Cwm Taf Morgannwg University Health Board

Preliminary Draft COVID-19 Mass Vaccination Plan

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Draft v1.2

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VERSION CONTROL

DOCUMENT REVISION CONTROL		
Date	**Version**	
25/8/20	V0.4	Shared with Executive Group
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02/09/20	V1	Agreement to submit to the Welsh Government by Resetting CTM Management Team
11/09/20	V 1.1	Alignment with PHW COVID-19 vaccine programme parameters
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APPROVAL HISTORY

DOCUMENT APPROVAL		
Date	**Version**	**Approving/Commenting body**
1st September 2020	Preliminary draft – version 0.13	CTM TTP Regional Oversight Group – for comment
3rd September 2020	Preliminary draft – version 0.19	Re-Setting the Agenda Group – for approval to submit to Welsh Government
3rd September 2020	Preliminary draft – version 1.0	Submission To Welsh Government – for comment
22nd September 2020	Final Draft version TBC	CTM TTP Regional Oversight Group – for final comment and partnership support
23rd September 2020	Final Draft version TBC	CTMUHB Management Board – for approval
30th September 2020	Final Draft version TBC	CTMUHB Health Board – for approval
NB The approved plan will need to be kept under review as the context and planning assumptions are likely to change as events develop.		

Contents

1. Purpose

The purpose of this plan is to describe the approach to be adopted by Cwm Taf Morgannwg (CTM), that is the Health Board and its partners, for delivering a mass vaccination delivery programme for its population, including its health and social care staff.

It will ensure that there is a clear framework, resources and sufficient information to enable a tactical response to be delivered to deliver a mass vaccination programme.

The plan will be tested via multi sectoral desktop mass vaccination exercises to further inform planning for services to be in place by 19th October 2020. The first such event was successfully held on 12th August 2020, with the observations and lessons learnt fed into this latest document. It assumed that the programme will run through until March 2022.

It should be noted that this is a preliminary document and a will remain under development as planning assumptions become clearer over the coming weeks. We will also look to build in good practice and lessons learnt from elsewhere.

This iteration of the plan is designed as a baseline which will be developed and revised as an appropriate response to the strategic and tactical drivers present.

2. Context

The World Health Organisation declared the COVID-19 SARS-CoV-2 virus as a global emergency on 30th January 2020 and it was declared a pandemic on the 11th March 2020.

As well as responding to the pandemic, developments have been underway to produce a vaccination against COVID-19 which can be safely received by the population.

In his letter dated 13th August 2020, NHS Wales' Chief Medical Officer requested that Health Boards, with their partners, provide Welsh Government with their preliminary plans for delivery of the COVID-19 vaccination programme locally.

It was stipulated that the plan should detail the integrated working arrangements that regions will have in place in their localities and provide reassurance that regions will be ready to deliver a programme of COVID-19 vaccination, based on the assumption of availability of vaccine supplies from October 2020.

It was specifically requested that the plan should address clinical, operational, technical and logistical considerations, as well as details in respect of the workforce regions will use and the training requirements identified.

The plans should provide assurance to the Health Board, partners and the Welsh Government of the region's present preparedness to deliver the COVID-19 vaccine in the first instance to the following priority groups, namely health and social care workers (frontline staff prioritised) and the shielded population.

The timing of this plan is likely to coincide with the seasonal flu immunisation programme and the potential of a re-emergence of COVID-19, which poses both challenges and opportunities.

It will be important that the COVID-19 mass vaccination plan is delivered in harmony with the CTM Seasonal Flu Plan and that wherever possible all positive opportunities are taken in both the delivery and learning from implementing both plans. This will be kept under close review by the Health Board, with its partners, with learning shared on an ongoing basis.

3. Aims and Objectives

The overall strategic aim of this plan is as follows:

To develop and deliver a COVID-19 Mass Vaccination Programme to all eligible residents and health and care sector workers in Cwm Taf Morgannwg.

The key objectives are:-

- To vaccinate all eligible residents and health and care sector workers within priority groupings, targets and timeframes set by the Welsh Government.
- To ensure a blended delivery approach with the flu vaccination programme.
- To develop a high quality and cost effective operational delivery approach for the vaccination programme.
- To identify and put in place the necessary resources, including workforce, assets, ICT, training, PPE, vaccination supply and storage which will enable the vaccination programme to be implemented safely and efficiently within the defined timescales.
- To develop and deliver an underpinning communication and engagement plan for staff and residents of CTM.
- To ensure a robust vaccine monitoring and reporting regime is implemented to meet local, regional and national requirements.
- To ensure lessons from previous immunisation campaigns will be taken into account.
- To ensure the maintenance of patient safety and strong programme governance.

4. Planning Assumptions

In order to deliver a timely response to the challenges of planning during a pandemic where there is a fluidity to good practice and available guidance, a number of assumptions have had to be made in order to inform the initial plan.

The planning approach adopted combines these planning assumptions with the latest reasonable worst case scenario modelling for the incidence of COVID-19 in our community.

The plan will continue to be reviewed, revised and tested through the life cycle of CTM's response to the COVID-19 pandemic.

The current planning assumptions on which this plan is based include the following:

- Best case vaccination start date of the 19 October 2020
- Initial vaccine supplies may be limited; the Programme therefore will be planned and implemented on the basis of the availability of an effective vaccine.
- The vaccination will delivered to priority groups which will be set out by the Welsh Government.
- The Programme will be planned and implemented on the basis of a blended model of delivery.
- Plans will need to be proportionate to different scenarios, focusing on "reasonable worst case" planning assumptions.

- Plans will also need to be responsive to differences in rate and pattern of spread of the disease and implications for delivery (staff sickness, national and regional lockdowns etc.).

- There is an assumption that the mass vaccination programme will be delivered whilst The Health Board and partners are managing increased staff sickness rates, self-isolation or shielding.

- Any workforce planning must address the availability of the right staff with the right skills in the right place at the right time. During this period the workforce will have competing demands on their time.

- It is assumed that during the flu season and as a result of COVID-19, primary and secondary Care services will face a greatly increased demand for services.

- The delivery programme life cycle is expected to extend beyond one year to include the 2021/22 flu season up to March 2022

- The Programme will be planned on the basis that flu and COVID-19 vaccinations cannot be delivered concurrently, but that wherever possible a blended approach must be adopted.

- The plan will be regularly reviewed against the appropriate response required in the management of the COVID-19 pandemic and will be an iterative process, considering guidance and good practice available at the time.

- The plan will be developed and delivered within an overarching Programme Management Structure.

- To monitor and manage external factors which challenge the programme.

- To maximise the use of community resources (assets and people).

- Vaccine delivery in Q4 2020 would coincide with the delivery of the extended flu vaccine programme for 2020-21, and the continued delivery of routine vaccinations in general practices and schools.

- This year flu vaccination will take longer per patient to deliver with infection prevention and control process for COVID-19 in place, one estimate is three times as long, which may require extended hours for service delivery.

