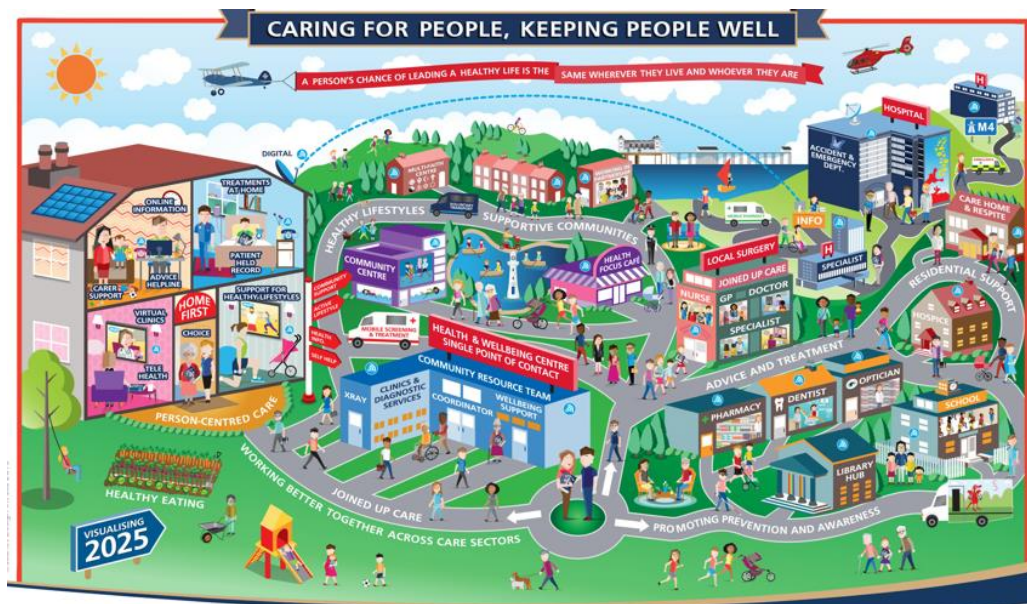




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Cardiff and Vale  
University Health Board

# CARDIFF AND VALE UNIVERSITY HEALTH BOARD



## COVID 19: EVIDENCE TO THE HEALTH, SOCIAL CARE & SPORTS COMMITTEE

10<sup>th</sup> July 2020

# Cardiff and Vale Submission to the Health, Social Care and Sports Committee

## COVID-19

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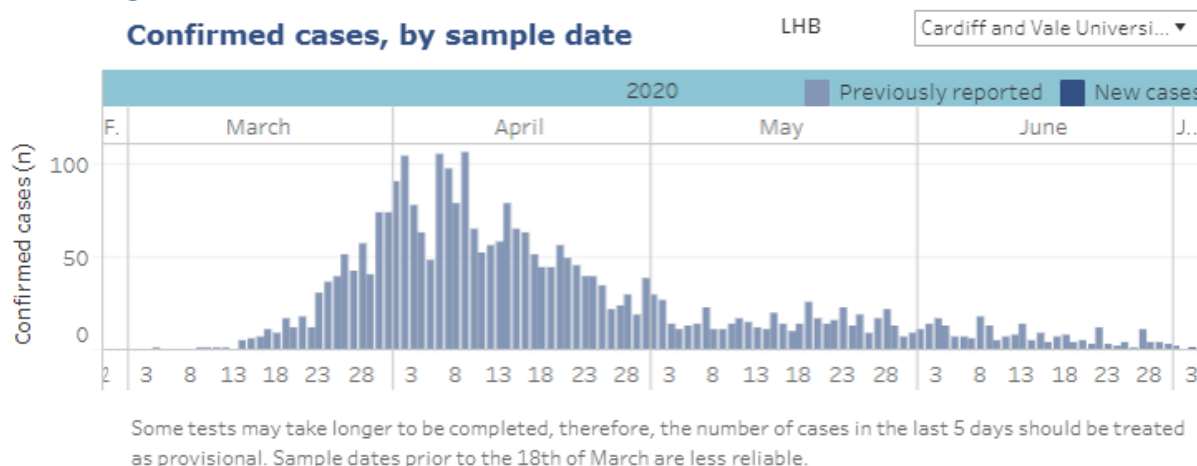
## 1. INTRODUCTION

1.1 This is Cardiff and Vale's written submission to the Health, Social Care and Sports Committee in advance of the oral evidence session on Friday 10<sup>th</sup> July.

## 2. OVERVIEW OF CARDIFF AND VALE UHB'S RESPONSE TO THE PANDEMIC TO DATE

2.1 The coronavirus pandemic reached the UK in February and cases of Covid-19 began to emerge in Cardiff and Vale in early March (see Figure 1). In general the spread of the pandemic in Wales was slightly behind that of the rest of the UK but the virus impacted Cardiff and the Vale of Glamorgan earlier than most other areas of Wales, with the exception of Gwent.

Figure 1: Confirmed Covid-19 cases Cardiff and Vale



2.2 Initial modelling at UK and Wales level identified the potential for an extreme surge event, with a substantial peak in cases, hospitalisation, critical care requirement and deaths. For the Cardiff and Vale population this translated, without mitigation (i.e. behavioural and social interventions), to the potential for 81% of the population to be infected, of which over 30,000 individuals could be hospitalised. With mitigations, *the reasonable worst case (RWC) scenario* projected 650-2600 Covid patients in hospital at the peak of the pandemic (Cardiff and Vale population). At this early stage the UHB based its capacity planning on this *mitigated RWC*.

2.3 A three phase plan was rapidly put in place by the Health Board in order to respond to the impact of the anticipated surge in demand:

Phase 1 – Repurposing capacity and zoning

Phase 2 – Commissioning additional capacity within UHB facilities

Phase 3 – 'In extremis', commissioning capacity outside UHB facilities (the Dragon's Heart Hospital)

2.4 The infection in Cardiff and Vale spread rapidly initially, growing from individual cases in early March to over 100 daily confirmed cases on Thursday 2<sup>nd</sup> April 2020. During

this period the virus had developed earlier in some European countries (e.g. Italy) than the UK and other parts of the UK, particularly London, were ahead of Wales in the spread. Experience from these areas was reinforcing the potential for health services to be overwhelmed.

- 2.5** In the first week of April the advice from Public Health Wales was that the doubling rate for Cardiff and Vale remained around 4 days, slightly faster than the all-Wales position, and this was the best approach to short-term capacity planning. Extrapolation of the position on the 1<sup>st</sup> April 2020 utilising this doubling rate suggested the UHB’s phase 1 and phase 2 capacity would be exceeded within one week and, without a slowing of the spread, would mean over 1500 Covid patients in hospital by 15<sup>th</sup> April 2020.
- 2.6** On 4<sup>th</sup> April the Director General wrote to the Health Board requesting confirmation of plans for capacity for up to 143 critical care beds and 1592 acute beds.
- 2.7** By the week commencing the 6<sup>th</sup> April 2020 there was evidence that the spread of the virus was beginning to slow following the ‘lockdown’ measures implemented by the UK Government on 23<sup>rd</sup> March. Analysis on 7<sup>th</sup> April from PHW identified the Wales doubling rate had slowed to 5.5 days for Wales (however it was still around 4 days for Cardiff and Vale).
- 2.8** The number of new confirmed cases peaked for both Cardiff and Vale and Wales on 9<sup>th</sup> April. The number of Covid patients in hospital peaked the week following.
- 2.9** Key achievements during the first wave of the Covid-19 pandemic include the following:

