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Hywel Dda University Health Board's
A Healthier Mid and West Wales
Programme Business Case Addendum
Supplemental Appendix 24: Nuffield Review



Review of the Clinical Models for Hospital Redevelopment in Hywel Dda University Health Board

Introduction - Objectives and approach

The Nuffield Trust was commissioned to undertake a high-level assessment of the underlying clinical strategy and its associated models proposed by Hywel Dda University Health Board (HDUHB) as it relates to the southern part of the Health Board area – services at Bronglais Hospital are outside the scope of this work, although they do have some important interdependencies with the rest of the system. We have provided a summary of the proposed model and then considered the following questions:

- Is the broad outline of the clinical strategy and the associated clinical models for hospital services appropriate in terms of the needs of patients and the ability to provide viable models of care?
- What are the main risks associated with the strategy and the underpinning clinical models, and are there appropriate strategies to mitigate these?
- Are the key assumptions underpinning the model robust and what might need to be reconsidered?
- What additional opportunities could be exploited in developing the plan?

In doing this, it is important to distinguish between issues relating to the overall design of the strategy and risks related to implementation. We have focused on the former but we have also indicated where the implementation risk appears to be a significant threat to the overall strategy.

To do this we:

- Reviewed key planning documents and background materials
- Interviewed planners and clinicians, representatives from the Ambulance Trust, the ARCH programme and we conducted a two-day visit to the sites at Withybush, Glangwili and Prince Philip hospitals where we also met local managers and clinicians
- Used our existing research, knowledge of the literature and network of experts to test the proposals including a virtual workshop with a panel of external advisors.

Background

Hywel Dda University Health Board is responsible for planning and delivering preventative, primary, community and secondary health care to its local population of around 393,600 people. Nearly a quarter of the population is over 65 and there is an increasing proportion of people with chronic conditions. While the overall population is not set to grow by much, there is forecast to be a large increase in the proportion of people aged over 65 and especially in the over-85 age group.

The Health Board covers a quarter of the area of Wales and is largely rural. Geography presents significant challenges, with relatively long travel times between towns.

There are four small to medium-sized acute hospitals, each with its own medical take and three Emergency Units plus a 24/7 Minor Injury Unit at the fourth site. No other part of Wales has a higher number of acute sites per capita. This has led to duplication, a diluted workforce, non-compliance with modern standards and fragile services. The higher costs associated with rural health care compound these problems.

Current Services:

Glangwili Hospital, Carmarthen: 388 beds including acute medicine, acute surgery and full range of medical and surgical specialties. Inpatient obstetrics, paediatrics, neonates, critical care, Emergency Department and Trauma unit.

Prince Philip Hospital, Llanelli: 226 beds, mostly general medicine and geriatrics. Elective Orthopaedics, planned surgery and breast surgery. There are no inpatient obstetric or paediatric services. A minor injuries and medical assessment unit operate 24/7.

Withybush Hospital, Haverfordwest: 193 beds including acute medicine, acute surgery and full range of medical and surgical specialties. Critical care, Emergency Department and a midwifery-led unit.

Bronglais Hospital, Aberystwyth: 157 beds, general hospital services including acute medicine, acute surgery and full range of medical and surgical specialties. Inpatient low-risk obstetrics, paediatrics, critical care, Emergency Department and Rural Trauma facility.

The quality of the buildings at both Withybush and Glangwili is very poor, to the point where both efficiency and patient care are being compromised. Withybush has serious problems with RAAC planks, which constitute a major obstacle to its safe and efficient operation.

Services in the smaller hospitals (Prince Philip and Withybush) have been subject to a process of attrition predominantly driven by marked problems with the recruitment and retention of staff. The outline business case comments that “Over the past decade some key services have been teetering on the edge of sustainability, in particular at Withybush Hospital where recruitment challenges have been most acute. Severe medical staffing shortages have meant significant challenges for A&E services; Paediatric services were reduced to daytime only and then ceased entirely during the pandemic; Gynaecology was centralised in Glangwili.”

It also comments on some issues about other problems with workforce planning. For example, ophthalmology has not been provided in Pembrokeshire for decades and the University Health Board does not directly employ any dermatologists. There are also gaps in neurology and there is also fragility of services in respiratory, cardiology, gastroenterology, neurology, oncology, general surgery, anaesthetics, critical care and other specialisms.