- COVID-19 vaccine could become an annual programme like flu vaccination.

- National ICT system to support programme delivery.

- National Procurement support for vaccine, some consumables and equipment necessary for programme delivery.

Nb The planning assumptions for additional staff and delivery venues may deviate from Welsh Government guidance and will be dependent upon resource availability and recruitment lead in times.

5. Programme Governance

The Health Board holds formal responsibility for delivering vaccination programmes to its population, together with its partners. This responsibility is delegated to the Health Board Executive to deliver, specifically through the Director of Public Health.

The Health Board and Management Board are the formal vehicles through which this plans and any resource requirements etc. should be agreed, as well as needing to receive quality and performance reports on services provided.

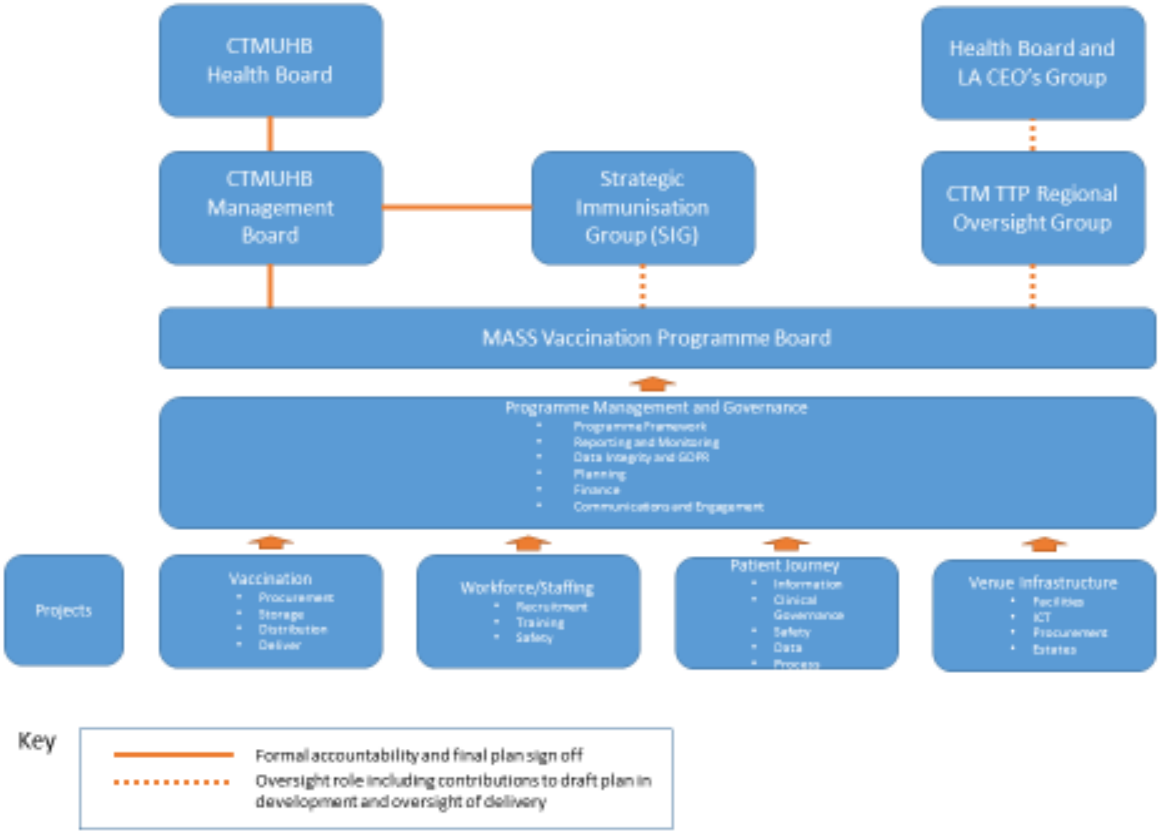
In terms of this programme therefore, it formally reports through the Director of Public Health to the Management Board and the Health Board.

The Strategic Immunisation Group (SIG) provides oversight of progress in respect of all the immunisation programmes in the Health Board, including the COVID-19 Mass Vaccination Programme.

Given the establishment of the CTM TTP programme, which is a partnership programme with the Local Authorities, it has been agreed that the CTM TTP programme will also provide oversight to the COVID-19 mass vaccination programme. This will help enable partnership working further in this area and provide additional supporting resources and links to other work streams where useful.

The COVID-19 mass vaccination programme, also sits therefore as a sixth work stream under the CTM TTP Programme to allow regular reporting and oversight of progress, in addition to the formal Health Board arrangements stated above.

The following figure sets out the governance of the programme and key relationships diagrammatically:



5.1 Programme Structure

The Health Board will deliver the COVID-19 Mass Vaccination Plan within a formal Programme Management Structure. The Programme Management Team will be responsible for the effective co-ordination of the programme's projects and management of their inter-dependencies including oversight of any risks and issues arising.

The Programme initiation Document (PID) is included as **Appendix 1**. The PID describes the conduct of the programme during its initiation and planning stages.

As the programme matures, it is envisaged that the operational delivery of the programme will be accompanied by detailed stage plans. It will be referred to whenever a major decision is taken about the programme and used at the conclusion of the programme to measure whether the programme was managed successfully and delivered an acceptable outcome.

The programme will be broken down into 4 projects each with a dedicated project lead and project management structure:

1 Workforce & Training
2 Venues & Infrastructure
3 Vaccine delivery
4 Patient Journey

5.1.1 Workforce & Training

The Workforce and Training project team will undertake the detailed planning which will identify resource requirements, support the recruitment process, design and aid delivery of training for vaccination staff.

The key deliverable for the Workforce and Training project team is to ensure that there are sufficient members of staff to deliver vaccination, and to prepare vaccinations and provide logistical, administrative and clinical support.

The resource plan will be developed in partnership with the Health Board finance team. The resource plan will be subject to a scrutiny process underpinned by detailed modelling

The project team will also be responsible for safe systems of work, personal protective equipment and infection prevention and control procedures.

5.1.2 Venues & Infrastructure

The Venues and Infrastructure team project team will undertake the detailed planning to ensure that there are sufficient and suitable locations for the delivery of mass vaccination.

An early and vital deliverable from this project team is the description of the most suitable and appropriate locations for vaccination clinics.

Key factors which will be addressed will include the local geography (rural vs urban, and ease of site access), building design, accessibility and occupancy, prevailing social distancing requirements and numbers required to be vaccinated at what speed.

The Project team will also develop the necessary infrastructure and ICT requirements for each of the venues working closely with the Health Board's estates, procurement and ICT colleagues.

5.1.3 Vaccine Delivery

The Vaccine Delivery Project will develop the detailed plan associated with the sourcing, storage and delivery of the vaccine.

Currently the assumptions around vaccine delivery will necessitate a detailed plan being developed to account for a number of scenarios to account for variance in method of vaccination, number of doses required, delivery alongside seasonal flu vaccination,

The project team will work closely with the Health Board's Procurement and Estates colleagues.