**Table 1: Key achievements during initial wave**

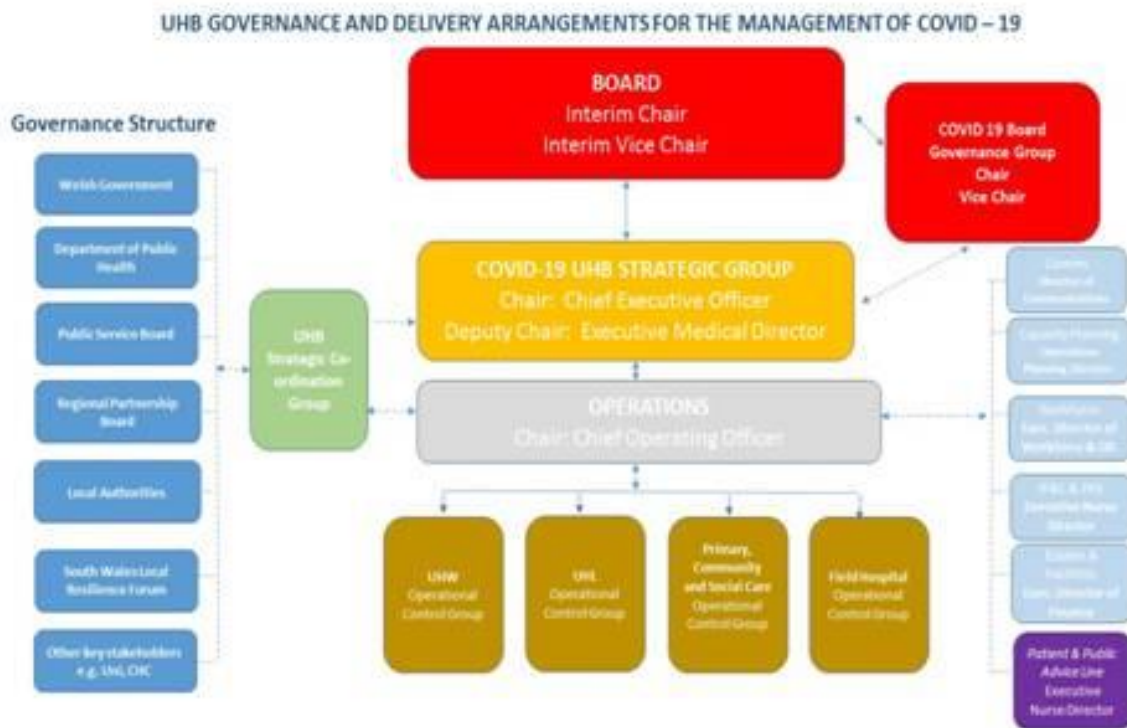
A 1500 bed facility commissioned at the Dragon’s Heart Hospital	Over 300 additional beds repurposed on existing sites for cohorting of Covid patients	Expansion of the critical care unit to 85 beds - a 124% increase	2757 cancer and other urgent activity delivered at Spire Hospital	1162 elective and 961 emergency surgical procedures, all with outcomes audited
Conversion of four areas to wards and build of new HCID unit	7996 staff tested and their household contacts	Recruited 1178 additional staff	21,330 Coronavirus tests undertaken	832 Covid patients discharged home
Essential services maintained throughout	Roll out of virtual appointments and digital solutions	TTP service established 1 <sup>st</sup> June and over 300 people followed up in first month	Worked with partners to improve discharge processes and reduce homelessness	Surveyed over 700 patients following discharge from hospital

### 3. STRATEGIC RESPONSE

#### 3.1 Governance

3.1.1 From the outset of the pandemic the UHB rapidly established the governance structure below to oversee its response to the Covid outbreak:

Figure 2: UHB Governance Arrangements for Covid-19



3.1.2 The Covid-19 Board Governance Group was established in April 2020 to scrutinise the decisions of our Strategic Group and provide support to the Chief Executive and Executive Directors to allow those decisions to progress quickly but within a governance framework with appropriate audit trail. This meeting was developed as a Chair's action group which has the same authority as the Chair has when signing off Chairs actions. The difference is the way the Chairs actions are being executed in that those involved are meeting virtually to enable robust discussion and scrutiny of decision being made. The membership of the group is the Chair, Vice Chair, Audit Committee Chair and Chief Executive. The Group is also attended by the Director of Corporate Governance.

Decisions are formally recorded and reported to the next meeting of the Board for consideration and ratification.

Its remit is as follows:

- Decisions reserved for the Board in line with Standing Orders;
- Decisions with a financial value over £500k;
- Legal documents and contracts of significance either in value or content;
- Decisions with the potential for reputational damage;

- Strategic decisions beyond the authority of the UHB Strategic Group;
- Any other decisions requiring approval of the Group.

## **3.2 Local Resilience Forum**

- 3.2.1 The UHB has actively engaged with partners throughout the response to Covid-19, in particular as a Category One responder under the Civil Contingencies Act through the South Wales Local Resilience Forum (SWLRF). SWLRF established its command and control structures in early March to coordinate the partnership response to emerging issues across South Wales; and the UHB has attended and contributed to twice weekly meetings of the Strategic and Tactical Coordination Groups ever since.
- 3.2.2 As part of the process, each organisation has been submitting daily situation reports, collated by SWLRF to provide situational awareness for all, and to inform Welsh Government on emerging issues such as mortuary capacity, PPE, sickness absence, field hospitals, testing and medical / pharmaceutical supply challenges.
- 3.2.3 Of the emerging issues, early on SWLRF identified a need to establish additional storage capacity for deceased patients across South Wales. Through rapid effective partnership working, multi-agency plans were initiated under Operation CAMWOOD; the South Wales response to establishing and operating a temporary storage facility in Cardiff Bay.
- 3.2.4 Access to sufficient suitable PPE has been an ongoing challenge for all organisations. The UHB has had a full system in place for PPE, controlled by our Deputy Exec Nurse Director and Head of Procurement. We continue to assist with PPE supply for partners who are caring for NHS patients on a case by case basis, and set up a contact point early to assist with urgent requests.

## **3.3 Financial Governance**

- 3.3.1 The Welsh Government wrote to the UHB on 19<sup>th</sup> March 2020 to inform it whilst it had an approvable plan, it had paused the IMTP process for an indefinite period so that organisations could focus on the challenges of Covid-19. The main focus of the UHB is managing the impact of Covid, which will inevitably come with a significant cost.
- 3.3.2 The UHB is incurring significant additional expenditure as a result of Covid. The costs of the Dragon's Heart Hospital are significant, especially the set up costs which allow for significant expansion. In addition, the UHB is incurring additional costs to cover sickness and absence and to resource the additional Covid hospital capacity that has been generated.

3.3.3 Covid-19 is also adversely impacting on the UHB savings programme with substantial underachievement against the annual savings plan. It is not anticipated that this will improve until the Covid pandemic passes. Elective work has been significantly curtailed during this period as part of the UHB response to Covid and this has seen a reduction in planned expenditure.

### 3.4 Demand modelling

- 3.4.1 The initial Health Board level modelling was issued by Welsh Government on 9<sup>th</sup> March 2020. It projected the potential scale of the peak by Health Board, the *Reasonable Worst Case Scenario* (RWC), in two forms: without mitigations and with social distancing measures in place. Social distancing measures were predicted to reduce the size of the peak by 66%. Given the uncertainty these two scenarios were also scaled at 100%, 75%, 50% and 25% to produce a range of possible outcomes. The modelling did not provide an indication of when the peak might occur.
- 3.4.2 Without mitigations the virus was projected to infect 81% of the population and the (100%) RWC peak for Cardiff and Vale was calculated to exceed 1000 daily Covid hospital admissions and exceed 7000 patients in hospital. This is set against the UHB's total adult hospital bed capacity of c.1300 beds (excluding mental health and maternity). With social distancing measures in place the predictions ranged from 87-349 daily admissions and 654-2618 hospital beds occupied by Covid patients, of which 63-252 would be critical care.
- 3.4.3 These scenarios were presented to the Strategic Group on 19<sup>th</sup> March 2020 and were combined with non-Covid demand projections and bed capacity plans to identify the potential bed deficits facing the UHB. The UHB adopted the planning assumption that the social distancing measures (lockdown) would be introduced and this would have the effect of reducing the peak as predicted by the modelling. In addition it was assumed elective surgery would cease entirely at the peak and non-Covid demand would reduce to 80% of normal levels. Nonetheless this left the UHB with a bed deficit of 200-2100 beds at the peak (the range relating to 25%-100% of the mitigated RWC).
- 3.4.4 A series of revised models were subsequently produced nationally, taking into account the effects of lockdown at different levels of public compliance. These models were anticipated to better reflect actual expected numbers but with a degree of uncertainty on compliance and timing. PHW advice remained for planning to be based upon the earlier mitigated RWC estimates and short-term estimation based on real-world local data combined with doubling-rates of 3-5 days.
- 3.4.5 Up to the 2<sup>nd</sup> April 2020 the bed occupancy profile of the UHB was closely tracking the 100% mitigated RWC, i.e. the scenario which peaked at a bed deficit of 2100 beds. The advice from Public Health Wales was that the doubling rate for Cardiff and Vale remained around 4 days, slightly faster than the all-Wales position, and this was the best approach to short-term capacity planning. Extrapolation of the position on the 2<sup>nd</sup> April 2020 utilising this doubling rate suggested the UHB's phase 1 and phase 2 capacity would be exceeded within one week and, without a slowing of the spread,

would mean over 1500 Covid patients in hospital by 15<sup>th</sup> April 2020. In other words, if the doubling rate continued, the DHH would be required to open on the 8<sup>th</sup> April and could have up to 1000 Covid patients by the end of its first week.