The Board gets relatively few trainee doctors, despite receiving very positive feedback, and so there is a heavy reliance on SAS doctors, locums and temporary staff. A number of these doctors, especially more newly arrived international medical graduates, require high levels of supervision and support to integrate them into the workforce.

The workforce challenge is exacerbated by population change with fewer people aged 25-44 and more people aged 55-79 than other places in Wales.

The result is that the distribution and shape of services within hospitals has often been the result of the inability to sustain certain medical cover, rather than planning.

The proposed changes

How the plan was developed

It is clear from the documentation that a very thorough process has been adopted and there has been a high level of public, stakeholder and staff engagement. This appears to have been responsive to the concerns that were raised, although due to the very intractable nature of the issues not all of these could be addressed. The discussion about the future of

services has been in train for some time with engagement on the reconfiguration of services beginning as early as 2007. The current process started in earnest in 2017/18.

Expectations seem to be high as a result of this level of participation, and the lack of forward movement on the capital components of the plan risks creating disillusionment and worsening recruitment and retention.

Main components of the clinical strategy

The clinical strategy is part of a broader whole-system plan for the Health Board, and so has avoided the problems of some other hospital developments in the UK in that it covers primary care, community and ambulance services holistically.

Realising our Vision and Mission means implementing an ambitious and innovative programme of whole-system change to realise our population health ambitions, which signals a fundamental shift from our current emphasis on hospitals to a focus on working in partnership with people and communities to keep people well in or close to their own homes. It means the development and implementation of an **enhanced community model, based on an integrated social model for health and wellbeing, and its implementation at pace as a long-term commitment focused on prevention, wellbeing and early intervention to help build resilience and enable people to live well within their own communities.**

It means the improvement of the estate of our community facilities to support the right care at the right time in the right place. The community model requires us to reimagine our community estate to better meet the place-based needs of our population whilst connecting care across the region and between primary, community and secondary care.

The main components of the plan are as follows:

Community hubs

The aim is to develop integrated multi-disciplinary community hubs (health and well-being centres) that are anchors for service provision in the community. These will be predominantly located on existing hospital sites, including the smaller community hospitals in the network.

These centres will form an essential element of the whole-system approach to delivering care. Multi-disciplinary teams and the wider networks would wrap around individuals and families to deliver care in the community.

Services delivered in hubs would likely include:

- Outpatient clinics supported by diagnostic tests and scans including x-rays.
- Treatment for minor illness and minor injury.
- Planned and preventative care for people living with long term conditions.
- Overnight stay for patients unable to remain at home but not requiring a hospital care (step-up care), rehabilitation after a stay in hospital (step-down care) and assisted living.
- Mental health advice and support.

New hospital

The plan is to build a new hospital at a site to be identified between Narberth and St Clears. The hospital would separate planned and urgent care. The assumption would be that 50% of patients in acute beds would have a maximum length of stay of 72 hours.

There is likely to be a requirement to transfer more critical patients from Bronglais Hospital and Prince Philip Hospital as part of the network approach to delivering care.

Services delivered in the new hospital would likely include:

- Emergency Department and Trauma Unit.
- 24/7 access to specialties (medicine, surgery, obstetrics and gynaecology, paediatrics, diagnostics, mental health and learning disabilities).
- Critical care (Levels 1, 2 and 3).
- 24/7 diagnostic support.
- Planned major day case and inpatient operations and treatment
- Cardiac catheterisation and pacing laboratory
- Specialist outpatient services
- Inpatient and limited outpatient therapies
- Multi-professional health education facility
- Research and innovation facilities, including Institute for Life Sciences.

Bronglais District General Hospital (out of the scope of this review)

The plan is that the hospital will be refurbished and continue to provide acute hospital services.

Services delivered would likely include:

- A rural trauma unit and emergency department.
- 24/7 access to acute specialties (medicine, surgery, obstetrics & gynaecology, paediatrics).
- 24/7 diagnostic support.
- Critical care.
- Planned major day case and inpatient operations and treatment.
- Day case elective facilities including endoscopy.
- Midwife led unit and low-risk obstetrics.
- Outpatient services including chemotherapy.
- Older adult inpatient mental health beds.

Prince Philip Hospital

Prince Philip Hospital will operate as a 'local general hospital' supporting acute medical admissions. The hospital will continue to have medical inpatient beds with diagnostic support and will act as a stabilisation and transfer hub for certain specialised conditions. There will be a greater medical presence on this site compared with Glangwili and Withybush Hospitals.

