



# COVID-19 Vaccines Planning for Immunization Clinics

February 2021

PROTECTING AND EMPOWERING CANADIANS  
TO IMPROVE THEIR HEALTH



# Declaration of Interests - Bryna Warshawsky

- I have no conflicts of interest to declare.

## **Presentation Recorded on February 17, 2021**

Every attempt has been made to present the most current information however information about COVID-19 vaccines is rapidly evolving and the information presented here may be out of date.

Please check the Public Health Agency of Canada website for the most up to date information.

<https://www.canada.ca/en/public-health.html>

# Objective

To increase preparedness for planning and running COVID-19 vaccine immunization clinics.

# Outline

- Key steps in vaccine storage, handling and administration
- Site selection, set up and flow
- Planning parameters and staff complement
- Staff and volunteer training
- Infection prevention and control
- Supplies, vaccines, documents and forms
- Data management
- Medical emergencies
- Communication
- Evaluation
- Additional resources

# Immunization clinics - overview

- Intended to immunize large numbers of people as quickly as possible
- Must be as efficient as possible
- Part of the process of building public confidence
- Infection prevention and control very important in the context of COVID-19
- What follows in this presentation are:
  - Ideas and suggestions
  - Intended to complement existing jurisdictional plans
  - May or may not be appropriate in particular situations
- Based on:
  - [Planning Guidance for Immunization Clinics for COVID-19 Vaccines](#)

## Other delivery mechanisms

- Community health care providers' offices
  - physicians', nurse practitioners' or public health offices
- Pharmacies
- Workplace clinics (including in health care settings)
- Facility-based administration for institutional or congregate living settings
  - hospitals, long term care homes, retirement homes, shelters, group homes, correctional facilities
- Mobile vans / clinics
- Home visits, including door-to-door clinics
- Walk-up, drive-through or parking lot clinics

# Key steps in vaccine storage, handling and administration



# Summary of key storage and handling requirements

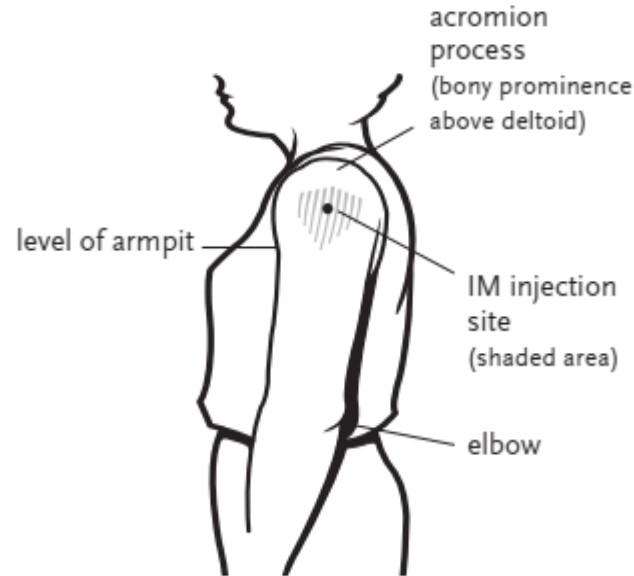
	Pfizer / BioNTech	Moderna
<b>Storage</b>	-80 to -60°C	-20°C (-25 to -15°C). Do not store on dry ice
<b>Transportation</b>	Prefer not to transport, but can be ultra-frozen or thawed at +2 to +8°C; Minimize jostling when thawed	Frozen transport preferred but can be transported thawed at +2 to +8°C Minimize jostling when thawed
<b>Dilution</b>	1.8 ml 0.9% sodium chloride provided by the National Operation Centre (NOC)	No dilution
<b>Time in refrigerator</b>	5 days at +2 to 8°C	30 days at +2 to 8°C
<b>Use after first puncture</b>	Up to 6 hours (first puncture will be for dilution)	Up to 6 hours
<b>Maximum time at room temperature</b>	Up to 8 hours <ul style="list-style-type: none"> <li>Up to 2 hours before mixing with diluent</li> <li>Up to 6 hours after mixing with diluent</li> </ul>	Up to 12 hours (but only 6 hours after first puncture of vial)
<b>Pre-loading in syringe</b>	Stable for 6 hours after dilution of vial	Stable for 6 hours after vial first punctured
<b>Doses per vial</b>	6 doses	10 doses
<b>Dose</b>	0.3 ml	0.5 ml
<b>Second dose</b>	As per local recommendations; Minimum 19 days	As per local recommendations; Minimum 21 days

# Key administration tips

1. Gloves are not recommended
  - Except if hands not intact
    - Likely best not to work in an immunization clinic if hands are not intact
  - Except if giving oral or intranasal vaccines
2. Use alcohol-based hand rub before and after administering vaccine
3. Check syringe for particulates, discoloration and correct dose and that vaccine not cold (for Pfizer-BioNTech and Moderna)
4. Use alcohol swabs on top of vial for each withdrawal and let dry
5. Do not draw back on the plunger
6. Do not put used needle down on the workstation
  - Activate safety engineered device (as required) and discard in sharps container immediately

# Landmarking for the deltoid

## Intramuscular (IM) injection site for children and adults



Give in the central and thickest portion of the deltoid muscle – above the level of the armpit and approximately 2–3 fingerbreadths (~2") below the acromion process. See the diagram. To avoid causing an injury, do not inject too high (near the acromion process) or too low.