- 3.4.6 The Health Board received a letter from the Director General on the 4<sup>th</sup> April 2020 advising that the Welsh Government view was Cardiff and Vale UHB required Covid capacity of up to 143 critical care beds and 1592 acute beds.
- 3.4.7 During the week commencing the 6<sup>th</sup> April there was evidence that the social distancing measures were taking effect and demand was beginning to flatten both across Wales and in Cardiff and Vale. PHW advised on 7<sup>th</sup> April that at an all-Wales level it was anticipated the peak would be reached within one week. An update on demand went to the UHB's Strategic Group on 9<sup>th</sup> April predicting that the UHB was reaching an inflection point and the bed requirement might increase by up to a further 50 beds over the forthcoming week, i.e. not see the exponential increase in demand considered possible one week earlier.
- 3.4.8 The peak in new cases occurred on the 9<sup>th</sup> April for Cardiff and Vale and hospital bed occupancy peaked the following week.
- 3.4.9 During the pandemic the UHB has developed, through its partnership with Lightfoot Solutions, its own local demand models to project admissions and bed requirements at different infection rates and utilising local data on length of stay. This continues to be utilised to scenario plan the capacity implications of a second wave of Covid infections.

## 3.5 Testing

- 3.5.1 Across Cardiff and the Vale of Glamorgan, the approach to testing has been aligned to the UK-wide Coronavirus action plan:
  1. **Containment** - Prior and up to the announcement of the global pandemic on 11<sup>th</sup> March 2020, the aim was to identify and test all early cases in the local general population, using the RT-PCR throat swab. Working jointly with Public Health Wales, Community Resource Teams in the UHB enabled testing to take place promptly where people resided. Only a relatively small number of cases were identified during this time, 27 positive out of a total of 165 tests.
  2. **Delay** - Following on from the pandemic announcement, and in order to 'flatten the curve', we followed UK Government advice and testing was reserved for those admitted to hospital and a small number of priority front line staff only. RT-PCR testing was conducted by hospital staff, and Primary, Community and Intermediate Care (PCIC) staff, respectively.
  3. **Research** – Local research aligned to testing includes the use of near patient testing in Emergency Units (EU), to test the ability of EU staff to take the test and to see how the test performed against the RT-PCR test.



The trial of an Antibody testing service for healthcare workers began on 19<sup>th</sup> June 2020, utilising a venepuncture pathway on 400 pathology service staff, who received their results via the NHS Wales Text Service. Work is ongoing to expand this service to Clinical Boards and Corporate Departments.

The UHB began phased testing utilising Point of Care Testing (POCT), for teachers and other school staff on Monday 29<sup>th</sup> June 2020. Of the 187 schools in Cardiff (130) and the Vale of Glamorgan (57); 15.7% or 9 schools have been completed in the Vale, with a further six booked in for 2-3<sup>rd</sup> July 2020. The programme for Cardiff schools is currently being finalising, with testing anticipated to start early next week.

4. **Mitigation** – the current testing regime continues to focus on symptomatic individuals, including inpatients, key workers or members of the community. However, following government policy aimed at maximising reassurance to the care home community specifically, the UHB now also tests hospital inpatients prior to discharge to care homes and asymptomatic staff and residents in a ‘whole home’ testing programme.

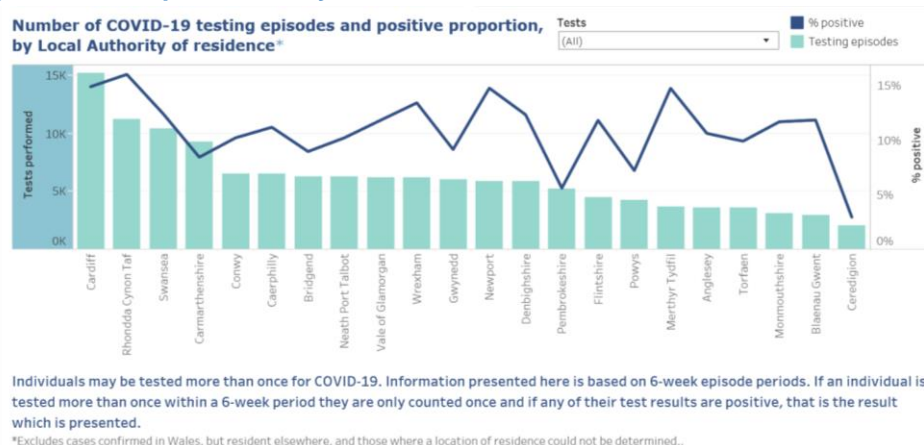
3.5.2 There are now five routes open to individuals outside of hospital, for RT-PCR testing. The first three are coordinated by Cardiff and Vale UHB, tests are analysed in NHS Wales laboratories, and data are therefore available.

- **The Community Testing Units (CTUs)**: drive-through facilities based on the Whitchurch Hospital site and in STAR Hub, Splott). These serve Health Board, Welsh Ambulance Service and Velindre NHS Trust staff who are symptomatic, and their symptomatic household contacts (Cardiff & Vale of Glamorgan resident) with 7,996 tests carried out as of 30<sup>th</sup> June 2020. In exceptional circumstances, staff without access to a car will be visited in their own homes to be tested.
- **The Population Testing Unit** in Cardiff City Stadium. This service facilitates 240 tests/day and is a drive-through facility for other (non-health) key workers. Originally run by Public Health Wales, since 10 June 2020 this is run by the UHB. Since 10<sup>th</sup> June 2020, up to and including tests on 30<sup>th</sup> June 2020, the UHB has tested 2176 people via this pathway - averaging 109 daily.
- **Our CTU teams** also visit Cardiff and Vale care homes to test. Up to 30<sup>th</sup> June 2020, 7,326 tests had been carried out by our CTU in such closed settings, resulting in positive results for 183 staff or residents. Of 151 care and residential homes in Cardiff and the Vale of Glamorgan registered with Care Inspectorate Wales, all large homes (21) have been completed and 85.4% or 129 ‘whole’ homes have been tested. Of those yet to complete ‘whole home’ testing, three have arranged tests, seven have so far declined and six are yet to submit the relevant data (NB. six homes are actually closed).
- **Care home portal**: since Monday 15<sup>th</sup> June 2020, all asymptomatic care home staff have been offered a weekly test for a four week period. These involve the use of self-administered swabs. All symptomatic care home staff are still being offered tests via the UHB testing service.

- Via the [nhs.uk/ask-for-a-coronavirus-test](https://www.nhs.uk/ask-for-a-coronavirus-test) portal for symptomatic members of public.

3.5.3 Overall within the first three services above, 15,132 tests have been carried out in Cardiff residents (15% positive) and 6,198 tests have been carried out in Vale of Glamorgan residents (12% positive), in the period up to 30 June 2020<sup>1</sup>. Comparative data are shown in the graph below.

**Figure 3: Tests performed by Local Authorities**



**Source:** Public Health Wales Confirmed case data (NHW Wales laboratories only) [daily surveillance dashboard](#)

3.5.4 Comparing timeliness of test results returns for CTUs across Health Boards, Cardiff and Vale UHB has the highest percentage of tests returned within one day (71%, Wales average 41%) and two days (92%, Wales average 76%)<sup>2</sup>. The Ministry of Defence (MOD) team has also been deployed in the Cardiff and Vale area since 15<sup>th</sup> May 2020, and continue to support health board teams undertake testing in care and residential homes.

