



COVID-19 vaccination programme

Pod definition – vaccination centres

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Introduction

This document provides an end-to-end overview of the user journey at vaccination centres, including minimum estate requirements across each stage and optimal workforce requirements.

It is based on the pod concept: a unit of delivery for vaccination centres that has been designed to support the high-volume, high-throughput and safe vaccination of individuals.

The pod concept has been developed through extensive stakeholder engagement, including with representatives from the Royal College of General Practice and the Nursing and Midwifery Council.

The concept has also been informed by an extensive exercise. This involved a full staff of volunteers manning the site to deliver a bespoke dummy vaccine to a cast of volunteers. The volunteers played a range of service users with conditions and accessibility requirements representative of the general population.

Where possible, regions should seek to deploy the model as described to support the safe and effective delivery of vaccines to their local population. A number of limitations may prevent this, specifically local estate challenges. In these instances, regions should refer to the design principles and the 'considerations for deployment' documented across each stage of the journey to adapt their delivery model.

This document should be reviewed alongside the operational planning guidance and the detailed suite of standard operating procedures in development. It will be updated so please check you are using the latest version. This guidance has been developed on the basis that the National Protocol for the vaccine is in place and has been authorised.

Clinical assessment station



Pod



Pod concept design principles

Issue	Description
Self-sufficient delivery pods	<ul style="list-style-type: none"> Pods should not be stocked more than once a day (where vaccine characteristics permit) and all waste removal can occur concurrently with vaccination delivery.
Good infection prevention and control should be central to the design	<ul style="list-style-type: none"> Adherence to PPE guidance and social distancing guidance. Flow through the delivery pods should be one way with minimal cross-over of individuals (staff or users).
Safe deployment of expanded vaccinator workforce	<ul style="list-style-type: none"> Following changes to the Human Medicines Regulations 2012 non-registered healthcare professionals (HCPs) may administer the vaccine under the supervision of a registered HCP. Multi-dose vial preparation will be undertaken by a registered HCP. Adverse events will be managed by a registered HCP.
Replicable and scalable	<ul style="list-style-type: none"> Delivery pods are likely to be the delivery unit for multiple delivery models and therefore should be easy to scale up or down.
Enable the high throughput of eligible individuals	<ul style="list-style-type: none"> To deliver the vaccination at scale in a timely manner, throughput for each delivery pod must be sufficiently high.
Utilise space effectively	<ul style="list-style-type: none"> To enable the identification of appropriate estate, delivery pods should seek to make the most effective use of space.
A positive experience	<ul style="list-style-type: none"> Delivery pods should provide a consistent end-to-end user journey. Delivery pods should cater for eligible individuals with additional needs.
Minimise delivery risk	<ul style="list-style-type: none"> Should mitigate all foreseeable risk as far as possible. For example, delivery pods should be aligned to the delivery of a single vaccine on any given day to remove the risk of cross-contamination and delivery of the wrong vaccination.