5.1.4 Patient Journey

This project will develop the detailed plans which will detail the patient's journey through 4 distinct stages:

- Pre-Vaccination
- Arrival at Vaccination site
- Receiving Vaccination
- Post vaccination

In addition to the throughput of the patient through the vaccination process the project team will develop the consent process and contribute to the communication plan.

5.2 Risk Management

Given the pace at which the mass vaccination programme is being developed and the number of current uncertainties, a number of planning assumptions have had to be made at this stage and there are therefore a number of significant risks which exist to the delivery of the programme.

These include the following:

Vaccine

- Uncertainties about vaccine availability (timing and delivery) and characteristics, a number of planning assumption have been made to inform the planning process, which may prove to be inaccurate or wrong.
- Limited planning timeframe to first vaccine availability potentially increasing risk that the programme will not be fully operationally ready.
- Uncertainties about the vaccine characteristics may constrain planning for delivery deployment.
- Vaccine side effects may be identified whilst the vaccine is being deployed or post deployment.
- Anti-vaccine and/or safety concerns amongst the public could lead to a lower take up to the vaccine.
- The ending of UK and EU regulatory systems mutual recognition on 1 January 2021 will impact on supplies of vaccine to the UK.

Workforce

- The timing of legislation to extend the scope of those who can vaccinate under a PGD will not come into effect to support delivery deployment.
- Insufficient staff available to be redeployed/recruited in order to plan and deliver the mass vaccination Programme.
- Limited capacity in primary care to accommodate the extended influenza vaccination programme, thereby impacting on both the planned influenza and COVID-19 vaccine delivery deployments.

Logistics

- Supply constraints for equipment (PPE, syringes etc.) limiting vaccination throughput.
- Insufficient storage and distribution facilities (including cold chain) will impact the storage / transport of the vaccine and how stock control/reporting will be undertaken.
- Insufficient freezer storage being available to store the vaccine requiring a temperature of -70º.
- There is a risk of insufficient refrigeration capacity in hospitals or MVCs

ICT
- Failure to ensure data integration and linkage across clinical records not in place resulting in inconsistent data insights and increased clinical risk.
- End-to-end IT systems not sufficient to distribute and track deployment of vaccines as planned in a safe and controlled manner.

Risks will be identified and managed as an integral part of the programme management arrangements initiated for the COVID -19 Mass Vaccination programme and will utilise the Health Board's standard risk management framework.

All risks will be held on a Risk Register and each will be assigned owners, assessed according to probability and impact and mitigating actions identified. The risks will be closely monitored and reviewed within the programme governance structure and appropriate timely action taken to ensure the objectives of the Mass Vaccination programme are met.

6. Delivering the COVID-19 Mass Vaccination Programme

The Health Board and its primary care partners are responsible for planning and delivering a vaccination programme in response to the COVID-19 pandemic for its resident population. The responsibilities of the Health Board, working in partnership with others, are to:

- Organise and run the mass vaccination programme, including the implementation of appropriate clinical governance arrangements to support the delivery of the mass vaccination programme.
- Monitor uptake rates, using established systems where possible.
- Encourage increased uptake rates.

- Receipt and appropriate storage of vaccines.
- Distribution of vaccines.
- Staffing of vaccine clinics

This will require working with the following key stakeholders in order to discharge these responsibilities:

- Primary care services: GP Practices, community pharmacies, dental practices, optometry services
- Welsh Government
- Public Health Wales
- Local Authorities
- Key Workers
- Independent care sector
- Voluntary Organisations
- Police
- Ambulance Service

There are various ways in which mass vaccination can be achieved. However, the decisions regarding which delivery model is appropriate for which cohort will need to take consideration of:

- Safe administration of vaccine.
- Access to patients medical records.
- Staff available to vaccinate.
- The potential impact of the COVID-19 virus, including the impact on the ability of services to deliver vaccination.
- National guidance issued from the JCVI and Welsh Government.
- Emerging evidence of the most effective vaccination mechanisms.
- Recommendations from table top exercises.
- Advice from multidisciplinary COVID-19 planning group.
- Demand for vaccination e.g. in a high or low demand situation, plans may need to be scaled up or down as appropriate.

Large numbers of people will be required to be vaccinated, above and beyond the regular annual flu vaccination programme.

Population Categories	***Numbers***
Total population	***465,651***
50 and over	*186,286*
Healthcare workers	*15,883****
Social Care Staff	*6,554*
Shielded population	*69,338 **
Care Home Residents	*Tbc***
BAME population	*12,700****

* This is the figure for 2019 of patients under 65 who fell into an at risk category for flu which is used as an estimate at present.

**CTMUHB are currently working with Local Authority Partners to quantify care home residents

***highlighted as potential priority group for vaccination

**** Includes all CTM staff including bank and primary care

The COVID-19 vaccination programme is to be delivered alongside the regular annual flu vaccination programme. A key assumption which dictates delivery timeline is that 2 vaccinations per patient will be required at a period of 4 weeks apart.

For those also receiving a flu vaccination the potential timeline for completion of immunisation against seasonal flu and COVID-19 is a minimum of 57 days.

On the worst case planning scenario that the total population receives two vaccinations a total of 931,302 doses of COVID-19 vaccinations will need to be delivered.

Initial modelling indicates that each dose delivered will take 15 minutes* (per vaccinator 4 per hour, 28 per day**)

**based on the current guidance on PPE and infection control.*

***On the basis of immunisation staff delivering vaccinations 7 hours a day.*

6.1 Models of Delivery

The Health Board has chosen a blended model of Health Board and Primary Care delivery because it feels this is the best approach to deliver a safe and robust programme. A concerted effort is being made by the whole system and General Practice will be instrumental in this. General Practice already has already the experience, processes and systems in place to deliver large scale vaccination programmes which can be evidenced through seasonal flu. It is appreciated that there will be more challenges this year as a result of the need for social distancing and infection prevention and control and as a result, the time taken to deliver will be much longer.

Safety is paramount and this approach mitigates the two biggest risks which are 'availability of workforce' and 'access to clinical records' by vaccinators. GP surgeries already have the necessary digital patient clinical record infrastructure in place to support the safe administration of seasonal flu and COVID-19 vaccine and necessary intervals between doses and they are also set up to share information across practices where cluster networking is required. A blended model will also reduce the reliance and pressure on a single service provided by the Health Board when workforce pressures are being felt across the service.

As the programme of COVID-19 vaccination sits alongside seasonal flu vaccination, it will be necessary for the Health Board to develop an additional vaccination infrastructure.

This infrastructure will, alongside working with Primary Care, recognise that significant parts of the seasonal flu vaccination programme are delivered outside of general practice (by schools, pharmacies and employers including secondary care). In these circumstances, coordination will be vital to ensure that vaccines are delivered appropriately, and that the correct patients receive the correct vaccinations in a timely fashion.