<sup>1</sup> Public Health Wales: Confirmed case data (NHW Wales laboratories only) [daily surveillance dashboard](#)

<sup>2</sup> Public Health Wales 28.6.20, from Welsh Government internal briefing

## 3.6 Staff Wellbeing

- 3.6.1 The health and wellbeing of our staff is of upmost importance especially at this unprecedented time. The Health Board has been actively listening and proactively enabling facilities and resources to support staff and teams<sup>3</sup>. This includes staff havens, hotel accommodation and additional psychological support. The UHB is fortunate to have enlisted the support of our Occupational Health and Employee Well-being Team and a number of senior Clinical Psychologists within service areas.
- 3.6.2 The safety of our workforce is fundamental to our organisation. A risk assessment process is in place for all staff to ensure staff are not placed at greater risks through their deployment in the organisation.
- 3.6.3 Absence levels are being monitored within the organisation and the UHB continues to work with staff to ensure they are supported when they are sick; able to return to work after a period of illness and supported to undertake homeworking if they require Shielding and are able to do so. The latest data shows in excess of 550 individuals shielding on any given day. Daily Covid-19 sickness levels are reporting at around 2% in addition to the non-covid absence.
- 3.6.4 The UHB has robust staff testing processes in place through our Community Testing Units, which have already provided testing for around a third of the total workforce.

## 3.7 Communications and Engagement

- 3.7.1 The UHB looked at new ways to increase communications and engagement throughout the Covid period. A new staff app called Staff Connects which all employees of Cardiff and Vale UHB could sign up to and access on their mobile devices. This has a dedicated Covid-19 section which includes regular updates and links back to key documents such as the case definition and Public Health Wales information and guidance. This means that more staff can access information 'on the move' and do not need to be at their desks.
- 3.7.2 The UHB also implemented a daily "CEO Connects" for Covid. This daily briefing is sent as an email to all staff, available on the intranet and on Staff Connects to update staff on the current position. This included the latest information on Covid admissions and positive cases across the sites, updates on staff testing, operational issues, PPE, and a collection of good news stories to boost morale.

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<sup>3</sup>Link below to UHB staff resources:

[http://nww.cardiffandvale.wales.nhs.uk/portal/page?\\_pageid=253,172024171,253\\_172024187&\\_dad=portal&\\_schema=PORTAL](http://nww.cardiffandvale.wales.nhs.uk/portal/page?_pageid=253,172024171,253_172024187&_dad=portal&_schema=PORTAL)

- 3.7.3 Daily CEO connects was also sent to key partners, the local authorities and CHC. A weekly C-19 briefing was also implemented to send to key stakeholders including local government to update them on our response to Covid. The briefing was from the CEO and Chair of the UHB and was completed by virtual meetings to answer any questions or concerns.
- 3.7.4 The UHB increased its video team to capture footage of the response to Covid, including documenting the development of Principality Stadium to Dragon's Heart Hospital, capturing stories of how the UHB mobilised quickly to respond to the demand, as well as educational videos and information around the guidance, such as social distancing. These videos are published on the UHB's You Tube Channel and have been shared on social media channels and with the media.
- 3.7.5 The UHB developed a new web resource 'Keeping me well' with our therapies teams to provide online support and guidance for patients who had been affected by Covid 19 understanding the long recovery journeys patients may have. This included input from Physiotherapy, Occupational Therapy, Dietetic, Speech and Language Therapy. The website has been expanded to include prehab to support patients while they are waiting for surgery so they can keep themselves well.
- 3.7.6 A dedicated website was developed for Dragon's Heart Hospital which included a timeline of the build of DHH, key information for staff and videos relating to the project. Similarly the intranet page hosted a Covid-19 section which included key information and updates from PHW, daily CEO connects, staff wellbeing information and support and sections for different areas to host their information.

## **4. OPERATIONAL RESPONSE**

### **4.1 Primary care**

- 4.1.1 In Primary Care contracted providers in General Medical Services, Dental and Ophthalmology have moved to cluster models, with 'red' practices and single cluster sites open. Rapid expansion of virtual appointments has taken place, with all GPs moving to a telephone triage first model and practices buddying to provide support. Contractors have adhered to social distancing requirements through both physical measures but, significantly, rapid roll-out of remote consultation working. Pharmacy services also delivered rapid transformation, maintaining continuity of care through effective medicines management as well as maintaining common ailment services and working collaboratively to ensure effective supplies of palliative medicine in the community. The establishment of Community testing centres initially for patients and then for staff has enabled significant number of staff to return to work.

## 4.2 Mental Health

- 4.2.1 The impact of the pandemic on mental health is expected to differ from physical health and demand for services is anticipated to occur later than the peaks for physical health. From early surveys and existing knowledge it is a reasonable assumption that the NHS will need to expand certain elements of Mental Health services. In the main, this is likely to be around the lower tier services model to allow the minimum and earliest intervention possible. This response should include a wide population based approach as well some more targeted and specialist services, with a particular focus on primary care. As a starting point, the following services are being considered for early expansion:

**Table 2: Patient Streams in Covid Environment**

<b>Tier 0</b>	Mental Health and Well Being General Advice and Support / On Line Low Level Interventions / Book Prescriptions / Debt and Benefits Advice / CALL enhancement / step towards support move to single triage for OOHs / Population mental health and wellbeing on line guidance and products via PHW and CALL
<b>Tier 1</b>	Mental Health and Well Being Targeted Advice and Support / Primary Care Support and Assessments / On Line Low Level Interventions / Debt and Business Advice
<b>Tier 2</b>	Psychological Interventions Including on line suicide prevention / Support for Schools
<b>Tier 3</b>	Trauma Services / Specialist Psychological Interventions
<b>Tier 4</b>	Detox

- 4.2.2 The UHB has developed a more detailed Mental Health services plan, to guide the development of the service over the next period, in line with *Together for Mental Health*.

## 4.3 Hospital Capacity Planning for Covid-19

### 4.3.1 Phase 1 – Repurposing and Zoning

Within a two week period the Health Board repurposed and reconfigured a large proportion of its facilities in order to maximise the bed capacity available for Covid-19 patients:

- a receiving ward for ‘suspected’ Covid-19 patients was put in place on both hospital sites
- a zoning plan was established to provide segregated ward capacity for confirmed Covid-19 patients on floors 5-7 at UHW and the East wing of UHL
- the critical care footprint at UHW was extended to the fourth floor, to allow the existing unit on the third floor to be dedicated for Covid-19 patients

These changes meant the Health Board had a total of 85 critical care beds available plus over 300 ward beds dedicated for cohorting/zoning of non-ventilated Covid-19 patients. In addition a number of service moves were made to allow expansion of essential services, for example the fracture clinic at UHW was transferred to UHL, and a single-unit model for paediatric emergencies put in place at the Children's Hospital for Wales in order to allow the expansion of the Emergency Unit footprint.

#### 4.3.2 Phase 2 – Additional capacity

In the second phase the UHB identified suitable areas outside of its normal adult bed capacity to expand the available bed base. This included vacating Owl ward in the Children's Hospital for Wales, re-commissioning one ward at Barry and one at St David's, converting the physiotherapy outpatients in UHW and an area alongside East 4 and 6 in UHL into additional ward areas. In total this additional capacity provided for a further 200 inpatient beds, with the option to utilise Owl ward for further critical care expansion.

#### 4.3.3 Phase 3 – In extremis

Dragon's Heart Hospital (DHH) was commissioned in response to the Covid demand modelling to enhance the UHB's ability to care for all its patients during the pandemic by increasing bed capacity, optimising patient flow and providing active treatment. Establishing DHH provided the system with an 'insurance policy' ensuring that the UHB, and potentially the region, had the capacity needed for its population and was ready (if needed) to:

- deliver the most appropriate care to those in most need and thereby save more lives
- rehabilitate and discharge patients as quickly as possible
- provide appropriate care for those at the end of life and for their loved ones

After a consultation with a wide range of clinical colleagues, it was identified that a Covid field hospital should meet the following criteria:

- a single site capable of expanding to 2,000 beds to mitigate the fragmentation of an already stretched workforce
- be as close to UHW as possible
- if possible, a fixed structure rather than build something temporary

The setting up of field facilities was being practiced in Italy, Spain and France and overnight on the 24<sup>th</sup> March, it was also announced that the Excel Conference Centre in London was to be used.

A series of site visits and reviews took place on 25/3 to assess options. The Principality Stadium was deemed to have the most infrastructure in place in a venue built for accommodating large numbers of people. 2,000 beds could be accommodated and catering facilities, toilets, power, access, security, rooms & suites were all readily available.

The Executive team made the decision to proceed with the Principality stadium following a site visit alongside military doctors from Cardiff and Vale UHB.