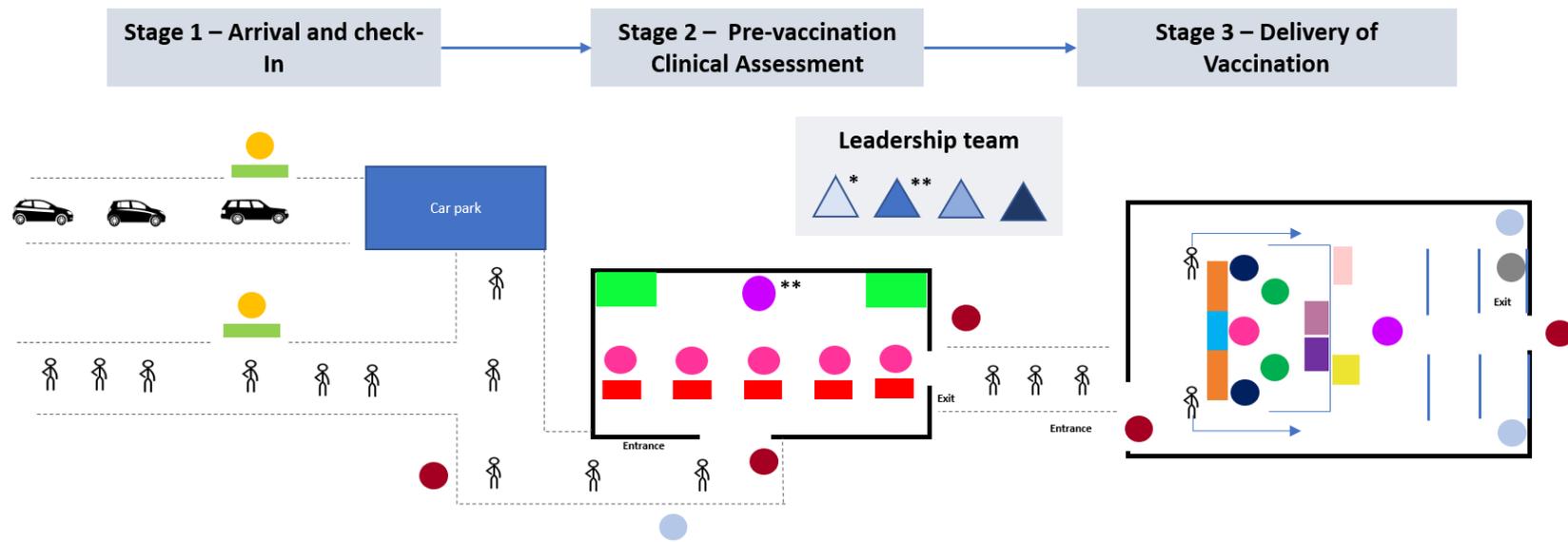
Administration assumptions for COVID-19 vaccines

The following administration assumptions have been defined based on initial guidance from the Joint Committee on Vaccination and Immunisation (JCVI) and with input from PHE and MHRA to inform the list of options:

Category	Delivery pod (excluding observation area)
IPC and social distancing	<ul style="list-style-type: none"> • 1 metre social distancing (based on current national guidance). • Vaccinators to wear eye protection and face mask – these need to be changed after each session or if soiled. • No requirement for vaccinators to wear gloves and aprons. • Patients to wear face covering.
Pre-vaccination clinical assessment	<ul style="list-style-type: none"> • Pre-vaccination clinical assessment takes place outside the delivery pod by a registered HCP. • PHE to propose elements of the screen.
Observation period	<ul style="list-style-type: none"> • Post-vaccination observation is only required for eligible individuals receiving the COVID-19 vaccine who are driving. This is a 15 minute observation period. Note: estate requirements captured in this document are based on 100% of users requiring post-vaccination observation.
Pod delivery team	<ul style="list-style-type: none"> • 2 x registered HCPs: <ul style="list-style-type: none"> ○ 1 HCP Band 5 for drawing up ○ 1 HCP Band 6 for overseeing the pod • 2 x vaccinators to deliver the vaccine. • 2 x admin support – to electronically document key requirements and support station sanitisation. • 2 x marshals – to ensure effective queue management and flow. • 1 x health care assistant – to support the vaccination process and area sanitisation.

Category	Delivery pod (excluding observation area)
Preparation	<ul style="list-style-type: none"> • Multi-dose vial (6–10 doses per vial). • Drawing up may be done by a registered HCP who is not the vaccinator.
Administration	<ul style="list-style-type: none"> • IM injection in deltoid.
Safety	<ul style="list-style-type: none"> • Anaphylaxis kit in all pods.