A number of delivery models for delivering the COVID-19 mass vaccination to our staff and population are currently being developed and will support this blended delivery approach, including:

1. Health care premises and staff, using peer vaccination model.

2. Care home premises and staff – peer vaccination training and mobile mass vaccination model.

3. GP Practice model – delivery model being determined at present.

4. Community pharmacies – delivery model being determined at present.

5. Twelve mass vaccination centre in local areas across CTM have been determined to be required to date, but further work and modelling is ongoing to confirm.

6. Mobile or outreach units (from the mass vaccination centres) to support those who are house bound or unable to travel e.g. certain vulnerable groups such as those homeless.

Vaccination delivery will be undertaken in distinct phases which are aligned to the priority groups for vaccination.

The following table summarises the latest draft position, whilst recognising that considerable work is required to finalise the delivery plan and supporting workforce and finance plans.

Latest Assumed Phase	**Priority Group(s)** [1]	**Numbers requiring vaccinating in CTM**[2]	**Time scales**[3]	**Delivery Model**[4],[5]	**Workforce Model**[6] **Existing**	**Required**	**Logistics**	**Finance** **Revenue**	**Capital**
Phase 1A Delivery Target	Health care staff	14,580	From 19/10/20 (subject to vaccine availability)	Primarily delivered in health care premises across CTM	Peer vaccinator model – majority of existing staff to be used	Data inputters; ICT; Admin; Peer leads	Delivery in health care settings	Data inputters ICT staff & Admin	No buildings costs but will need equipment, PPE & ICT

[1] These priority groups are based on the latest assumptions from Welsh Government. Further meeting of JCVI 1 September to provide further advice on sequencing and stratification within these groups, in the event of limited initial supplies
[2] Figures from J Evans email dated 26/8/20 and Lesley Lewis email 26/8/20.
[3] Original best case scenario of 5 October (to receive vaccine) now revised to 19 October (service not yet advised)
[4] Limited capacity in primary care with flu vaccination programme needing to be delivered also.
[5] Significant vaccine delivery anticipated to follow Jan and Feb 2021.
[6] Legislative changes to allow extended workforce to immunise. Anticipated in force November 2020.

Latest Assumed Phase	Priority Group(s) [1]	Numbers requiring vaccinating in CTM[2]	Time scales[3]	Delivery Model[4],[5]	Workforce Model[6] Existing	Required	Logistics	Finance Revenue	Capital
				Also where required: Access to 12 vaccination centres situated in local areas across CTM	Immunisation Team Redeployment of staff to support on sessional basis: School Nursing Primary Care Resource Team District Nursing Health Visiting Peer Vaccinators	Additional MV centre workforce required - currently being determined	Looking for LA premises, cost neutral wherever possible	Additional MV centre workforce required - currently being determined	TBC
	Social care staff (Local Authority)	6,554	From 19/10/20 (subject to vaccine availability)	Access to 12 vaccination centres situated in local areas across CTM	Immunisation Team Redeployment of staff to support on sessional basis: School Nursing Primary Care Resource Team District Nursing Health Visiting Peer vaccinators	Additional MV centre workforce required - currently being determined	Looking for LA premises, cost neutral wherever possible	Additional MV centre workforce required - currently being determined	TBC
	Domiciliary care staff	TBC	From 19/10/20	Access to 12 vaccination	None	Additional MV centre	Looking for LA	Additional MV centre	TBC

Latest Assumed Phase	Priority Group(s) [1]	Numbers requiring vaccinating in CTM[2]	Time scales[3]	Delivery Model[4],[5]	Workforce Model[6] Existing	Required	Logistics	Finance Revenue	Capital
	(Independent Sector)		(subject to vaccine availability)	centres situated in local areas across CTM		workforce required - currently being determined	premises, cost neutral wherever possible	workforce required - currently being determined	
	Residential and Care Home staff (Independent Sector Staff)	TBC (nos currently being sought)	From 19/10/20 (subject to vaccine availability)	Mobile Vaccination Units - for residential and care home staff – preference is to vaccinate staff at the same time as the care home residents concerned. Also aim to train peer vaccinators in care homes to delivery vaccination.	Mixed model to be determined and dependant on demand, but could include primary care resource team, District Nursing TTP registered nursing service currently going into care homes 'to swab'. Nurse Assessor Team		Within care home / residential home setting Premises cost neutral	Additional workforce required- currently being determined	TBC
Phase 1B Delivery Target	Those clinically at risk[7] (the shielded population) And at this stage we are assuming: - all residents	69,388[8] (This is the figure for 2019 of patients under 65 who fell into an at risk category for flu which	From 19/10/20 (subject to vaccine availability)	For those people who are mobile – GP practice based services model could include: Development of Locally	TBC TBC		TBC TBC	TBC TBC	TBC TBC

7 Awaiting clarification to see if this includes BAME and clinically obese population
8 This is the figure for 2019 of patients under 65 who fell into an at risk category for flu which is used as an estimate at present.

Latest Assumed Phase	Priority Group(s) [1]	Numbers requiring vaccinating in CTM[2]	Time scales[3]	Delivery Model[4],[5]	Workforce Model[6] Existing Required	Logistics	Finance Revenue	Capital
	in care homes and nursing homes - relatives of those shielding also if they present at the same time - those attending special schools	is used as an estimate at present). Additional priority categories, once specified, by WG will need to be quantified.		Enhanced Service to deliver COVID 19 vaccine for GP patients, GP network patients, catch up scheme for missed vaccinations. Community Pharmacy provision And/or Access to one of the 12 mass vaccination centre _____ For those people who are housebound GP practice based services model could include: Development of Locally Enhanced Service to deliver COVID 19 vaccine for GP patients, GP	As above Mixed model to be determined and dependant on demand, but could include primary care resource team, District Nursing, School nursing etc.	As above TBC	As above TBC	As above TBC

Latest Assumed Phase	Priority Group(s) [1]	Numbers requiring vaccinating in CTM[2]	Time scales[3]	Delivery Model[4],[5]	Workforce Model[6] Existing	Required	Logistics	Finance Revenue	Capital
				network patients, catch up scheme for missed vaccinations. And/or District nursing service And/or Mobile Unit(s)					
Phase Two Delivery Target	Residents over the age of 50 years	186,286 Pts aged 50 - 65 94,701 Pts aged 65 and over 91,585	Dec 20/Jan 21/Feb 21 possibly when more vaccines are available - TBC	Mass vaccination centre And/or Mobile support for vulnerable groups e.g. homeless	As above Immunisation Team Redeployment of staff to support on sessional basis: School Nursing Primary Care Resource Team District Nursing Health Visiting Peer Vaccinators	As above MV centre workforce required - currently being determined	As above Looking for LA premises, cost neutral wherever possible	As above Data inputters ICT staff & Admin	As above No buildings costs but will need equipment, PPE & ICT
Phase	Remainder of	Nos?	Dec 20/Jan	Mass	As above	As above	As above	As above	As above

Latest Assumed Phase	**Priority Group(s) [1]**	**Numbers requiring vaccinating in CTM[2]**	**Time scales[3]**	**Delivery Model[4],[5]**	**Workforce Model[6]**		**Logistics**	**Finance**	
					Existing	**Required**		**Revenue**	**Capital**
Three Delivery Target	the population		21/Feb 21 possibly when more vaccines are available - TBC	vaccination centre And/or GP practice based services model could include: Development of Locally Enhanced Service to deliver COVID 19 vaccine for GP patients, GP network patients, catch up scheme for missed vaccinations. Mobile support for vulnerable groups e.g. homeless			TBC	TBC	TBC

6.2 Workforce

Operational delivery of the mass vaccination programme will require additional resource, which is currently being identified by the Programme Team. The additional workforce requirements detailed below are purely indicative at this stage and significant modelling of resource requirements are a current priority for the workforce project team. A critical factor in determining resource requirements will be the time taken per vaccination which us currently being modelled.

