting	11/2/2019
Mid Wales Joint Committee for Health and Care Clinical Advisory Group	21/5/2019
Hywel Dda University Health Board Executive Team Meeting	10/6/2019
Mid Wales Joint Committee for Health and Care Planning & Delivery Executive Group	11/6/2019
Hywel Dda University Health Board Transforming Our Hospitals Group	12/6/2019
Meeting of the Mid Wales Joint Committee for Health and Care	1/7/2019
Hywel Dda University Health Board	25/7/2019
Hywel Dda University Health Board Transforming Our Hospitals Group	13/8/2019
Transforming Clinical Services “Check and Challenge”	23/9/2019