Services delivered would likely include:

- 24/7 GP led urgent care centre and access for acute medicine supported by consultants and teams plus high dependency care capability and the ability to flex up temporarily to a higher level of care and transfer patients out.
- 24/7 diagnostic support.
- Day case surgery and endoscopy.
- Outpatient clinics and specialist ambulatory 'hot' clinics plus chemotherapy.
- Facilities to offer midwife-led deliveries – still under discussion.
- Palliative care.

Glangwili Hospital & Withybush Hospital

Glangwili and Withybush hospitals will operate as local community hospitals, with beds being therapy and nurse led focusing on rehabilitation and less acute needs. This aims to strengthen the ability to deliver same-day emergency care for ambulatory sensitive conditions, including GP-led services for minor injuries and illness, as well as provide stepup and step-down beds for patients requiring additional support in a non-acute hospital setting. These are not intended to have overnight cover.

Services provided:

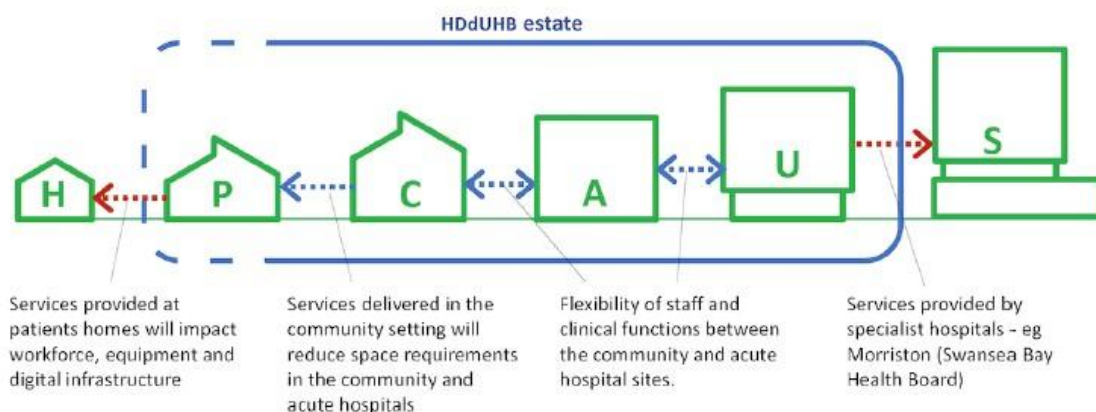
- 24/7 GP led urgent care centre.
- Therapy and nurse led step-up and step-down beds (less critical needs or rehabilitation), subject to further exploration when pathway analysis is undertaken.
- Outpatient clinics and specialist ambulatory 'hot' clinics.
- Facilities for an identified range of day case procedures.
- Midwife led delivery unit – to be assessed
- Access to diagnostic support
- Renal dialysis (subject to further testing)
- Chemotherapy.

The plan is that both GGH and WGH will provide some in-hours ambulatory frailty assessment facility however this might be more enhanced at WGH given the location and recent SDEC work. This will require a multi-professional workforce with strong therapy and nursing leadership with a mix of consultant geriatrician and GPs to provide a sufficient level of safety.

The whole model is helpfully described conceptually in the diagram below:

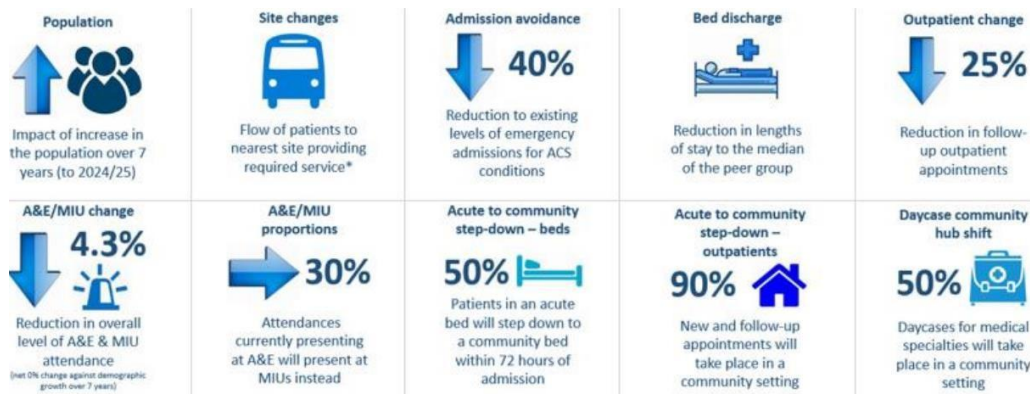
Understanding the service model

H – Patients home
P – Primary care facilities (HDdUHB and 3rd sector)
C – Community facilities
A – Acute Hospitals
U – Urgent & planned Care hospital
S – Specialist Hospital



Underpinning assumptions

The strategy helpfully sets out some of the key assumptions underpinning the model. These are important as they will have implications for the size of facilities at the main hospital, and the size, equipment and staffing required at the community hubs, Withybush and Glangwili. These are shown below.