End-to-end user journey



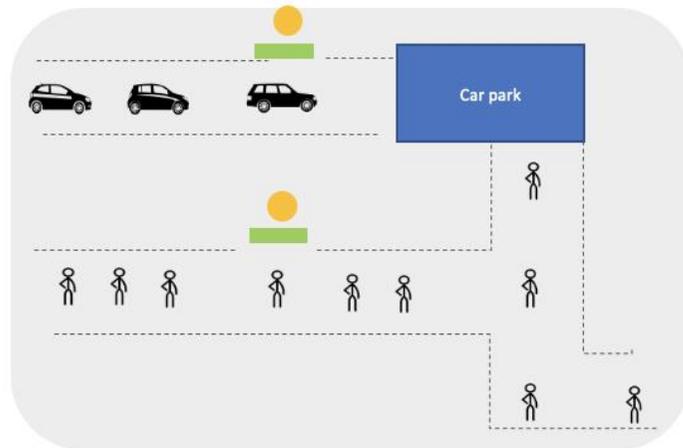
Key

	User		Registered HCP B5		St John Ambulance (Post Vaccination Observation & Patient Advocate)		PPE don area		Vaccine Preparation Bench		Senior Manager
	Front of House (paid)		Registered HCP B6		Assessment Station		PPE doff area		Trolley		8a Nursing Manager
	Marshal (volunteer)		Vaccinator		Private office for clinical assessment		Vaccine Station		Resus Equipment		Medical Director
	Check-in station		Health Care Assistant								Operations Director

*Only required for single pod site** *Only required for multiple pod site***

Stage 1: Arrival and check-in

Key activities



On their arrival at the vaccination site, **outside the building** users are greeted by a steward who will complete the following:

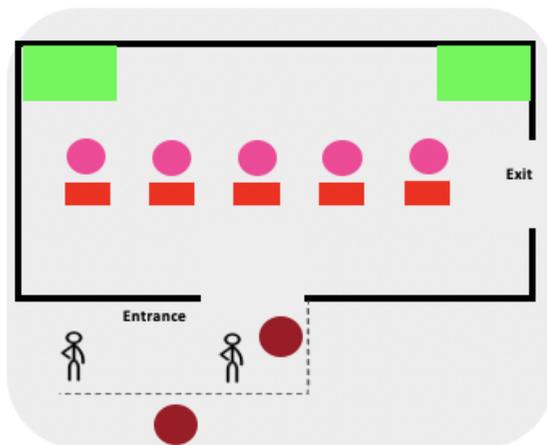
1. **A health status check** – confirm the user (or any individuals accompanying the user) has no symptoms that would exclude them from coming onto the site.
2. **Confirmation of appointment and check-in** – using their hand-held mobile device, the steward will complete the user check-in process (input into non-clinical system) by entering the unique reference code provided to the user as part of their booking confirmation. For users who do not have this information, stewards will be able to check them in using their name, DOB and address.
3. **Provision of directions** – stewards will provide some high-level directions. This will be particularly important for larger sites that offer different vaccinations.

Key considerations for regional deployment:

1. **Estates** – wherever possible, site teams should seek to undertake the health status check before a user enters the building. However, it is understood that not all sites will have suitable outside space to enable the arrival and check-in to be completed (eg buildings that front directly onto the street). A suitable solution should be identified.
2. **Estates** – appropriate signage should be erected to ensure users go to the right area.
3. **Estates** – not all sites will have car parking facilities and therefore a separate arrival and check-in station for vehicles may not be required.
4. **Tech and data/estates** – the hand-held mobile device requires a suitable data connection (4G /Wi-Fi).
5. **Experience** – sites deploying multiple vaccines should consider providing users with a colour-coded sticker on completion of check-in (eg teal for Talent and blue for Courageous). This will enable marshals to safely shepherd users to the right queue without needing to access patient identifiable data on the system. Note: a single pod should only ever provide one vaccine in a single session.
6. **Estates** – consideration should be given to the layout to allow for disabled access.

Stage 2: Pre-vaccination clinical assessment

Key activities



Following check-in, users will be directed to the appropriate queue to complete their pre-vaccination clinical assessment. A single queue feeds five clinical assessment stations. The pre-vaccination clinical assessment is undertaken by registered HCPs.

Registered HCPs will have access to laptops/tablets with internet connectivity to complete the pre-vaccination clinical assessment. These staff members will be key to the integration of the non-clinical and clinical systems – this will have to be done manually for Minimum Viable Product Zero at go-live.