Indicative resource requirements indicate that a total of twelve mass vaccination centres will be deployed across CTM in local areas, with an associated staff resource per Locality Team set out as follows;

- X 1 Clinical lead Band 6 Coordinate / supervisor
- x 5 immunisers Band 5
- x 10 HCSW immunisers Band 3 per team
- x 6 Admin staff Band 3 service consent information , data input and exit, create appointments and fill in cards / complete vaccine passport
- x 1 Band 4 facilities support: deliver vaccine, remove waste bring consumables, support session
- x 2 Band 4 security to monitor car park /overnight security re vaccines and equipment if kept on site.

Additional Pharmacy staff identified to support vaccination is currently modelled to be

- 4 WTE Band 4 plus 4 WTE Band 2 in phase 1 with the Band 2 requirement increasing to 8 WTE in phase 2. This represents 1+1 per site in phase 1 and 1+2 in phase 2.

All of these staffing requirements will need to be uplifted to reflect the requirement to cover periods of annual leave and sickness. Given the higher risk of sickness linked to shielding etc. the uplift rate assumed is 36%.

Hospital based additional peer vaccination staff is currently modelled to be

- x4 full time peer lead immunisers, Band 6 for each of the main hospital sites and the community hospital

These staff will need to work from a central room in each of the hospital sites which will contain a vaccine fridge, they will support the peer immunisers, provide assessments of new peer immunisers, deliver vaccination clinics for

staff and monitor the vaccine fridge which will be used for all peer immunisers to obtain vaccine. This fridge will be restocked by pharmacy daily. The rooms required by the peer lead vaccinators can be used as a central point for resources for all peer immunisers. This will provide a good starting point for delivering the staff COVID and Flu vaccinations prior to the mass vaccination centres being established.

Additionally there will be a requirement to support Occupational Health with data collection, input and logistics for Health Staff. Resource required is currently assumed to be 8 Amin and Clerical band 2 staff. Resource requirements determined by demand, initially anticipate for both flu and COVID19 vaccines 8 staff would be required as uptake rates reduce estimate this could potentially reduce to 4.

These figures have been based on experience gained from previous mass vaccination programmes and the assumptions detailed in section 6 on Finance and form a robust basis for initial workforce planning and recruitment. However as they are largely based on assumptions that have yet to be tested and may be subject to change they are likely to be subject to variation .

6.2.1 Training Requirements

The training required to enable staff to undertake the role of vaccination will be delivered through a blended approach including:

- E learning for Anaphylaxis
- Flu One & FluTwo2 E -learning
- Power point presentation for existing vaccinators
- Face to face session for new peer vaccinators
- Basic Life Support (BLS) CPR E Learning module via ESR for staff who have received face to face training within 2 years.
- Power point presentation for COVID vaccine when available

6.3 Quality

The quality governance framework to support this programme will provide assurance to the Health Board on the provision of safe and high quality care to the population we serve, including prevention through public health,

primary and secondary care. The programme will support an ethos of continuous quality improvement, listening, learning and acting, seeking continual improvement in communication and openness within and across healthcare teams to enable positive vaccination outcomes and shared learning across the Health Board and wider NHS Wales.

The programme will embed the six characteristics of quality, being worked towards in Wales, ensuring care is:

- Safe - avoid harm;
- Effective - evidence based and appropriate;
- Patient-centred - respectful and responsive to individual needs and wishes;
- Timely – at the right time;
- Efficient - avoid waste; and
- Equitable – an equal chance of the same outcome regardless of geography, socioeconomic status etc.

All mass vaccination sites will need to ensure they meet the quality and safety requirements. Full risk assessments and quality impact assessments will need to be completed for all sites by Senior Nurse Immunisation and Vaccination and Civil Contingencies Manager.

The workforce will need to adhere to core service specification for national immunisation programmes and implement the NICE (2017) quality standards. The use of a standard operating procedure in conjunction with COVID-19: infection prevention and control guidance will be required. The implementation and monitoring of these documents in practice will be led by Senior Nurse Immunisation and Vaccination.

The safe and secure handling of medicines policy and appropriate vaccine administration process will be adhered to this will potentially be in the format of a Patient Group Directive (PGD), written instruction or similar type of document. Awaiting further information from Welsh Assembly Government regarding process to be used. The implementation and monitoring of this will be led by Chief Pharmacist and Senior Nurse Immunisation and Vaccination.

The characteristics of staff who will be able to deliver the COVID-19 vaccination is still to be determined. All Vaccinators will need to be trained using a standard competency framework following national guidance. The coordination and facilitation of staff training will be led by Senior Nurse Immunisation and Vaccination.

Ongoing monitoring of standards throughout the programme will be required to ensure a high quality service is delivered and standards this will be the lead responsibility of the COVID-19 Mass Vaccination Programme Board.

The use of the Health Board datix incident recording process will also be used alongside the Medical & Healthcare products Regulatory Agency reporting of adverse reaction to vaccinations by all Health Board staff involved in the mass vaccination programme.

6.4 Finance

Initial financial modelling of the mass vaccination programme has been undertaken utilising a number of planning assumptions as outlined below:

- All Health Care staff will be vaccinated by peer vaccinators with only a limited amount of additional resource being required until March 2021
- GP's will vaccinate their at risk / shielded population which has been assumed to be the existing flu cohort they currently support. The costs has been assumed to be equivalent to the current flu vaccination pending the agreement of a Local Enhanced Service.