This produces the following changes in the distribution and number of inpatient beds (under the ‘most likely scenario’ in the PBC):

	Prince Philip	Glangwili	Withybush	New hospital	Total
July 2023					
MAU/CDU	30	10	17		57
Critical care	5	11	3		19
Obs / midwifery		42	3		45
Other	191	325	172		688
Total	226	388	195		809
New model					
Acute admission	24			48	72
Critical care	5			22	27
Acute IP	140			421	561
Step up/down		72	48		120
Neonatal				15	15
Total	169	72	48	506	795

Our assessment of the proposed clinical strategy

Overview

The overall framing of the strategy as a whole system approach is to be applauded. Most of the material in the very extensive documents that we reviewed is what we would expect to see in this type of strategy. Our focus has been on the clinical strategy and here there are more issues to be explored.

It is very clear to us that the Board cannot sustain three district general hospital (DGH) type emergency services in the south of its area. The staffing issues and services at Withybush have reached a point where a major change is required. It does not seem practical to maintain it as a full general hospital in the medium term. The proposed modification to the

model at Withybush is an interesting proposition and could help keep more patients closer to home. There are some issues about this, which we explore in more detail below, but we would recommend that this be piloted and evaluated.

We have examined the potential for providing more emergency paediatric services in locations other than the main acute hospital. We consulted with the chair of the Royal College of Paediatrics and Child Health's rural interest group on this to test our understanding of current thinking about potential models. We concluded that the decision to centralise this service is correct, and there is limited scope to increase the capability of local community hubs to deal with paediatric emergencies beyond what is already proposed without significant clinical risk.

The very poor condition of the estate is also a significant driver of change and is an obstacle to providing effective and viable services. The quality of the facilities for patients are clearly an issue, and the structural issues at Withybush and the general condition of Glangwili suggest an urgent need for action for reasons of safety, efficiency and staff retention.

We have several detailed observations about the proposed clinical strategy that we explore below. We would stress that these mostly relate to risks and opportunities within the strategy and the resulting investment requirement and do not challenge the broad thrust of the strategy.

Key issues – assumptions and model design

Thinking about the clinical models has moved on since the strategy was developed, and there is a need to revisit some of the key assumptions set out in appendix 8A of the business case (see above) and some other aspects of the model.

Population growth

This has been factored in and we assume that changes in the age structure of the population have been accounted for. However, it may be worth considering if the overall health of older parts of the population today will improve or deteriorate as younger cohorts age, e.g.. today's 75-year-olds may be healthier than those of 2033 who may have more long-term conditions and comorbidities due to increased survival and so projecting current utilisation rates for this age band may underestimate future demand.

Non-demographic drivers of activity/demand

The assumptions do not refer to the general trend for technological change and changes in treatment approaches to drive increases in activity. This is generally estimated at 0.5-1% per annum. Against this there may be impact from changes in the flow of some patients from the eastern part of the Board to Swansea, either because of the ambulance policy to go to the closest hospital or through patient choice in areas such as maternity services. We understand that further modelling of this will be undertaken at OBC stage.

Admission avoidance

There is an expectation that there will be a 40% reduction across the board in admissions for ambulatory care sensitive conditions. Our view, supported by our panel, is that this may be optimistic and that for certain conditions, such as pneumonia, excellent risk stratification tools for hospital admission have existed for some time and further improvements are likely to be marginal. We believe that this list should be reviewed and that sensitivity analysis to estimate the impact of this not being achieved is required. It is also worth noting that if this is successful, it may be inconsistent with assumptions about reducing length of stay (LOS) as it is likely that any admissions that are prevented will tend to be those with a shorter LOS,

producing an overall longer LOS. Admission avoidance also often requires just as much work in terms of workforce and diagnostics than an inpatient, if not more so.

Improving population health management may also lead to increased detection of disease and, at least initially, higher utilisation. The evidence suggests that some caution is required.