It was specified that the DHH was intended to provide non-critical care surge capacity for C&V UHB patients. To achieve its mission, through stakeholder engagement and good clinical leadership, the Dragon's Heart developed the following clinical capabilities:

- A step-down, rehabilitation and discharge pathway
- A supportive care pathway providing active management of Covid -19 in those with a Ceiling of Treatment and end of life care for those who deteriorate
- A low acuity active management pathway for patients with no Ceiling of Treatment receiving level 1 care including provision for those who deteriorate and may require level 2/3 care
- A "Front Door" providing a GP-referral-based medical emergency admissions unit

DHH delivered its first 335 beds on time on the 12<sup>th</sup> April with the remaining beds just 16 days later. The official opening took place on the 20<sup>th</sup> April with the first patients being admitted on the 28<sup>th</sup>.

## 4.4 Partnership Working

4.4.1 Since the start of the pandemic, the Executive Team has met jointly with the Directors of Social Services and Cardiff Council's Corporate Director of Communities. This has supported timely and open communication, the sharing of issues and risks and joint problem solving. There was early recognition of the need to support care homes jointly with our social services colleagues. The weekly joint executive meetings have enabled a number of issues to be unblocked including:

- PPE supply and protocols
- Testing
- Care home support
- Discharge flow

4.4.2 Enclosed settings such as care homes, residential schools and prisons pose particular risks for the causes and transmission of infection. This is due to the nature of the physical environments and the vulnerability of those living within them. The most effective way to prevent illness and death in the current pandemic within closed settings is to prevent the virus that causes Covid-19 entering. In addition to testing, the evidence suggests that there are five further areas for action:

- Hand hygiene
- Environmental decontamination
- Staff rotation
- Visitors restricted to only emergency/critical cases

- Resident and Staff Wellbeing

4.4.3 In Cardiff and the Vale of Glamorgan, a strong multi-agency approach, including Cardiff and Vale University Health Board, Local Authorities (Commissioning, Safeguarding) and Shared Regulatory Services, Public Health Wales closed setting cell/regional health protection and local Public Health teams, Care Inspectorate Wales, cluster GPs and individual care home providers, is being employed to support each of these evidence-based practices.

4.4.4 The UHB continues to work closely with commissioners and partner Health Boards to ensure that together we are protecting and strengthening fragile regional and tertiary services where we have the greatest challenges.

## 4.5 Maintaining Essential Services

4.5.1 The UHB has been able to maintain all essential services through the pandemic and is now resuming more intermediate services and, where safe, returning to normal service provision in some areas.

4.5.2 At the beginning of the pandemic, the UHB reached an early agreement with Spire Healthcare to enable patients with non-complex cancer and other urgent conditions to receive treatment at Spire's Cardiff hospital. This allowed the UHB to protect this important activity whilst providing additional capacity to care for Covid-19 patients at the UHB's main sites, in particular to enable space for regional services. The majority of the Health Board's patients at Spire Cardiff are being treated for cancer or for time critical/urgent health conditions and table 3 confirms the activity undertaken there to date:

**Table 3: UHB Activity at Spire since 23<sup>rd</sup> March 2020**

<b>Cancer operations</b>	<b>Other time sensitive theatre cases</b>	<b>Outpatients</b>	<b>Endoscopy procedures (incl urgent Cancer)</b>	<b>Cardiology procedures</b>	<b>Total</b>
262	164	2,023	260	48	<b>2,757</b>

4.5.3 One of the major successes of the UHB during the pandemic is we have been able to safely maintain a large volume of surgery, both urgent scheduled and urgent. This has been undertaken with a high degree of safety and underpinned by a robust clinical audit process. Between 16<sup>th</sup> March and 12<sup>th</sup> June the UHB undertook 1162 elective surgical procedures and 961 emergency procedures.

## 4.6 Personal Protective Equipment

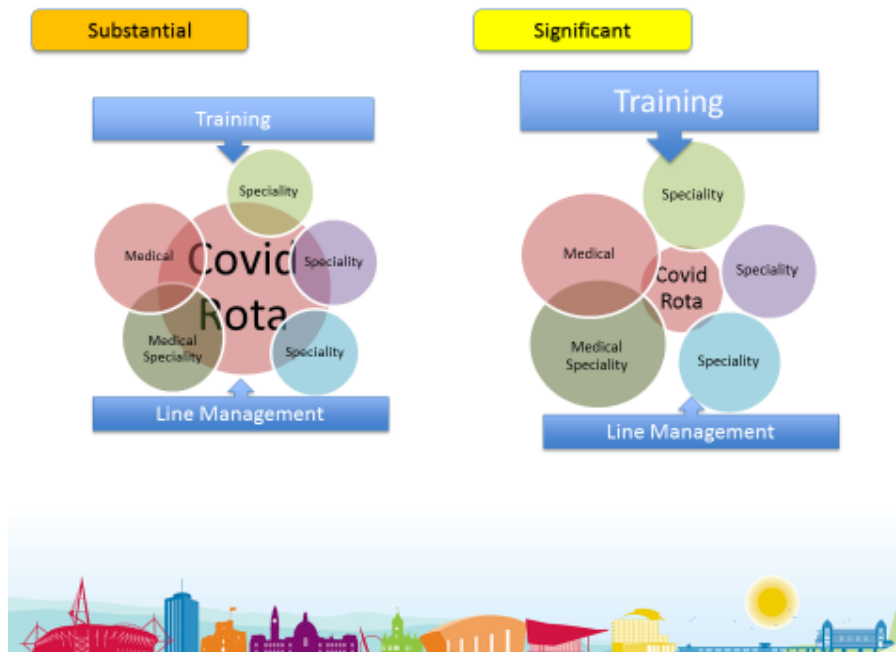
4.6.1 The provision of Personal Protective Equipment (PPE) for our staff has been one of our top priorities from the outset. Ruth Walker, the Executive Nurse Director, is the nominated Executive Lead in the Health Board.



- 4.6.2 The Health Board has established a multi-disciplinary PPE Cell that has met on a weekly basis for many weeks. This has proved to be a very effective decision making group and has representation from clinical staff (including surgeons and anaesthetic staff) and also from a staff side representative. At each meeting a range of issues is discussed including:
- procurement issues, current stock levels and future requirements
  - health and safety issues including the provision of Fit testing and the assessment of the suitability of PPE
  - infection prevention and control issues
  - all reported incidents and the actions being taken to address them
- 4.6.3 An operational lead has been identified, whose role it is to work with Clinical Boards to ensure on-going supply of the appropriate PPE to all clinical areas. This person reports in to the PPE cell and has direct access to the Executive Nurse Director, if any issues require escalation.
- 4.6.4 CEO connects is a daily briefing that is produced for staff and has regularly contained updates on the provision of PPE. In the last few weeks the UHB has started to issue a regular PPE Safety Briefing to keep staff as up to date as possible with the situation. An intranet site on PPE has also been developed as a useful resource for staff. This contains latest national guidance, information in relation to training and Fit testing, instructions for ordering PPE, guides on how to 'Don and Doff' as well as FAQs.
- 4.6.5 The UHB has now secured continuity and sustainability of both gown and mask supply. The **1863** is now the primary pandemic mask and currently within the UHB there are sufficient stocks and additional stock in Wales if needed. An All-Wales order for 1.8 million 8833 masks has also been placed. While these are currently being held in Turkey we are hopeful that they will soon be available and will provide approximately 6 months' supply.
- 4.6.6 A £500k order for additional gowns to secure a medium-term supply, has also recently been placed. The Health Board has also invested in 1000 powered hoods and an order submitted. This follows some joint working with medical colleagues in critical care and in theatres. This provides a long term solution for colleagues in these areas. The Health and Safety Department are currently deploying available powered hoods to identified staff who have failed qualitative and quantitative Fit testing on all available half masks.
- 4.6.7 The Health Board will continue to place significant emphasis on the provision of appropriate PPE to staff. The UHB recognises that this can be a constant source of stress to our staff and we are making every effort to work with clinical staff to ensure good communication and to resolve problems as they emerge. To ensure we hear the views of staff and patients we have undertaken a number of audits and surveys from staff and patients to help inform our decision making and communication. This process has been very beneficial.

## 4.7 Workforce

4.7.1 The UHB's workforce plans overlay with our zoning and gearing plans. Our medical workforce has redesigned its rotas to reflect our operating approach, building from a core Covid 'red' rota to understand how staff can be freed to return to core specialties. Importantly training requirements have been fundamental to building this model, prioritising those who need to complete core competencies to progress their medical training and ensuring clear oversight and supervision of trainees. The UHB has successfully appointed 57 Year 5 medical students and 80 Year 3-4 students.