Staff will enter the user's unique booking reference into the non-clinical system to bring up a user's booking details along with their NHS ID. Both the booking reference and NHS ID will need to be entered into the clinical system to bring up a user's record. The following will be documented in the user's record:

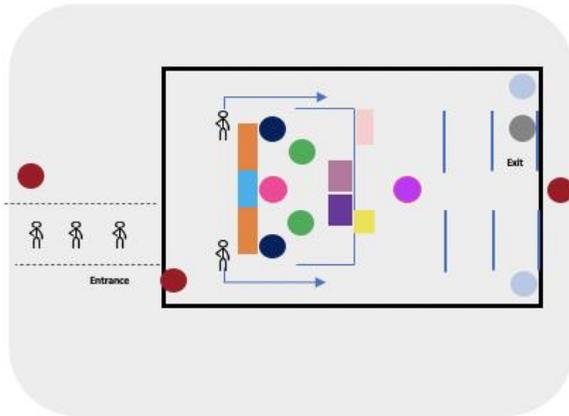
1. **Outcome of the clinical assessment** – (details of the clinical screen will be confirmed by Public Health England and shared with regions when available).
2. **Documentation of verbal consent.**
3. **Documentation of whether the user drove to the site** – this information is needed to provide the appropriate advice in relation to post-vaccination observation requirements. JCVI has advised a 15-minute observation period for those people driving.

Key considerations for regional deployment:

1. **Privacy** – staff should seek to confirm if users are comfortable having their pre-vaccination clinical assessment completed in an open space (note: minimum estate requirements account for two areas sectioned off with privacy screens).
2. **A clinical governance framework with clearly defined routes of escalation** – ensuring registered HCPs undertaking the clinical assessment are adequately trained and competent is critical to maintaining flow throughout the process. This should be underpinned by clearly defined routes of escalation for when more complex patients present.
3. **Staff welfare** – staff will require appropriate breaks. Additionally, staff carrying out the clinical assessment should rotate regularly with the person in the pod drawing up, to split this task.

Stage 3: Vaccination and observation

Key activities



A single queue feeds into each pod. A marshal will direct users to a vaccination station. Each vaccination station is staffed by a vaccinator and an administrator.

Key steps include:

1. Vaccination

Final checks – the administrator will:

- enter the booking reference into the clinical system to bring up a user's record
- confirm the user's name, address and DOB
- confirm the user has completed their clinical assessment.

Vaccine delivery – vaccine is delivered by the vaccinator to the user's deltoid by IM injection.

Updating the user's record – the vaccination event needs to be captured in the user's record. The administrator will input the following information into the clinical system:

- name of the individual who drew up the vaccine
- name of the vaccinator
- vaccine particulars (brand, batch, expiry date)
- where the vaccine was administered
- date and time of vaccine event.

Vaccination station wipe down – administrator wipes down the vaccination station before the next user attends.

2. Post-vaccination observation

- User makes their way to a socially distanced seat in the post-vaccination observation area.
- User will time their 15-minute vaccination observation period themselves.

Key considerations for regional deployment:

- Staff welfare – staff will require appropriate breaks. Additionally, staff carrying out the clinical assessment should rotate regularly with the person in the pod drawing up, to split this task.

Modelling input

Workforce, estate and throughput have been calculated following extensive dynamic modelling, using timing points observed at the exercise for each stage of the user journey as inputs. A series of virtual simulations testing different workforce permutations was undertaken to find the optimal configuration that ensured:

- the throughput was maximised
- the workforce was minimised, especially the bands of workforce that are most scarce, while maintaining the necessary level of clinical input and oversight to ensure a safe service
- no substantial queues at any point in the system
- utilisation could be maximised while keeping enough slack to make up for variation in breaks, productivity and slow-down during the day.

The workforce configuration and minimum estate requirements described in the following slides are based on this modelling.

Based on a 12-hour operational day, we would expect a single pod site to safely vaccinate 520 users.