- There will be 3 mass immunisation teams (1 per locality) who will staff the mass vaccination centres required.
- The current workforce configuration is based on 5 RN's and 10 HCSW's per team on the basis that there is a legislative change to allow appropriately trained unregistered staff to immunise under supervision
- The number of vaccinations per session has been based on the assumption that each mass vaccination session will be 4 hours long with 15 immunisers, vaccinations will take 5 minutes and each session will include 30 minutes for handwashing cleaning up etc.
- The phasing of the costs is driven by the number of vaccinations per session and the time constraint resulting from the requirement to wait 28 days between vaccinations.
- Programme timings used to model cost implications are based on the assumption that there is a steady flow of vaccine which meets demand.
- Current modelling **DOES NOT** take into account the impact of the flu programme running alongside the COVID-19 mass vaccination programme given the uncertainties around when people would decide to take up each vaccination. The addition of a third vaccination with a 28 day wait would naturally extend the timelines in the current modelling.
- Health staff booking arrangements will be managed as flu and local authorities will manage the booking arrangements for their staff. Therefore in phase 1 only a small administration function (1 member of staff) will be required in each locality. It is currently assumed staff who cannot have direct patient contact will be deployed into these roles.
- During phase 2 a robust call handling / booking service will be required. The model for this service will be agreed as more is known and currently no costs are included in the plan.
- A minimum of 12 venues will be required but until they are identified accurate non-pay and capital costs associated with their use cannot be identified. However a revenue contingency of £50,000 has currently been included to cover potential room hire and deep cleaning costs e.t.c. This is likely to be subject to change.
- Given the national work being undertaken the current planning assumption is that consumable and vaccine coast will be managed at an all Wales level.

The initial costings and potential phasing based on these assumptions are outlined in section 6.4.1 below

6.4.1 Resource Requirements

The total anticipated resource requirements over the life of the project based on the assumptions outlined above are detailed in the table below:

Mass Vaccination Programme - Overall Resource Assessment

Priority Group	Delivery Model	Resource Required			Notes
		Pay	Non Pay	Total	
Health Care Staff	Peer Vaccination Model	179,188		179,188	Largely delivered within existing resources with some infrastructure costs
LA Social Care Staff / Domiciliary Care Staff	Mass Vaccination Centres	529,239	25,000	554,239	See Mass Vaccination Centre modelling
Residential & Care Home Staff and Residents	Mobile Vaccination Units				Intention is to vaccinate both staff and residents at the same time using an outreach model of either existing or new mass vaccination teams
Clinically at risk groups	GP Practice		1,925,760	1,925,760	GP costs determined by any LES agreement
Residents over 50 plus remainder of Population	Mass Vaccination Centres	2,202,799	25,000	2,227,799	See Mass Vaccination Centre modelling
Grand Total		**2,911,226**	**1,975,760**	**4,886,986**	

The second table gives an indication of how these indicative costs would be phased across financial years

Mass Vaccination Programme - Resource Phasing Plan

Resource Requirement	Financial Year 2020/21					Financial Year 21/22				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
Pay			756,508	915,644	1,672,151	826,050	413,025			1,239,074
Non Pay			12,500	493,900	506,400	493,900	493,900	481,400		1,469,200
Total			**769,008**	**1,409,544**	**2,178,551**	**1,319,950**	**906,925**	**481,400**		**2,708,274**

Additional costs which have been identified (but not quantified) include but are not limited to;

- Venue Costs
- Vaccine associated costs

- Equipment Costs
- Security
- PPE
- Estates and Facilities support functions
- Consumables
- Transport
- Central Storage Facilities
- ICT Infrastructure

It is important to note that the full programme costs are in large part driven by the length of time it takes to ensure the required number of vaccinations are completed which is in turn driven to a large extent by the availability of vaccines and the impact of the flu programme.

Both of these are currently largely unknown but any adverse deviation from the assumed timescales caused ty these variables will have the potential to significantly increase the cost of delivering the COVID-19 mass vaccination programme.

Also it should be understood that these costs are purely related to the delivery of an initial one off mass vaccination programme. Any requirement to build this into core business is likely to result in additional recurrent cost.

6.4.2 Programme Resource

The resource requirements for first stage of the Programme have been identified in the PID as follows:

Programme Costs - COVID 19 Max Vaccination Programme

Role	Grade	Head Count	FTE	*Unit Cost £*	Full Year Cost £	Duration of Post	Funding Required £	20/21 Cost £	21/22 Cost £
Programme Manager	8a	1	1.00	*61,222*	61,222	12 months	61,222	30,611	30,611
Programme Support	5	1	1.00	*34,066*	34,066	12 months	34,066	17,033	17,033
Comms Lead	7	1	1.00	*52,476*	52,476	12 months	52,476	26,238	26,238
Project Manager	7	1	1.00	*52,476*	52,476	3 months	13,119	13,119	
Project Manager	7	1	1.00	*52,476*	52,476	12 months	52,476	26,238	26,238
Operational Lead	8a	2	0.80	*61,222*	48,978	3 months	12,244	12,244	
Operational Lead	8a	1	0.40	*61,222*	24,489	12 months	24,489	12,244	12,244
ICT Lead	7	1	1.00	*52,476*	52,476	3 months	13,119	13,119	
							263,211	150,847	112,364

Note 1: Project Time linked to Vaccination Lead Nurse not included above
Note 2: Start Dates assumed 1st October

There is an expectation that each work stream will require the participation of a number of Health Board and partner organisation resources. It is assumed that participation within the project teams is absorbed within the existing establishment.

6.4.3 Operational Delivery Resource

At programme initiation the following roles have been identified as critical to operational delivery of the COVID-19 mass vaccination strategy, with funding already agreed on 3rd August 2020 and recruitment underway:

Role	Grade	FTE	*Unit Cost £*	Full Year Cost £	Duration of Post	Funding Required £	20/21 Cost £	21/22 Cost £
Immunisation Lead Nurse	8a	1.00	*58,684*	58,684	12 months	58,684	29,342	29,342
Immunisation Nurse Co-Ordinator	7	1.00	*56,054*	56,054	12 months	56,054	37,369	28,027
						114,738	66,711	57,369

Note 1: 8a secondment assumed bottom of scale
Note 2: B7 already in place costed at top of scale as existing resource being utilised

Alongside the financial modelling work consideration is being given to the development of a specific scheme of financial delegation to support the programme and allow a flexible response to any changes in operational delivery

In terms of financial governance, the financial position of the programme will be reported monthly to the Mass Vaccination Programme Board and escalated, by exception through the programme governance structure as appropriate.

Reporting will take account of both actual costs incurred to date and revised forecast expenditure modelling as the programme matures and more becomes known about vaccine take up, through put etc.

The Programme has an identified finance lead who will be responsible for the activities detailed above.

6.5 Venues

The Health Board will with its Local authority partners are currently working to identify suitable premises for the delivery of vaccination. Key factors being considered include the local geography (rural vs urban, and ease of site access), building design, accessibility and occupancy, prevailing social distancing requirements and numbers required to be vaccinated at what speed.