4.7.2 Similarly nursing rotas have been adjusted to ensure the UHB meets Safe Staff Nursing requirements across our plans. Staff have responded extremely positively to the need to be flexible and have been deployed across zones and sites as required. The UHB's nursing numbers have been considerably bolstered by effective recruitment through the UHB Workforce Hub. We have recruited over 100 registered nurses to the Bank as well as 290 Health Care Support Workers. In addition, we have appointed over 400 student nurses on fixed contracts since April and a number of retired nurses who have positively responded to the Welsh Government advertisements and call to action. Our Therapy staff have also been flexible in their rotas and have developed 7 day working to support clinical areas; specifically to support rehabilitation models and Dragons Heart Hospital. Therapy students will come on stream in September 2020 as planned. The early recruitment of medical and nursing students will help bolster and back-fill for non Covid activity.

4.7.3 Significant recruitment has also taken place across a range of essential roles in order to enable the effective operating of our plans.

**Table 4: Additional Temporary Staff Recruited**

Roles	No. Offered Temporary Contracts
Administrators	14
Facilities Staff	614

Drivers	15
Pharmacy Porters	8
Runners Pharmacy & Labs	5
HCSW	345
Allied Health Professionals	45
Pharmacy	15
Laboratories	8
Registered Nurses	109
<b>Total</b>	<b>1,178</b>

4.7.4 The ability to flexibly redeploy staff and recruit at pace has only been possible through effective partnership working with our Trade Union partners.

## 4.8 Patient experience

4.8.1 The Patient Experience Team diversified in function to meet the needs of patients in the pandemic. The team moved to a 7 day service to provide an enquiry line for patients, carers and families. This was commenced in March 2020 and receives approximately 40-50 contacts per week.

### 4.8.2 Virtual Visiting

Due to the restrictions on visiting 400 tablets have been set up by our IT department to ensure that the tablets are safe for patients to use and comply with data protection guidelines. Each tablet has been set up with Zoom for virtual visiting, Radio Glamorgan, free magazines from Wi-Fi Spark and a feedback survey. IT have added a range of game and activity apps to help alleviate boredom on the wards. We trained medical and nursing students to support the Virtual Visiting,

Feedback from the virtual visiting has been very positive from both staff and patients, some of whom had not seen family/friends in weeks. In April a messages from Loved ones e-mail and phone line was set up to ensure that patients and families had a way to communicate during these difficult times. The message was then printed and any photos laminated and sent to the patient on the ward.

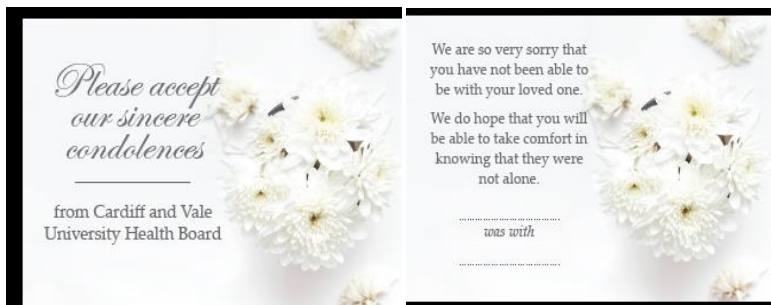
Understanding that many people in the community are shielding and not able to socialise as they used to, the UHB launched a volunteer led Chatter Line. From the 31<sup>st</sup> March those who were feeling isolated and lonely, through the pandemic, could contact us and request a call from one of our volunteers as a one off or as a regular call. Volunteers were provided with information on services to support in the community should they identify that the person they are calling has further needs to just a 'chat'.

### 4.8.3 Bereavement

In April a bereavement helpline was implemented, members of the Patient Experience team contacted all people who had suffered a bereavement. The aim was

to provide someone to listen, signpost to other organisations and initiatives, such as our Chatter Line, and address any queries where possible around the death of their loved one. To date the team has supported over 280 bereaved families. We have also established a system to return property to bereaved families.

Whilst the UHB has a condolence card, with a message from the Executive Nurse Director, it was recognised that during these difficult times one of the key issues for families, who cannot be with their loved ones, is who was with them when they died. The condolence card, which was adapted from one developed by staff on C7, stated who was with the patient when they died. The knowledge that their loved one was not alone when they died will hopefully be of some comfort to the family.



#### 4.8.4 Feedback

Due to Covid-19 the infection, prevention and control advice was to withdraw the monthly paper feedback surveys and feedback kiosks across the UHB. This led us to adapt the way we receive patient/service user feedback.

In relation to Covid-19 specific feedback, we have undertaken:

- **PPE current inpatient survey.** This study involved in patients completing an online survey of their experiences of staff wearing PPE and their stay. In total, **102** patients were surveyed.
- **PPE discharged inpatient survey.** This study involved recently discharged inpatients completing an online survey of their experiences of staff wearing PPE and their stay. To facilitate this, a message/survey link was texted to those for whom we had a mobile phone number. We had over 700 responses, with a completion rate of **87%**.
- **Prehab booklet feedback survey.** This is a study into the wellbeing of patients currently on the waiting list, which due to Covid-19, may/will have had their procedure delayed. The concept is to promote preparation rather than waiting lists and promoting well-being and health optimisation.
- **Boredom and isolation survey.** This is a study looking into aspects of patients' wellbeing, while currently admitted. The survey centres on being bored and the feeling of isolation, due to visiting restrictions/limited activities. The online survey is available to patients via the tablets

All of the survey work undertaken has informed and influenced our work during the Covid-19 position and as we are planning services for the future.

4.8.5 The Patient Experience team has also provided patients with toiletries, nightwear and clothes as required across all UHB sites. There have been many generous donations from business and communities to enable this work.

## 5. RESTART & RECOVERY

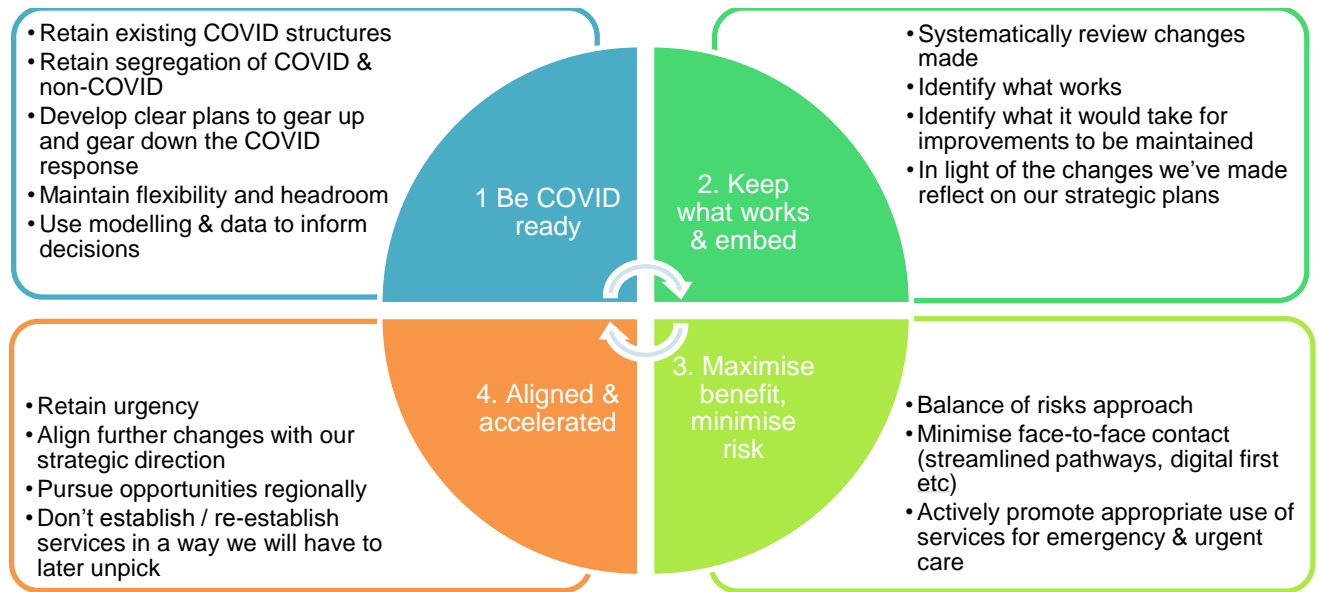
### 5.1 Design Principles

5.1.1 The effectiveness of lockdown in halting the spread of the disease has altered our planning assumption from a single surge event to a longer-term, undulating model. In this scenario coronavirus remains prevalent in the community for many months with periods of higher Covid demand. Further, given we believe the majority of the public remains susceptible, the potential still exists for substantial surges in demand. In the next phase, it is therefore necessary for the UHB to both plan for varying levels of Covid demand and restore a wider range of non-Covid service delivery in order to prevent broader harm to our population.