Please note: activity timing inputs and the associated throughput are subject to change as we go live and capture real world data.

Estates requirements

This section provides detailed floor plans and minimum space (m²) requirements for the end-to-end user journey from a point of care perspective – regions will need to ensure the appropriate user and staff welfare facilities are also available. Floor plans have been informed by the exercise and dynamic modelling which takes into account these key factors:

1. Observed timing points for key activities
2. Optimum arrival rates for a 5-minute slot booking structure
3. Maximum queue length at each point in the journey

Wherever possible, regions are advised to ensure that their site layouts adhere to the minimum space requirements. However, a degree of flexibility in the configuration of local estate is assumed. For example, repurposing large venues (sport stadiums, conference centres, etc) could potentially house the entire end-to-end user journey in a single room. Alternatively, smaller venues might find it better to carve out distinct areas into separate rooms.

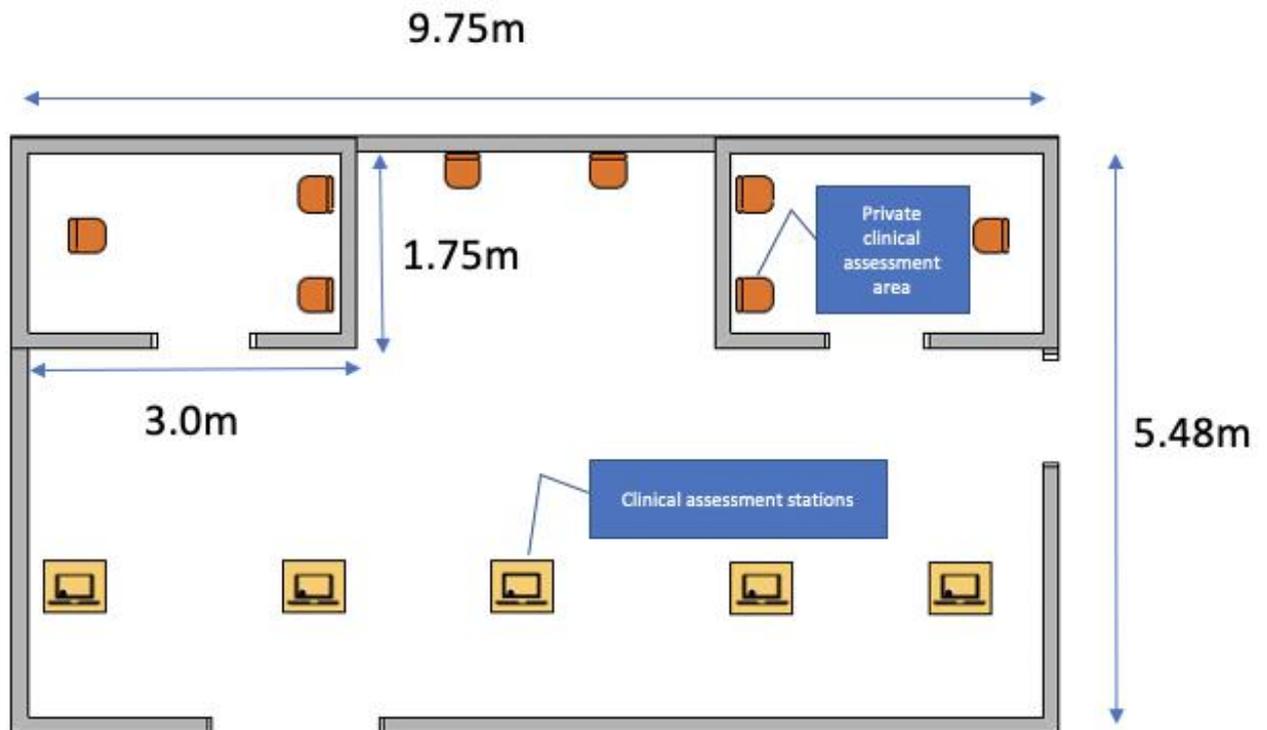
If working within these parameters is still not practical, any deviations from the configuration described in this document should seek to align with the key design principles.