Finally, it must be considered that rurality may play a role in viewing how suitable patients might be for admissions avoidance and/or hospital-at-home type schemes, and that long travel times tend to lead to lower clinical thresholds for admission.

Length of stay

The aspiration to achieve the median of the peer group should be reviewed. All the acute hospitals currently have a significant number of patients who are medically fit for discharge but are waiting for social care and /or community services. Almost half the acute beds in medical specialties and orthopaedics on the main hospital sites are occupied by patients with a stay of over 7 days. In this case, the use of benchmarks may not be the most appropriate approach. Benchmarks can be used to look at individual pathways for patients with a short LOS, but a decision needs to be made about how the long tail of patients waiting for other services are to be dealt with. This may mean building some different types of rehabilitation/care home provision, which is cheaper to construct and can be made flexible. NHS providers may have more success in recruiting care workers to these facilities, particularly if they can offer career development as well as better terms and conditions.

Step down

Our comments on LOS show that there is great potential for earlier discharge for rehabilitation patients and those waiting for community or social care, some of whom could step down to other services. However, we have doubts that the assumption that stepping down 50% of patients to a community bed after 72 hours is plausible. This is further discussed in Appendix 1. We understand that the functional content reflects a less ambitious assumption and this seems sensible. We would suggest that further modelling is performed to determine realistic flows and the implications this has for bed numbers.

Step-down beds should continue to have a degree of medical oversight, ideally from geriatricians, and the workforce modelling for this is unclear from the documents provided.

Step up and proposals for an enhanced frailty and SDEC unit at Withybush

The clinicians at Withybush are concerned about the busyness of the site – an estimated 3040 medical patients per day are being either being admitted via the ED or seen in the SDEC. The view was that while some of this might be able to be done by the proposed minor injuries unit (MIU), a substantial amount of work would still need to be absorbed by the new site, with significant implications for both the size of the new build and the ambulance services.

A consultant-led SDEC type service with a focus on frailty would be a useful addition to the site. This would meet many of the needs of the local population and reduce the amount of work on the new acute site. This is conceptually viable, under the circumstances, although there are issues that would need to be addressed.

We considered whether this model could be augmented by allowing selected medical admissions to the Withybush site. The size and number of admissions would be contingent, in part, on the ability to provide safe cover overnight. In our assessment, admitting sicker patients would require someone with advanced airway and resuscitation skills to be available 24/7; less unwell patients might still require some medical presence. This raises some

important practical difficulties and the strategy is premised on avoiding running multiple small medical rotas on different sites and therefore this approach is probably not a viable option.

If the model does not allow for admissions, this raises the conundrum of how to accommodate patients requiring transfer who present within 1-2 hours of unit closing time. This may mean that some patients are transferred without full assessment (as time does not permit this) or that mechanisms for staff to stay later are built into contracts. In either case, planning needs to be done to reduce risk.

Virtual wards and hospital at home

These are currently part of the model and there may be further opportunities to expand this. However, geography is a constraint to the development of cost-effective hospital at home due to distances that staff need to travel. There may be some scope to increase the use of virtual wards but this might be considered as part of managing some of the risk around capacity estimates rather than as a major input to the model.

Long-term viability of acute medicine at Prince Philip Hospital (PPH)

PPH operates an unconventional, if apparently effective, model of acute care. At the front door, there is currently a GP-led MIU for walk-in patients, which is augmented by a medical SDEC service, and an acute medical unit (AMU) which takes referrals from GPs and patients conveyed by ambulance. The ambulance currently bypasses PPH for patients with myocardial infarction, gastrointestinal bleeding or who are most unwell. Behind this sits a full range of medical inpatient services. Support for critically unwell patients is provided by a small ICU. To date, this has been an effective model, with transfers to another site averaging about 1% of admissions.

However, it should be noted that this is effectively a model borne out of service attrition. It previously had a fully functional ED, which was closed due to problems with staffing. The MIU was supposed to be GP-led 24/7, but it has become increasingly difficult to find sufficient staff and now there are some periods when the unit is nurse-led only. Similarly, the ICU workforce has suffered from attrition, with much of the care now being provided by SAS doctors, augmented by anaesthetic staff on-site for routine surgical lists.