Initial modelling incorporating lessons learnt from previous vaccination campaigns indicate that 12 mass vaccination centres will be required. The geographic location of centres is shown in the table below;

Merthyr Tydfil	Cynon Valley	Rhondda Valley	Taf Ely	Bridgend
2 vaccination centres	2 vaccination centres	2 vaccination centres	2 vaccination centres	4 vaccination centres
1 central to Merthyr Town 1 lower valley	1 central Aberdare Town 1 lower valley	1 centre Rhondda Fach 1 centre Rhondda Fawr	1 Llantrisant 1 Pontypridd Town	1 Bridgend town centre 1 Garw valley 1 Ogmore vale 1 Lynfi Valley

Equipment requirements have been identified as

- Furniture (chairs, tables, screens)
- Crowd barriers
- Refrigeration and monitoring equipment
- IT (computers, broadband), power supply
- Waste disposal (general, clinical, sharps)
- Personal protective equipment
- Welfare (rest area, catering/refreshments including beverages and lunch provision)
- Vaccination equipment and supplies
- Additional medical equipment (couch, resuscitation and diagnostic)
- Screening and lighting for staff rest areas and for patients taken ill.
- Clear signage both outside a venue and inside, directing patients where to go

A standardised layout will be adopted and where variation due to the constraints of any particular occurs local arrangements will be described in the Mass Vaccination Standard Operating Policy.

The vaccination centre lay out is included as Appendix 5

6.6 Consent Process for Mass Vaccination

Consent

Consent should be either written or verbal. Informed consent must be obtained prior to giving a vaccination. When taking verbal consent information concerning the vaccination being offered, benefits and risks of the vaccination and potential side effects should be discussed. The outcome of any discussion should be documented.

Prior to session

- Letter containing information, appointment date and time posted 1-2 weeks before appointment.
- Additional contents of pack could include- COVID vaccine information (leaflet if available) and consent form could be posted or completed on arrival at session.

Consent Process for Mass Vaccination Programme

- At arrival to session consent form to be handed in or completed by patient.
- Consent form to be reviewed by vaccinator and process discussed with patient
- Written consent in place vaccination can be given
- Post vaccination advice given to patient
- Consent form completed by vaccinator with vaccine details
- Consent form handed to administrator for entry on to computer

7. Communication & Engagement

Work will be undertaken to develop informative strategies and tools to support the effective communication planning and management in response to delivering the COVID-19 mass vaccination programme. This will be carried out in line with any national work led by the Welsh Government and Public Health Wales.

Good practice and lessons learnt from elsewhere will be built into the plans including reference to such documents as the World Health Organisation "Vaccine Safety Events: managing the communications response - A Guide for Ministry of Health EPI Managers and Health Promotion Units" 2013 and other similar, more recent publications.

Particular attention will be paid to areas including the following:

- The current environment.
- What is the COVID-19 mass vaccination programme?
- Media communications planning.
- Developing the message.
- Selecting the medium.
- Building partnerships.
- Dealing with rumours.

This work will be supported in particular by the Risk Communication and Community Engagement work stream set up as part of the CTM TTP programme and will link with communications and engagement partners across a range of organisations and public bodies in CTM.

A communications and engagement plan is being developed, which aims to:

- Be proactive rather than reactive.
- Focus on the mass vaccination programme's mission.
- Develop strategic links with key partners.
- Take control in association with the Welsh Government and Public Health Wales plans.
- Ensure that all elements and opportunities have been properly considered.
- Ensure that everybody involved knows what to do and what their personal role is.

Some of the routine communications activities are expected to include:

- Cultivating relationships with journalists from various media (e.g. the internet, newspapers, radio and television) and maintaining an up-to-date media contact list.
- Providing a regular (weekly or bi-weekly) flow of information about the programme to health reporters.
- Assessing our audiences and gauging public perceptions and opinions on immunisation through surveillance (e.g. who are the populations that we have to vaccinate and what are their perceptions about vaccination, and our programme).
- Providing public and media access to vaccine safety information and post-marketing surveillance data, as well as regular updates on vaccine efficacy, quality and safety, through multiple communications channels linked to national campaigns.
- Training health and care workers on how to communicate about the delivery of the programme or when questions arise about the safety of vaccines.
- Developing a common understanding with stakeholders about the communications roles and responsibilities for vaccine risk and crisis communications.

We will also aim to monitor and evaluate your communications both during and after the event. This will allow us to adjust our communications strategy to meet changing circumstances, as well as to look back and learn lessons to help inform our plans future responses.