Key considerations for regional deployment:

- Ensure a minimum of 1 metre social distancing is applied and all IPC guidance observed.
- Ensure there is sufficient space available at each part of the user journey for queuing.
- For large sites with multiple pods, a noise assessment may be required.
- There should be appropriate signage across the site to support user flow and a positive user experience.
- Ensure provision of appropriate seating for the post-vaccination observation area. Note: modelling (based on 100% of users requiring a 15-minute post-vaccination observation period) suggests at maximum occupancy 17 seats will be required. For the minimum estate requirements, we have applied a ~20% contingency (therefore 20 seats).
- Pragmatic derogations from the guidance are acceptable, subject to alignment to IPC and social distancing guidelines, and the provision of all the separate elements of the pod design – check-in, clinical assessment, vaccine delivery, post-vaccination delivery, plus staff and public welfare.
- Storage requirements will need to be considered for vaccines, PPE and consumables.

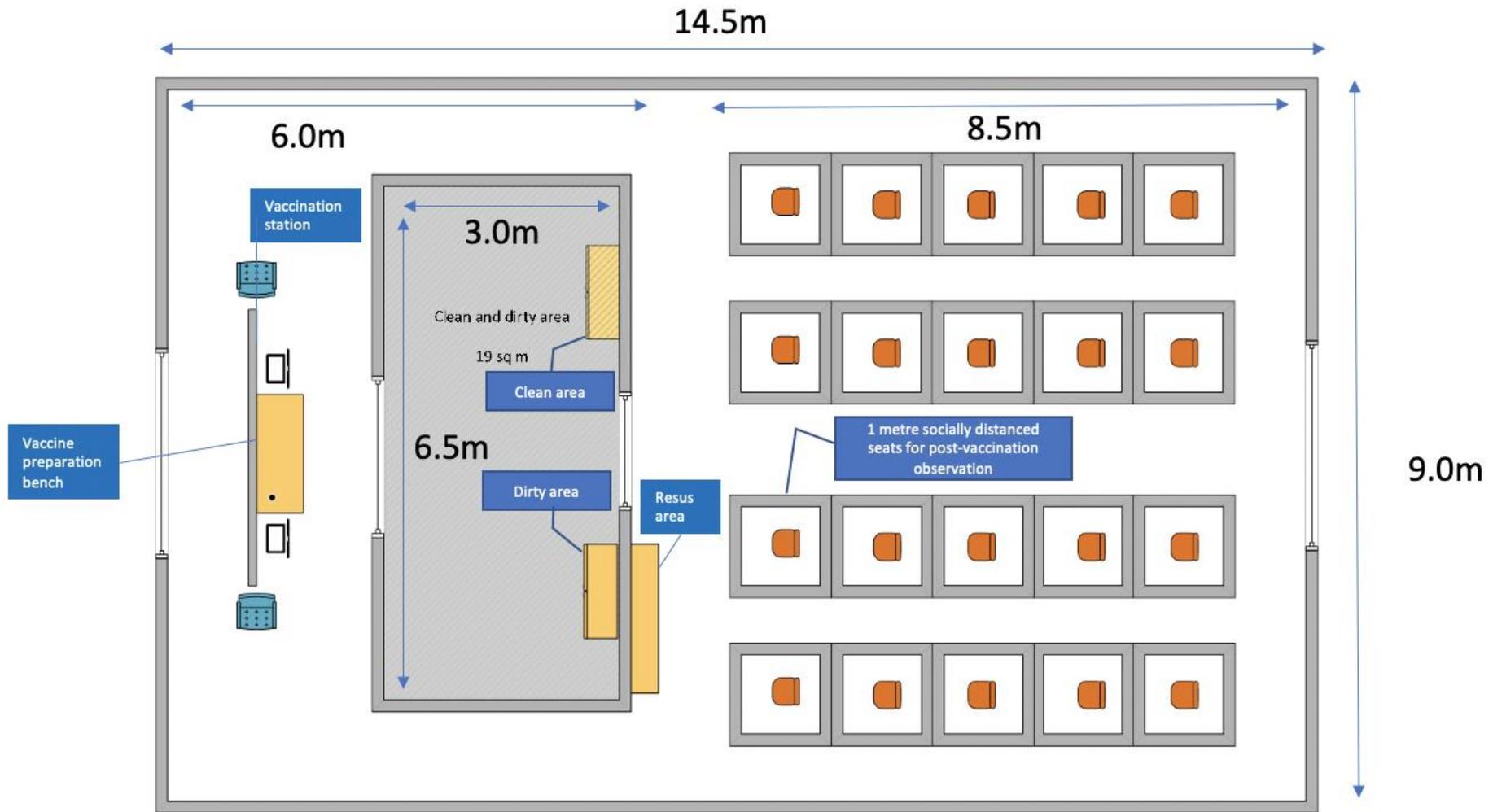
Clinical assessment floor plan

The total minimum space requirement for the clinical assessment area is **53.4 m²**. This includes two privacy assessment areas of 5.25 m² each.



Pod floor plan

The total minimum space requirements for the pod is **130.5 m²** – this includes a vaccination area of 54 m² (comprising two vaccination stations, one vaccine preparation bench, storage and clean and PPE DON and DOFF areas) and a post-vaccination observation area of 76.5 m² (comprising 20 one-metre socially distanced seats as per the modelling maximum seat occupancy plus 20% contingency. Note: this is based on 100% of users requiring post-vaccination observation).



Workforce summary based on a single pod site versus a multiple pod site (1 of 2)

The table below outlines the workforce requirements to support the safe and effective delivery of vaccinations across a single pod site versus a multiple pod site. This is intended to be used vaccination centres, and shows the crude numbers needed at any given time for the models to operate. **Please note that the table does not account for FTE sick leave, breaks, two shifts per day.**

Please note that the site size dictates the required governance structure, which can vary between a one pod site and a multiple pod site, as scaling involves increased management governance and accountability. This is a recommended workforce structure only and it is subject to local flexibility and adjustment.

Role	Band	Description	Total no of workforce required		Narrative and comments