While this model appears to be working for the moment, there are a number of key risks. The first of these is around the front door. Firstly, the AMU is effectively performing the function of a Majors area in an ED, yet it is not an appropriate physical space for this. It was commented both at Withybush and PPH that the acuity of walk-ins has only increased as the ability of the public to access ambulance services has fallen. At PPH, these patients present a significant risk, given that consultant staff are not emergency physicians and steps need to be taken to mitigate this risk. The ongoing viability of the service with its current level of risk is contingent on ICU continuing at the site, which itself appears to be dependent on surgical services being delivered on site. The loss of anaesthetic services and/or the ICU could be an existential blow to current service provision.

We recommend that the current plan to continue and secure these acute services at PPH should be maintained and that further steps are put in place to support its long-term viability. This will involve thinking about the development of new ways of providing support for critically ill patients and airway issues at PPH. Our general recommendation that the new acute hospital should be built in a way that would allow for some further expansion of capacity provides an additional way of mitigating the risks in this area.

Outpatients

The assumptions here are in line with those made elsewhere, although a more granular analysis of this might be worth undertaking as the assumptions were developed pre-covid,

and experience has developed both with remote consultation and in the deployment of consultant connect services, patient initiated follow up and other innovations. For example, we were told that virtual fracture clinics are now in place. Steps have been taken to improve the connection between consultants and GPs, and we recommend that this should be further developed.

Proposals for endoscopy being available at a number of locations is in line with practice elsewhere but the extent to which this is feasible will need to be determined by staffing and logistics considerations.

Day surgery

Current day surgery activity by site is shown in the table below, although some of the patients seen as day cases may not be appropriate for a stand-alone unit. The intention to retain as much of this activity as possible locally is sensible in terms of patient transport and ensuring that patients do not have to stay overnight. The provision of day case ophthalmology at Withybush might also be considered. There is a question about whether the functional content for the smaller sites will be able to accommodate the level of activity which could be retained locally.

There may also be a constraint in terms of the ability to staff all these services. It is not clear that the replacement hospital at Glangwili will need to provide day surgery and increased provision at PPH and at on the new acute site could be a better option.

Current day surgery activity 2022/23

	Glangwili	Prince Philip	Withybush	Total
General Surgery & upper GI	1225	202	1595	3012
Urology	2780	1069	1303	5152
Breast	1	19	57	77
Colorectal	85	112	124	321
Trauma & Orthopaedics	470	424	1085	1979
ENT	437	5		442
Ophthalmology	1032			1032
Pain Management	432		228	660
Gynaecology	686	0	348	1034
Total	7138	1831	4740	13709

Midwifery services

The strategy envisages the continued provision of midwifery-led deliveries at Glangwili and Withybush. The viability and cost effectiveness of these needs further testing as experience with these types of units elsewhere is not encouraging. Numbers tend to be very low and there are a large number of transfers back to the main unit, including a significant number during labour.

Other enabling components of the strategy

Imaging

At present, the description of the hubs and services at the local hospitals does not include any 3D imaging. The model that is envisaged would seem to require CT and potentially MRI

on the hospital sites and potentially at some hubs, at least on a mobile basis. This would allow for better decision-making earlier in the patient pathway for those acutely unwell, while relieving patients of travelling long distances for planned diagnostics.

Digital

Effective population health management and the smooth transfer of patients, both of which are key elements of the model, will require an effective system of linked records, standardised pathways and an effective patient portal linked to these. It would be useful to consider how clinicians might be supported to deliver both peer support to other professionals, as well as remote consultations to patients, and what infrastructure and space might be needed to do this well. For example, shared consultant offices are inappropriate for conducting remote consultations.

A Digital Enablement Plan has been developed to support the delivery of the Clinical Strategy and this is close to finalisation.

Collaboration with Swansea UHB

The ARCH (A Regional Collaboration for Health) initiative appears to provide a good vehicle for collaboration between the Health Boards. The potential for change in Hywel Dda to drive additional activity in Swansea will need to be monitored, and mechanisms are in place to do so. The ability of the Board to fund inter-Board care appears to be an issue.

The potential for further collaboration, joint appointments and other ways of strengthening services in Hywel Dda should be further explored. Assumptions about some repatriation of work from Swansea e.g. interventional cardiology and subspecialty trauma & orthopaedics are in the current plan.

General practice

The proposed model relies heavily on engagement with general practice and that sufficient staff will be available to provide additional services. While there are clearly pockets of excellence in west Wales, general practice is nevertheless under pressure. Our expert panel noted that GPs often drop non-core service provision first when their own practices come under pressure. We also note that there are insufficient GP staff to currently cover the MIU at Prince Philip Hospital 24/7.