5.1.2 *Shaping Our Future Wellbeing* remains our strategy and has guided the approach through the first three phases. Indeed we have seen an acceleration in the delivery of the strategy over the few months, e.g. virtual appointments, rapid discharge, single points of entry, enhanced cluster working, greater community integration, enhanced partnership with social care and perhaps most importantly a culture that has empowered front line staff to act with confidence at pace.

5.1.3 As part of this fourth phase the UHB has established some clear principles which allow us to remain vigilant to the threat of Covid-19, ensure we reduce harm for both Covid-19 and non-Covid patients, continue to transform at pace and focus on the long term.

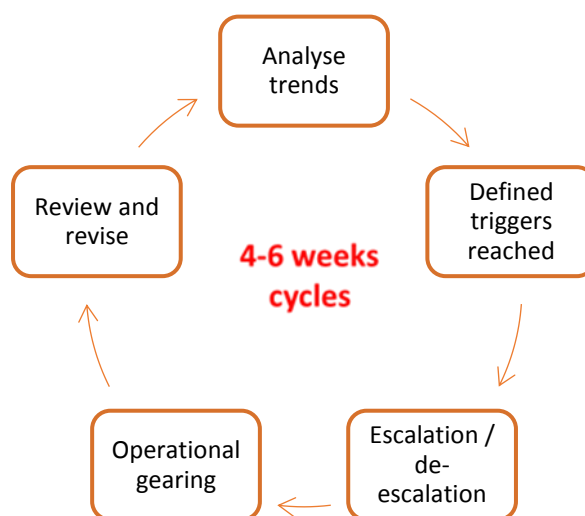
**Figure 4: Design Principles**



## 5.2 Operating Model

5.2.1 The situation NHS Wales now faces is uniquely challenging. Not only is demand expected to be highly volatile but the delivery of services will need to significantly alter to account for the risk of transmission. In response to this the UHB has developed an operating model designed to be highly adaptable and provide for both Covid and non-Covid patient groups. It is anticipated that, even with the earliest warning system, it will only be possible to plan up to 4-6 weeks ahead. The UHB will therefore need to operate within rolling six-week planning cycles, informed by data and modelling, and 'gear' the service provision to appropriately respond to the changing levels of demand.

Figure 5: Operating Model



5.2.2 The UHB has established a suite of information to monitor trends and predict demand levels in different scenarios. In addition the UHB has worked with the Regional Partnership Board to develop a Covid Surveillance System, incorporating early warning indicators to identify changes in the prevalence of the virus.

## 5.3 Streams

5.3.1 In recognition of the risk the virus presents it is necessary to separate patient groups and provide appropriate levels of protection to these individuals and the staff who care for them. This is important both to reduce actual risks and to provide greater confidence for patients accessing services and clinicians working within them. The UHB has identified five distinct patient streams based upon their Covid status:

Table 5: Patient Streams in Covid Environment

Stream		Definition
RED stream	Confirmed C19+	Has had +ve test in past 14 days
PURPLE stream	Suspected C19	Clinically suspected, not confirmed
ORANGE stream	Non-COVID	Asymptomatic, does not meet green stream criteria, e.g. emergency
GREEN stream	COVID-free	Planned activity, meets green stream criteria

BLUE stream	C19 Recovered	>14 days post confirmed +ve
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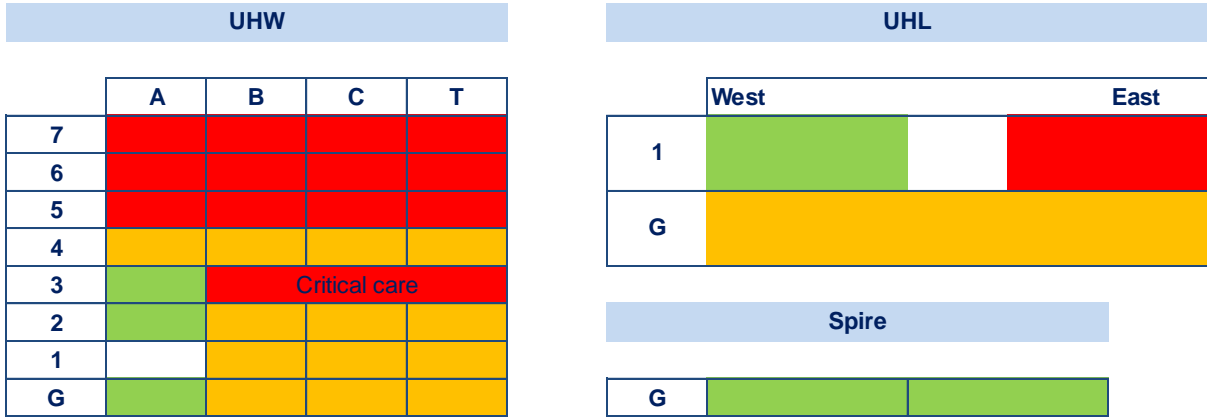
5.3.2 Aligned to this approach the UHB is zoning its facilities in order to safely provide services to both Covid and non-Covid patients.

**5.4 Green Zones**

5.4.1 Throughout the pandemic the UHB has been segregating Covid confirmed, Covid suspected and non-Covid patients. In addition the Spire hospital and the Short Stay Surgical Unit (SSSU) at UHW have been used as ‘Covid-free’ facilities to provide essential and urgent operating. Local audit data, international evidence and national guidance all strongly indicate that, in order to provide safe surgery, it is necessary to provide dedicated, ‘Covid-free’ environments with strict admission criteria. The UHB is therefore in the process of re-configuring the UHW and UHL sites in order to provide such facilities, in addition to that available at Spire.

5.4.2 These green zones are intended to operate as a ‘hospital within a hospital’, including separate access, facilities, processes and staffing. The UHB has moved quickly to respond to this and has agreed the revised configuration below for the two main sites. However the implications of enhanced theatre cleaning between cases and the requirement to increase the spacing of ward beds is expected to mean significant reductions in effective capacity relative to the pre-Covid baseline.

**Figure 6: Simplified schematic of site zoning**



5.4.3 The fundamental objective of establishing these green zones is to protect patients whilst re-commencing core services. To support this the UHB has a systematic clinical audit process in place to capture the outcomes of all surgical procedures.

**5.5 Gearing**

5.5.1 The UHB anticipates periods of undulating Covid demand over many months, with the potential for extreme surges. It is likely this will mean different responses are required at different times. To support this the UHB has defined three levels of Covid escalation – Significant (Yellow), Substantial (Amber) and Severe (Red). The UHB is



currently at Yellow escalation. The intention is to report the status daily at the operational group meetings and, using the early warning system described earlier, project the forecast for the next six weeks. The strategic group will use these forecasts to trigger an escalation / de-escalation. This will provide a common basis for planning services (Covid and non-Covid) and help the UHB get into an operational rhythm.

**Table 6: Covid escalation levels**

	Post-COVID	Significant (current level)	Substantial	Severe	In extremis
COVID daily attendances	0	0 – 50	50 – 100	100 – 200	> 200
COVID daily admissions	0	0 – 25	25 – 50	50 – 100	>100
COVID patients in hospital	0	0 – 250	250 – 500	500 – 1000	>1000
COVID critical care	0	0 – 35	35 – 75	75 – 150	>150

5.5.2 The necessary segregation of Covid, non-Covid and Covid-free, combined with unpredictable and undulating demand means, not only will overall bed demand be higher, but it will also be necessary to reserve significantly more headroom and adaptability into the system than would previously have been the case, in addition to the reduced effective capacity within the green zones. To mitigate this it will be essential to provide alternatives to hospital admission, step-down patients at the earliest opportunity and maintain resilience in primary, community and social care.