			<u>One pod site</u>	<u>Multiple pod site</u>	
Registered healthcare professional (HCP)	6	<ul style="list-style-type: none"> Supervision of the vaccination activity and staff within the pod and observation area. 	1	1 per pod	For scaling purposes, the numbers show the roles needed relative to the pod ratio, but do not imply the location of
	5	<ul style="list-style-type: none"> Responsible for the patient clinical assessment pre-vaccination (x5). Responsible for vaccination draw-up (x1). 	6	6 per pod	
Vaccinator	4	<ul style="list-style-type: none"> Responsible for the delivery of vaccination. 	2	2 per pod	

Role	Band	Description	Total no of workforce required		Narrative and comments
			<u>One pod site</u>	<u>Multiple pod site</u>	
		<ul style="list-style-type: none"> Responsible for the disposal of clinical waste and change of PPE (when required). 			the roles <u>inside</u> the pod.
Healthcare assistant (HCA)	3	<ul style="list-style-type: none"> Responsible for sanitisation and infection control (eg wipe down surfaces). Support the vaccination process. 	1	1 per pod	
Admin support	3	<ul style="list-style-type: none"> Responsible for patient record keeping. Responsible for recording vaccination data (such as batches, numbers). 	2	2 per pod	
Post-vaccination observation	SJA	<ul style="list-style-type: none"> Responsible for managing the post vaccination observation area and providing BLS. 	2	2 per pod	
Marshal	Volunteer	<ul style="list-style-type: none"> Responsible for patient flow management. 	5	5 per pod	
Patient advocate	SJA	<ul style="list-style-type: none"> Responsible for answering patient queries and addressing any concerns. 	1	1 per pod	
Front of house	Proposed 2	<ul style="list-style-type: none"> Responsible for patient check-in and pod allocation. Responsible for patient queries on the day. 	2	2 per pod	

Workforce summary based on a single pod site versus a multiple pod site (2 of 2)

The table below outlines the workforce requirements to support the safe and effective delivery of vaccinations across a single pod site versus a multiple pod site. This is intended to be used for vaccination centres and shows the crude numbers needed at any given time for the models to operate. **Please note that the table below does not account for FTE sick leave, breaks, two shifts per day.**

Please note that the site size dictates the required governance structure, which can vary between a one pod site and a multiple pod site as scaling involves increased management governance and accountability. The proposed supervision, oversight and leadership roles are detailed in the table below. This is a recommended workforce structure only and it is subject to local flexibility and adjustment.