Welsh Ambulance Service (WAS)

As with general practice, it must be acknowledged that ambulance services are under pressure already. Concerns were raised by clinical staff about very unwell patients waiting long times for urgent transfers and even, on occasion, transfers being refused. The proposed model is entirely dependent on an expansion in ambulance services, both in terms of absolute numbers of vehicles and the time spent on the road (some patients will have much longer transport times). Failure of WAS services to be upgraded is a major risk to the model. It appears to us that the WAS has been involved well in the development of the plans.

Additional analysis and other work

Planning assumptions

As noted above, it would be worth updating some of these and testing the sensitivity of the overall model to some of the more challenging standards not being met. This may also apply to the design of the functional content as the model has evolved, but the 2022 document *Appendix 8B* that specifies functional content may not fully reflect this.

Note that the very different model of care from that used in many other hospitals may mean that benchmarks are of limited value and that they also imply quite different assumptions

about occupancy than traditionally used in UK hospital planning. The elimination of long staying patients and an aggressive step down model will mean that the target occupancy in the main acute hospital will probably need to be lower than the 85% usually assumed. Likewise to achieve flow the community and step down / up beds will also need to operate at an occupancy that means beds are available when required.

Admissions data needs to be reviewed

We are not sure whether the modelling is based on an accurate count of emergency admissions, as it transpired in our visits that a very significant number of patients are receiving medical care (sometimes for several days) in the ED, SDEC or elsewhere without necessarily being registered as inpatient admissions.

Testing the proposed model for medicine and frailty at Withybush

We would recommend that a prospective study should be done to look at the patterns of presentation at the current ED and medical service, to determine which elements of this workload could be managed by the type of consultant/GP led model being proposed. The new model looks very promising and some preliminary analysis has been done to understand how it might operate. It will be important to understand what the patients present with as well as their actual diagnosis and disposition. Time of day will also need to be tracked as a difficult issue with this model is how to handle patients who present close to closing time. This study, along with reanalysis of the step up/down models, will also give an indication of how far medical cover may be required overnight and, if necessary, how to calibrate the model to avoid this. The analysis should also be incorporated into thinking about much additional support will be needed from WAS, and the modelling of ambulance requirements should be re-run on this basis.

The problem of less conventional models

While the proposed model at Withybush and the current model at Prince Philip provide pragmatic solutions, that they are less conventional (if not unique) provides sets of novel challenges. Neither of these models fit with conventional labels and, within the context of the NHS, this poses issues with standards, governance and training. There is the additional issue of ensuring that staff coming from other models, including locums and trainees, are made aware of the limitations of the models and don't make assumptions about the management of risk. There is also an issue of the public perceiving that these models of care are 'second best'. We would suggest that national standards are reviewed and adapted for the local context and Standard Operating Procedures are kept current. Positive narratives about the models of care will need to be constructed and that long-term programmes might be needed for the public to understand services and how they should be utilised.

Conclusions and recommendations

The broad strategy is well thought through and appears to have had a good degree of stakeholder involvement in its creation. The scale of the problems and the gap between developing the strategy and taking action means that there is now some urgency. While we suggest some refinements to the plan and some piloting of the model for Withybush, this should not be a reason for further delay as much of this can proceed in parallel with other parts of the project.

The conclusion that it is not possible to sustain three acute medical services in the south of the Board area is unavoidable, and this has inevitable consequences for other services dependent on this, in particular the ED at Withybush and Glangwili.

A centralised acute hospital with supporting hubs and enhanced community support is a pragmatic solution. It will be important to ensure that final location of the central hospital will not lead to problems of lower paid staff being put off travelling to a new location, or that it does not lead to a significant loss of patients (particularly in maternity) to the east. This was outside the scope of our work. It is clear that substantial detailed work has been done on this issue.

There is a need to revisit some aspect of the details of the model, some planning assumptions, the arrangements for step-down and the proposals for acute assessment services at Withybush and critical care support to medicine at PPH.

While Glangwili and Withybush tend to be treated as identical models in the strategy we think that for some services a different approach to Withybush, providing a richer mix of services, might be taken because of the additional distances involved for patient travel and the provision of support. The relatively proximity of the new hospital to Carmarthen opens the possibility that services at Glangwili might focus on high volume ambulatory patients and not include day surgery, midwife delivery or other procedures other than the outpatient type. Consideration might also be given to whether the minor injuries service should be 24 hours at Glangwili.

