Victorian COVID-19 vaccination program

COVID-19 Vaccination Management System operating model and process considerations for health services

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The COVID-19 Vaccination Management System (CVMS) provides a range of flexible functionality to facilitate vaccination scheduling, administration and logistics.

The CVMS has four main functions:

Registration

- The registration portal will allow prioritised cohorts to book an appointment to be vaccinated. This can be set up to be by invitation only.

Frontline application

- This will allow hospital administration to view a calendar of client bookings and check them in on the day. Immunisation providers will then be able to record the administration details, including the monitoring of adverse events and then check them out.

Reporting and analytics

- This will provide a state-wide and organisation level view of registrations, appointments, first/second doses administered, cold chain breaches and adverse events, with the ability to filter by variables such as demographics, location, cohort and gender.

Command centre

- The command centre, managed and run by the Victorian Department of Health (the department), will be a central point to manage vaccination efforts with oversight over the entire program, such as organisation records, citizen records, emails campaigns, organising mass vaccination bookings, and supply chain distribution and stock management.

Vaccinee registration / appointment scheduling

- The CVMS can import staff details extracted from human resources data systems or other staff lists if available and send an email invitation to register. This minimises staff data entry by pre-filling information where possible.
- The import function can also be used to register setting / outreach based vaccinees if a list of names is available and then be assigned to a pool of vaccination appointments / specific clinic.
- The CVMS can send email invitations from a command centre interface to batches of staff emails but this will require some additional data entry by the recipients.
- Vaccinees can be registered manually as a walk up by having their details entered into the CVMS
- Vaccinees can register via a portal open to the general public or restricted to individuals who have been issued an appropriate access code (for example from their workplace).

- People interested in vaccination can pre-register their interest and be invited in traches based on eligibility criteria. For example, an invitation to book an appointment could be sent to people of a certain age group in and / or in a certain post code.

Recommendations:

1. Health services should consider preferred model of vaccinee registration for initial operations with due regard to quality and completeness of data in source systems for potential data extracts.
2. It is proposed that the metropolitan hospital hubs provide their own data and that staff data from other metropolitan health services being vaccinated by these hubs would be provided directly to the department.
3. It is proposed that regional hospital hubs facilitate the collation and upload of staff data from rural health services and liaise with the department to ensure an awareness of these coordination arrangements.
4. Health services should consider how they may use a public facing / access code restricted portal to support their appointment scheduling.
5. Health services should consider how the CVMS may be used for pre-registration campaigns to secure interest and inform planning in advance of vaccine availability.

Vaccine stock management

- The CVMS has several pre-configured vaccine handling events to receipt and transfer stock to clinics.
- The CVMS will also have a range of pre-configured vaccine handling events aligned to the current understanding of Pfizer COVID-19 vaccine handling requirements such as distinguishing between transfers between Ultra Low Temperature (ULT) storage and regular refrigerated storage and between ULT environments.
- The CVMS will also have a free form vaccine handling event to capture ad hoc or service specific stock handling processes that need to be recorded.
- The CVMS enables configuration of various stock locations and fridge details either manually or importing as reference data.

Recommendations:

1. Health services should consider how pre-configured and free form vaccine handling events are used to manage stock and record cold chain temperature readings for relevant stock handling events.
2. Health services should consider how information regarding vaccine stock locations and fridges are best configured in the CVMS.

Clinic administration

- The CVMS enables health services to establish clinics and set operating hours and appointment parameters including individual appointments or a specified capacity over a given time frame.
- Parameters regarding specialist immunisation clinics will also be able to be configured over time to provide a business logic which restricts the display of available clinics based on health screening information.

Recommendations:

1. Health services to consider how clinic appointment and service parameters should be configured within the system.

Adverse event reporting

- The CVMS will enable adverse events to be recorded during the post vaccination monitoring period and report to SAEFVIC.
- Vaccinees will also receive a nationally standardised 8-day campaign of SMS messages following each dose where they will be able to report any adverse reactions and whether they medically attended.

Recommendations:

1. Health services should consider potential interest in adverse reaction data from follow up SMS surveys and potential protocols which may align with local immunisation follow-up procedures
2. Health services to consider how presentations at their health service over an extended period following vaccination could potentially be recorded against the client record in the CVMS.