Role	Band	Description	Total no of workforce required		Narrative and comments
			<u>One pod site</u>	<u>Multiple pod site</u>	
Registered healthcare professional (HCP)	6	<ul style="list-style-type: none"> Escalation point for clinical assessment. 	0	1 per max 3 pods	Within the one pod site, the clinical assessors can escalate to the senior manager. Scaling up, we anticipate the need for a Band 6 as direct escalation point, one responsible for up to three pods.
Senior manager	Proposed 8b-8c	<ul style="list-style-type: none"> Responsible for clinical and operational oversight, governance 	1	0	Within the one pod site, a senior manager is able to oversee both clinical and operational activity. Scaling up to

Role	Band	Description	Total no of workforce required		Narrative and comments
			<u>One pod site</u>	<u>Multiple pod site</u>	
		of the site and staff supervision.			multiple pods, this role requires separation of responsibility; therefore, we propose that instead of a senior manager, a nursing manager is responsible for the clinical oversight of a maximum of 3 pods and there is on-site presence of an ops director (see below) responsible for operational oversight.
Nursing manager	8a	<ul style="list-style-type: none"> Responsible for clinical escalations. Responsible for overseeing the clinical activity for the pod and clinical assessment area. 	0	1 per max 3 pods	
Medical director	Med Gr	<ul style="list-style-type: none"> Responsible for clinical leadership and governance of the site(s). Responsible for clinical escalations above the nursing manager or senior manager. 	1 per site to cover remote oversight of difficult clinical queries	At least 1 per Lead Trust covering multiple sites (remote)	We anticipate that a medical director can oversee multiple sites remotely. This role may be covered by the GP in the PCN model.
Operations director	ESM Equiv	<ul style="list-style-type: none"> Responsible for non-clinical leadership and operational delivery of mass vaccination site(s). Responsible for ensuring all workforce, 	At least 1 per lead trust covering multiple sites (remote)	1 per site (on site)	We anticipate that the Ops Director can oversee multiple <u>one</u> pod sites remotely. For <u>multiple</u> pod sites, this role may be required in-person, dedicated to that site.

Role	Band	Description	Total no of workforce required		Narrative and comments
			<u>One pod site</u>	<u>Multiple pod site</u>	
Pharmacy Team		<p>consumables and equipment are in place.</p> <p>Pharmacy input and oversight must be considered in the mass vaccination sites to maintain product integrity of the Vaccine, ensuring that appropriate cold chain processes are in place and that the staff carrying out tasks are adequately training to handle the vaccine(s). There will be a mix of new HC Professionals and new recruits hence good pharmaceutical oversight is essential to ensure patient safety. Specifically, management of all aspects of ordering, receipt, storage and onward supply from stock of vaccine and medicines should be provided by a senior member of the local Pharmacy Team.</p> <p><i>SOPs are in development to support this process.</i></p>			

Appendix A: Standard operating procedure (SOP)

A SOP is being developed to cover key operations across the sites, and to support this pod definition document and ensure safe service provision. This SOP will cover the following key requirements:

- arrival and check-in
- clinical assessment
- delivery of vaccination
- post-vaccination observation
- management of acutely unwell users
- management of anaphylaxis
- social distancing
- PPE requirements
- receipt and storage of vaccine
- stock control
- cold chain management
- pod replenishment
- record keeping
- waste disposal
- daily opening and closing process
- IT technical errors
- roles and responsibilities of the workforce.