The planning of the main acute hospital should allow for the possibility that the step-up / step-down community-based model does not operate fully as planned and leave room for expansion on the site for at least ward or intermediate care type accommodation, as well as allowing for the easy expansion of the ED and associated imaging and assessment facilities. This would also allow for some additional robustness if there were future challenges to the PPH acute medical model.

Implications for HEIW (Health Education and Improvement Wales) and Welsh Government

It is imperative that action is taken to deal with the very significant problem of patients waiting for domiciliary or residential social care. At the time of writing, there were well over 200 patients across the three acute sites and two community hospitals in the southern part of the board. Failure to address this will mean that the new models proposed will fail and that the facilities will be too small to cope.

Rural services need to be training their own staff. This is particularly true for doctors. It is very regrettable that Hywel Dda is not getting access to more senior trainees. This needs urgent attention. HEIW needs to ensure it is training doctors who can and want to work across the whole of Wales, not just urban centres.

In addition, we recommend that a review is carried out to consider whether specific action to train doctors for providing services in rural areas who will have a wide range of expertise across a number of medical specialties. A cadre of such professionals will be required to

make models similar to that proposed by Hywel Dda HB operate effectively. HEIW should work with rural areas in Wales (and potentially other parts of the UK) to develop new models for training senior doctors to support rural services. While Wales is significantly less rural than Australia and Canada, the Rural Generalism programmes developed in these places might provide a template that could be modified for local need. A similar focus on the needs of rural areas for other staff groups is also needed.

The strategy is to some extent contingent on a major improvement in the digital systems in Hywel Dda. The development of digital strategy across Wales and the relatively low level of digital maturity represents an obstacle and WG should review how it can progress more quickly in this area.

There is clearly now some urgency not least because of the poor state of some of the buildings and the fragility of many services. But also because staff and the public have now been waiting for some time and in the case of the staff providing a sense of hope and progress will be important to ensure that they will stay and invest in the future. If the WG could indicate that there will be progress soon that could be helpful in this respect.

Appendix 1 – Step-down assumptions

Further modelling of the step down assumptions may be required although we understand that some of this has taken place since the documents we reviewed were completed.

The community beds appear to be serving a dual function – decanting the main hospital and provision of rehabilitative services. Having reviewed the literature and taken expert advice, the following needs to be considered:

- Patients who are awaiting social services and those patients who need further active rehabilitation are distinct groups of patients with different needs.
- While ~40% of medical admissions are able to be discharged within 48-72 hours, those patients who are transferred to downstream wards have a minimum LOS of 5 days. There is a strong suggestion that most of these patients are transferred for reasons of medical need, not that they are awaiting support for discharge (they tend to remain on AMUs anyway).
- Every transfer of care adds 2 days to LOS. Long transfers to community beds can result in short-lived delirium, which adds yet more days to the LOS for a number of patients.
- For these reasons, if there is a consensus that patients should not be transferred to a community bed unless the expected LOS is at least 5-7 days in total it is more efficient for patients who are due to be discharged within 1-2 days to remain on the acute site.
- The model appears to assume that patients will be transferred to the step-down site on the same day that a decision is made about their suitability for transfer. However, most organisations are prone to making decisions about discharge later in the day. Unless there is provision for both patient transfer and for the step-down unit to receive patients into the evening, most patients will have an additional day added to their LOS on the main site.
- In short, while transfer to a community facility is most likely to reduce LOS for longer stay patients, it is likely that LOS for short-stay patients will increase, with some of that additional stay being on the main site and some on the community site.
- Flow on the main site will be contingent on the availability of beds on the step-down sites, with smooth flow needing a consistent number of discharges across the week (e.g. the 'Monday' problem of there being no beds due to lack of discharges over the weekend).
- While one might expect there to be nurse-led discharges across the week at the community site, nevertheless the majority of discharge decisions will be made following consultant review. If this is only weekly, this will inevitably lead to beds becoming available in a 'burst' pattern which is unhelpful for the management of flow.

We strongly recommend that in addition to a deeper look at the administrative data, prospective data should be collected on all hospital sites that includes:

- Point at which patient no longer requires daily medical input.
- Point at which patients are medically fit for discharge.
- Whether additional days in hospital are due to ongoing input from therapies, complex discharge planning or other factors.

Tools such as Red Day/Green Day or the Day of Care Survey might help with this. Further flow modelling should then be undertaken using this more detailed information.