## 5.6 Test, Trace, Protect Programme

### 5.6.1 Background

The Welsh Government published its Test, Trace, Protect (TTP) Strategy <https://gov.wales/test-trace-protect-html> on the 13<sup>th</sup> May 2020, signalling the intention to introduce enhanced health surveillance in the community and an effective and extensive contact tracing system. This, along with support to self-isolate, is intended to contain the spread of the coronavirus in Wales and is a key mechanism to allowing lockdown restrictions to be relaxed, keeping 'R' under 1, and starting the process of moving to a 'new normal' of living alongside the virus.

### 5.6.2 Cardiff and Vale partnership approach

In Cardiff and the Vale of Glamorgan, the two local councils, Shared Regulatory Services and the University Health Board (UHB) have worked in partnership to establish a contact tracing service. Cardiff Council is hosting the contact tracing service, which is operated to nationally agreed procedures, with local partner organisations contributing staff through secondment arrangements. National data sharing and information governance arrangements are in place.

The Chief Executives of the three partner organisations agreed a governance framework to establish both a strategic and an operational board. This framework identifies four key functions requiring direction and coordination at the regional level:

1. Management of the contact tracing and advice service
2. Testing
3. Surveillance and performance
4. A public health response team

The Operational Board meets weekly to monitor progress, problem solve, and share learning from local, regional and national sources. The Strategic Board meets fortnightly to provide oversight.

#### 5.6.3 Contact tracing process

A national digital Microsoft Dynamics contact tracing software was procured by NWIS, and has been in use in Cardiff and the Vale since 10<sup>th</sup> June 2020. The system automatically routes positive test results to the relevant area of residence from NHS Wales laboratories, which process tests taken in local testing units and hospitals, as well as those processed in England via the on-line testing portal. People with positive tests are phoned by contact tracers who, after reiterating 7 day self-isolation advice, work with the person to identify their significant contacts in the 48 hours before and 7 days after they became symptomatic. Contact advisors then call the identified contacts to advise them to self-isolate for 14 days. A significant contact includes not only those they live with during that time period, but also anyone they have had a face to face contact with, or have touched, coughed on, or been within one metre of in any other way for over a minute. It also includes those who have shared a car or who have had contact within two metres for over 15 minutes; this can be in smaller but repeated time periods that add up to over 15 minutes in total. NB This excludes situations where appropriate PPE has been worn, for example in health and social care settings.

#### 5.6.4 Operational delivery

The contact tracing service ran in shadow form from 28<sup>th</sup> May 2020 and was fully operational from 1<sup>st</sup> June 2020, coinciding with the national launch. Staff numbers were increased in a phased way to move rapidly to cover seven days per week. To meet current levels of demand, operating hours are 8am – 8pm Monday to Friday, and 9am to 5pm on weekends. The service operates bilingually, with translation services available for other languages as necessary.

The public health response team is a multidisciplinary and multiagency team responsible for responding to Covid-19 related cases and incidents within Cardiff and the Vale of Glamorgan, including closed settings such as care homes, as well as providing advice on risk reduction and infections control to a variety of settings and sectors. A multi-agency, multi-professional regional team meets daily during the week to review issues and queries that arise from contact tracing teams. As a result, the team has provide targeted infection control and preventative advice in a variety of settings.

Cross partner resource is being deployed to develop and deliver the surveillance and monitoring function, linking both local and national data sources and teams. A dashboard is being developed which will allow regional data to be reviewed in a timely way and to guide local action.

Key supporting functions such as finance and human resources are also being provided by the partnership. Importantly communications teams from the three partner organisations, led by the Vale of Glamorgan Council, are also working collaboratively to develop resources and messaging to support contact tracing in the region. Their work initially focussed on what to do if you become unwell and how to access testing, particularly for critical workers, as well as what to expect if you are phoned by the contact tracing team. However, subsequent content has been guided by the experience of incidents in the first few weeks, and has increasingly addressed the importance of maintaining physical distance of 2 metres, as well as handwashing and respiratory hygiene. There will also be a focus on how to reach those who do not access the most commonly used media.

#### 5.6.5 Current position

In its first month of operation the TTP programme in Cardiff and Vale processed over 300 positive results, and identified and followed up the significant contacts. Experience of using the national digital platform is growing and we are working collaboratively with NWIS to influence system updates and improvements. Partnership collaboration is strengthening continually and a standard operating procedure has been agreed which outlines the agreed response to the most commonly encountered scenarios. This complements existing guidance agreed for settings such as care homes, and will be continually developed to ensure a consistent approach across the region. Advice is being provided to a range of settings, including within health care, and intelligence from experiences across Wales is being used to guide local action. Proactive engagement has already taken place with schools ahead of their reopening this week and with local food processing firms in light of the incidents elsewhere in Wales.

## 6. REBUILDING & RENEWAL

6.1.1 There will be no hard stop to our response to Covid-19 but a transition to a renewed and refreshed Cardiff and Vale health and care system. Therefore it is important we maintain a focus on our long term ambition through this year. We have built a platform of sustained delivery, there has been continued improvement in the performance of our health system and we have demonstrated operational grip. We now need to move from this foundation of delivery to tangible transformation of services for our communities, focused on delivering improved outcomes for people and better value for the system. This can only be achieved by working in partnership to common objectives.

6.1.2 The predominant focus of phases 1-4 has been the delivery of health services to our population. We know that to transform our services we need to work at a system level. Therefore the fundamental principle for phase 5 of our plan is to Think System. Our system is complex with intricate relationships between the Health Board and other NHS providers, locally, regionally and nationally; between Regional Partnership Board organisations and across the wider Public Services Boards arena. Therefore phase 5 will be a Cardiff and Vale Plan to articulate the outcomes we need to achieve and the partnerships required to deliver them. Central to this will be the Regional Partnership Board Area Plan which will be refreshed to capitalise on our experiences of the last few months which have shown we can deliver at pace. There have been some key elements to our ability to deliver successful transformation:

- Urgency
- Clarity of purpose
- Clear operating principles
- Freedom for frontline staff to act and the time to do it
- Removal of constraints
- The ability to act and sense make
- No pilots- make the change, if it doesn't work- stop

6.1.3 The challenge is also there to be bold. Whilst we have clear narrative in our Regional Partnership Board Area Plan and the Health Board's Shaping Our Future Wellbeing this is an opportunity to reshape our approach to delivery, rethink how we use the collective grant and transformation funding and our wider Cardiff and Vale pound to focus on population outcomes, regardless of where they are delivered in the system. We can galvanise partners around a common vision for a truly integrated whole health and care system which is focused on the needs of our communities and outcomes that matter to people at different stages of their lives:

- Starting well: from birth to 21
- Living well: working age adults
- Ageing well: older people

6.1.4 This approach recognises that there are many determinants to health and wellbeing and health services alone won't enable people and communities to thrive.

**Figure 7: Regional Outcomes Framework (draft)**

**Our system level outcomes: what we aim to achieve by focusing on our priority themes**



## 7. CONCLUSIONS

- 7.1** The UHB has, with the rest of the World, faced the most significant pandemic in a century. It is highly contagious, with over 11 million confirmed cases worldwide to date and half a million deaths. The early modelling predicted that, without mitigations, the virus would infect the majority of the population of Cardiff and Vale and, even with social distancing, the impact could be of a scale that would overwhelm the health system.
- 7.2** Throughout the first wave of the pandemic the UHB managed to stay ahead of the demand curve. Services were not overwhelmed at any point and the UHB had further contingencies in place should demand have continued to increase. However the scale and speed of the spread of the virus meant there were still comparatively small margins before this point could have been reached, perhaps only 7-10 days.
- 7.3** Social distancing measures were highly successful in reducing the infection rates but it was not known how effective they would be in advance and it was not until early April that there was clear evidence that the spread of the virus was slowing. The peak of new confirmed cases occurred the following week and the peak of hospital inpatients the week after that.
- 7.4** In preparing for and responding to the pandemic the UHB has transformed the way it delivers many services and will need to continue to do as we adjust to the implications of living with coronavirus. Throughout our staff have shown, and continue to show, extraordinary flexibility and professionalism in the face of an unprecedented public health crisis.

**7.5** Our objective at this point is to minimise overall harm to our population, both directly from Covid and indirectly. The UHB has maintained essential services throughout the pandemic and is steadily reintroducing other services in a safe manner. In many cases this will require new, innovative models of care. It is also essential we look beyond this to the future of our system and set in place conditions which allow clinical teams to transform our system in line with our strategy and the national approach set out in *A Healthier Wales*.