Operational reporting

- The CVMS will have a suite of operational reporting at the provider level and clinic level.
- The CVMS has data extract capabilities but the parameters and governance of these data extracts needs to be worked through following release 1 of the CVMS.
- The department will have a state-wide view across all providers and will be undertaking snapshot extracts for daily and comparative reporting over time. This reporting will leverage current COVID-19 reporting processes and formats platformed in Microsoft Azure.

Recommendations:

1. Health services should provide feedback on operational reporting within the CVMS during the Release 1 testing and refinement phases.
2. Health services should discuss potentially useful reports that could be produced from snapshot data extracts that the department will be using for state-wide reporting.
3. Health services should liaise with the department regarding potential data extracts to support high priority operational, clinical governance and accountability requirements.

Devices and software

- The department will be procuring a fleet of devices to support initial operations and ongoing offsite outreach.
- The procured devices are anticipated to be the Surface Pro 7 with Wi-Fi, 4G, keyboard type cover, mouse, and pen.
- The department will also be procuring scanners to facilitate scanned check in for vaccinees who have digitally registered and scanning stock barcodes on vials and boxes if available.

Recommendations:

1. Health services should liaise with the department regarding how procured devices can streamline initial operations and augment devices which health service may be purchasing.
2. Health services should consider stock scanning process which may enable streamlined data capture of stock data within the CVMS, subject to availability of barcodes on stock and their contents.

CVMS training

Each hub will need to nominate 'super users' who will serve as ground support to other CVMS users at the hub. Super users will receive direct training from the CVMS Project Team.

Each hub should nominate around 10 to 15 super users that represent each key role (where the CVMS system is used). It is recommended that a super user for each role type be rostered on at any one time.

Possible super user roles that hubs should consider:

- Clinician
- Clinic manager and administration
- Pharmacy
- Technical support functions and basic configuration

Roles required are unique to each hub and should be represented accordingly.

Key responsibilities of a super user:

- Attend relevant super user training
- First point of call for each of the end users: checking access, providing brief system walkthrough, and onboarding
- Distribute appropriate documentation and communications from the department to colleagues
- Be available to support colleagues with CVMS questions
- Collect feedback from colleagues around CVMS to support development for future releases and provide to the CVMS Support Team.

How will super users be supported?

Super users will have access to the *CVMS Super User-DHHS-GRP* channel on Microsoft® Teams as a way to ask questions directly to the project team, view support documents as well as view and participate in other super user questions and conversations. Support will be provided by the project teams throughout standard clinic hours (8am to 8pm).

Contingency planning

A contingency plan should be developed by hubs if CVMS is not operational (e.g. system outage or lack of both Wi-Fi and 4G access). This section pertains to contingency planning only after CVMS is officially launched and only relates to localised site-specific system outages.

Below are suggested contingency plans for each key aspect of CVMS.

Vaccinee registration and appointment scheduling

- Electronic and paper backups of vaccinee appointments and free slots for the sessions can be produced and held on standby to accommodate a system outage or lack of both Wi-Fi and 4G access.
- Details of prospective vaccinees can be manually processed or uploaded

Clinic administration and check in

- Registration, pre-screening and consent paper documents held onsite would accommodate a system outage or lack of both Wi-Fi and 4G access.
- Registration, pre-screening and consent data captured in the Registration Portal would be printed out to enable manual check in in the absence of the Frontline App.
- Vaccinees could be manually checked in using the Command Centre or if this is not possible, vaccines would be checked in against electronic or paper backups of vaccinee appointments.

- Vaccinees could complete paper registration, pre-screening and consent documents.

Vaccination episode management and data capture

- An electronic and paper backup data capture spreadsheet can be produced and held on standby to accommodate a system outage or lack of both Wi-Fi and 4G access. The data capture spreadsheet would be designed to enable an upload into the CVMS rather than additional manual data entry.
- A data capture spreadsheet could be designed to enable manual collation state-wide

Vaccine stock management

- A paper backup of stock details allocated to the clinic / session could be held onsite to ensure these details are available to be recorded against a vaccination episode.

Adverse event reporting

- Should CVMS not be available, reporting can be done via **the SAEFVIC website,** by completing and faxing the paper SAEFVIC report form directly to SAFEVIC or by calling the SAEFVIC Immunisation hotline on 1300 882 924 (option 1).

Operational reporting

- The DIME reporting environment would be used to address any critical gaps in reports required by health services.
- Additional data management resources could be held on standby to address any data quality issues with AIR data uploads.