Acquired from <https://www.immunize.org/catg.d/p2020.pdf> on December 6, 2020. We thank the Immunization Action Coalition.

## Change in doses per vial of Pfizer-BioNTech vaccine

- Health Canada has authorized a change in the number of doses per vial in the Pfizer-BioNTech product **from 5 to 6**
- The volume of vaccine in the vial is **0.45 mL** to which **1.8 mL** of normal saline diluent is added for a total of **2.25 mL**
- Each dose of Pfizer-BioNTech vaccine is 0.3 mL so should be able to obtain 6 doses as long as:
  - Diluent is added at 1.8 mL and each dose is 0.3 mL
  - Little vaccine is left in the injection equipment
  - Little wastage in drawing up

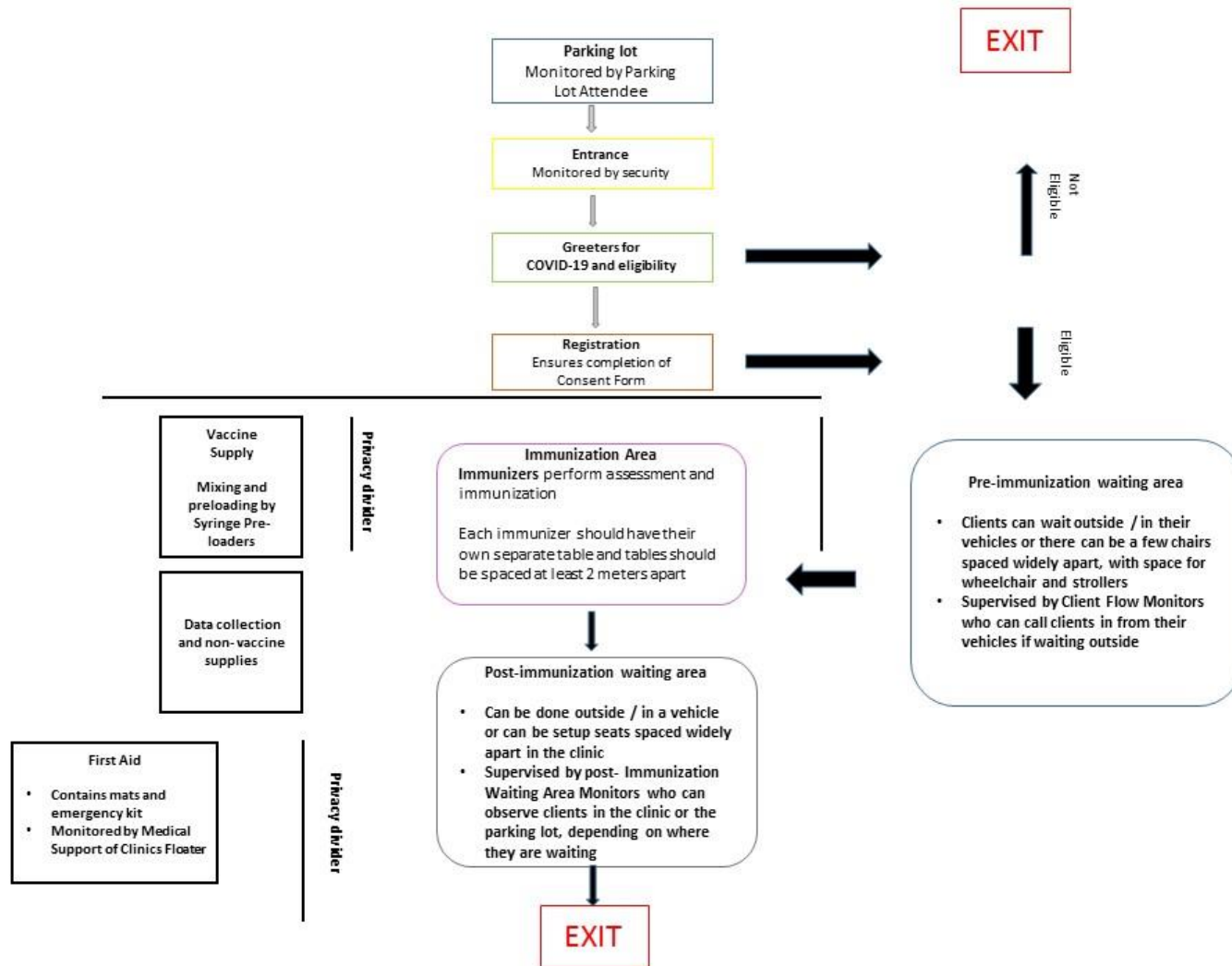
## Methods to support withdrawing 6 doses per vial