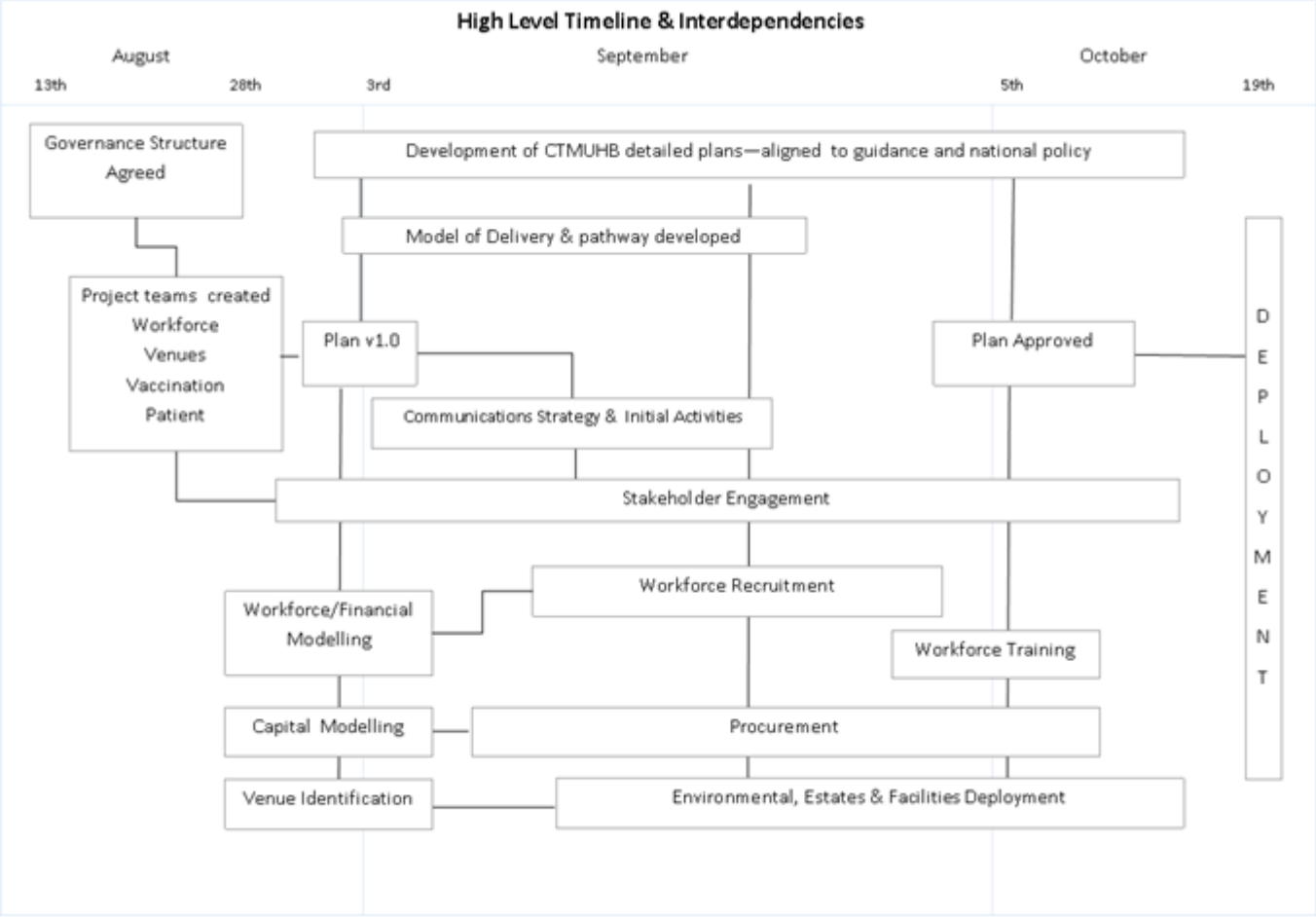
8. Milestones and Key Actions

The table below sets out the Health Board's latest assumption on first stage key milestones for delivery:

Milestone	By
PID and Governance structure agreed and signed via the Director of Public Health and CTMUHB Re-Setting the Agenda Group.	27/08/20
Preliminary draft COVID-19 mass vaccination plan submitted to CTM TTP Regional Oversight Group for comment	01/09/20
Preliminary draft COVID-19 mass vaccination plan submitted to CTMUHB Re-Setting the Agenda Group for approval to submit to Welsh Government	03/09/20
Preliminary draft COVID-19 mass vaccination plan submitted to Welsh Government.	03/09/20
Preliminary draft communication and engagement plan available.	16/09/20
Identification and development of venues and assets.	16/09/20
Develop and implement safe and effective pathway.	16/09/20
Data and ICT solutions.	16/09/20
Final draft COVID-19 mass vaccination plan to be submitted to Management Board for approval.	23/09/20
Final draft communication and engagement plan to be submitted to Management Board for approval.	23/09/20

Commence recruitment, training and deployment of vaccinators and support staff for early stages of delivery plan.	23/09/20
Commence implementation of operational delivery structure; procurement, supply, storage.	23/09/20
Commence immunisation for priority groups (tentative date).	19/10/20

The diagram below gives a high level illustration of the key actions and interdependencies aligned to the development and deployment of the Health Board's plan.



9. Support from partner organisations

Support from partner organisations will be needed in order to be able to undertake mass vaccination. Potential roles and responsibilities of partner organisations are summarised below:

Primary Care Services

- Work with CTM UHB to develop vaccination plans.
- GP practices and pharmacies may be administering COVID-19 vaccinations, depending on the model used.
- Allied Health professions may be used depending on the extended group included in Patient Group Directive.

Local Authorities

- Work with the Health Board to develop vaccination plans.
- Identify vulnerable and non-mobile individuals unable to attend vaccination centres in conjunction with primary care staff.
- Provision of pre-identified premises for delivery of vaccination programmes. Discussions will need to take place in advance of any provision, which will include handover and return arrangements and the feasibility of providing care taking staff with knowledge of the facilities in the centre. Cost issues will need to be agreed in advance.
- Assistance with non-clinical staff at Vaccination Centres.
- Undertaking vaccination of social care staff through agreed arrangements.
- Establish traffic plans around mass vaccination sites to minimise congestion and allow essential staff and supplies to gain access.
- Assist with communication to encourage uptake amongst eligible population including residents, staff, contact tracing participants.

Voluntary Organisations

Voluntary sector staff are likely to need specific training to undertake some of the roles highlighted below. Essential to utilise links with established community groups and volunteer network

- Identify vulnerable and non-mobile individuals unable to attend vaccination centres in conjunction with primary care staff.
- Assistance with non-clinical staff at Vaccination Centres.
- Assistance with transporting patients to / from vaccination sites.
- Promoting COVID-19 vaccination through their networks.
- Supporting vaccination centre, particularly for anaphylaxis response.

Ambulance Service

- Support to vaccination centres, particularly for anaphylaxis response.

Police

- Assist with the saving of life in conjunction with the other Emergency Services.
- Maintain public order e.g. respond with available resources should it become necessary to isolate specific areas
- Respond to requests from NHS to assist with security in the event of an incident related to the vaccination programme (subject to resources availability)
- To provide assistance and advice to agencies in identifying vulnerable groups
- Enforce any legislation that is already in being or imposed for the duration of the outbreak i.e. Statutory Instruments
- Protect property

10. Further Reading

This document has been developed with reference to the following documents:

- Joint Committee on Vaccination and Immunisation: interim advice on priority groups for COVID-19 vaccination
- Influenza Welsh Health Circular's June to , August 2020
- CTMUHB; Pandemic Operational Plan Framework v4.0 November 2019
- NHS Wales, Welsh Government; The Communicable Disease Outbreak Plan for Wales July 2020
- Department for Health and Social Care Joint Committee on Vaccination and Immunisation, Interim advice on priority groups for COVID-19 vaccination, June 2020. https://www.gov.uk/government/publications/priority-groups-for-coronavirus-covid-19-vaccination-advice-from-the-jcvi/interim-advice-on-priority-groups-for-covid-19-vaccination.
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- Public Health England, COVID-19 personal protective equipment (PPE), June 2020. https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-personal-protective-equipment-ppe.
- Royal College of General Practitioners, Guidance on masks and face coverings in primary care, July 2020. https://www.rcgp.org.uk/-/media/Files/Policy/A-Z-policy/2020/covid19/guidance-masks-face-coverings-rcgp.ashx?la=en.
- Royal College of Nursing, Mass Vaccination – considerations and practical tips, (forthcoming).
- Royal College of Nursing, Practical and clinical guidance for vaccine administration, 2019. https://www.rcn.org.uk/clinical-topics/public-health/immunisation/practical-and-clinical-guidance-for-vaccine-administration.
- Royal Pharmaceutical Society/Royal College of Nursing, Professional Guidance on the Administration of Medicines in Healthcare Settings, January 2019. https://www.rpharms.com/Portals/0/RPS%20document%20library/Open%20access/Professional%20standards/SSHM%20and%20Admin/Admin%20of%20Meds%20prof%20guidance.pdf?ver=2019-01-23-145026-567.

- Royal Pharmaceutical Society, Professional guidance on the safe and secure handling of medicines, December 2018. https://www.rpharms.com/recognition/setting-professional-standards/safe-and-secure-handling-of-medicines/professional-guidance-on-the-safe-and-secure-handling-of-medicines.
- Royal college of GPs, Delivering Mass Vaccinations during COVID-19; A Logistical Guide for General Practice

9. Appendices

Appendix 1: Programme Initiation Document

Appendix 2: Action Plans for Project Delivery*

Appendix 3: Workforce and Financial Schedule*

Appendix 4: Standard Operating Policy: Mass Vaccination

Appendix 5: Vaccination Centre Layout Infographic

*currently under development