- Diluent is added at 1.8 mL and each dose is 0.3 mL
  - Use of a 1.0 mL syringe will help with drawing up 0.3 mL dose
- Little vaccine is left in the injection equipment
  - Use of low dead-volume syringes and/or needles will limit the volume of vaccine left in the syringe or needle
  - Sufficient supply of syringes that are lower dead volume have been procured
- Little wastage in drawing up
  - Keep needle in vial when adjusting dose or expelling air bubbles
  - Consistent health care provider dedicated to drawing up vaccine, if possible

## Site selection, set-up and flow

# Site selection

- Large, well-ventilated space
  - Due to COVID-19, one Immunizer per table
  - So need extra space at the clinic site
- One way flow from entrance to exit
- Accessible for those with disabilities
- Large parking lot
- Accessible by public transit
- Good infrastructure
  - lighting, washrooms, bathrooms, internet connectivity
- Large separate space for staff breaks (if staff breaks do not occur outside)
- If lining up outside, consider heating and shelter from weather
- In communities / areas with higher needs and/or higher risk
- Possible locations for clinics:
  - Schools (as a public site); colleges and universities; shopping centres; trade or convention centers; city halls; places of worship; vacant stores; community centres; arenas; friendship centres; nursing stations; outdoor area with tents and heaters





# Alberta Health Service Clinic

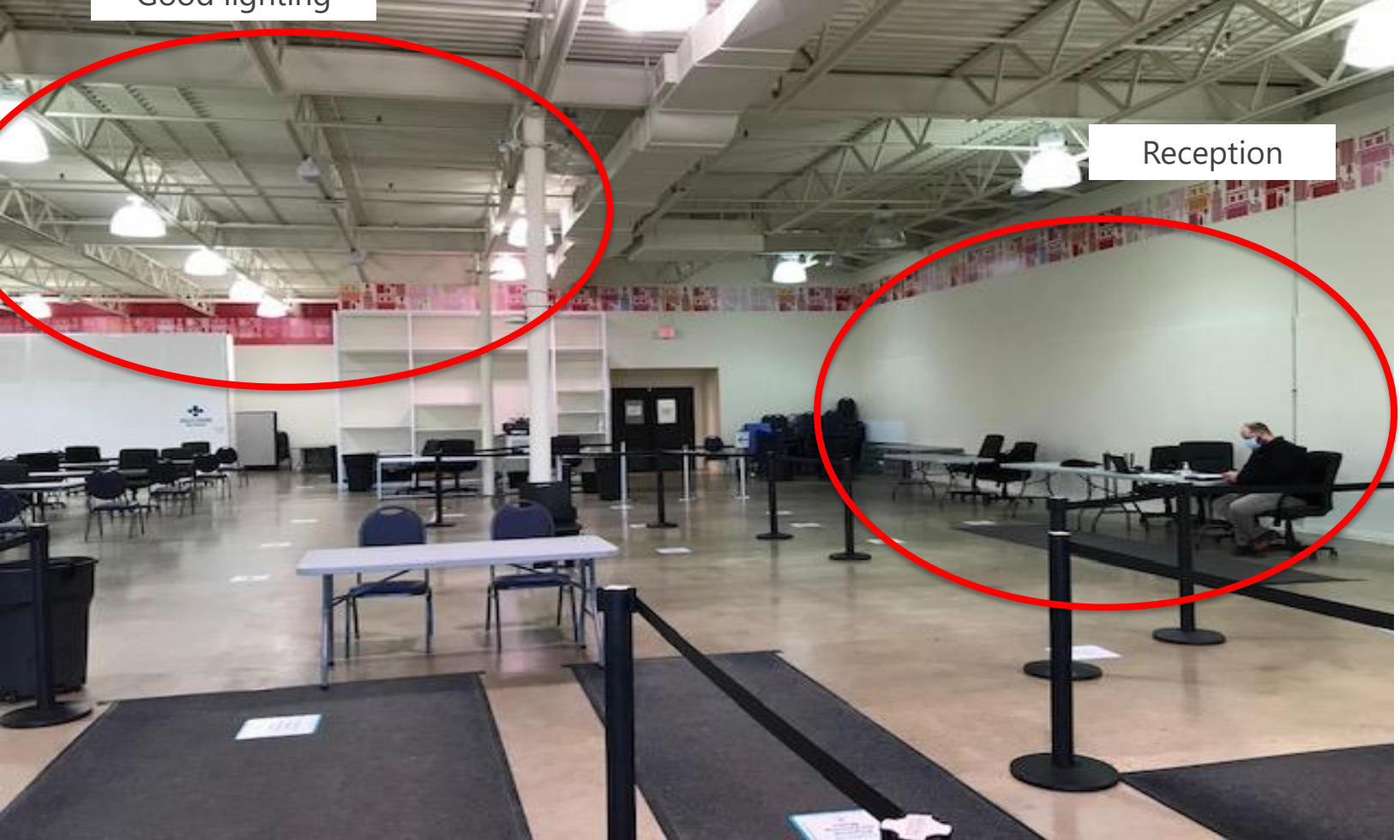


Courtesy of Alberta Health Service, Edmonton Zone

# Alberta Health Service Clinic

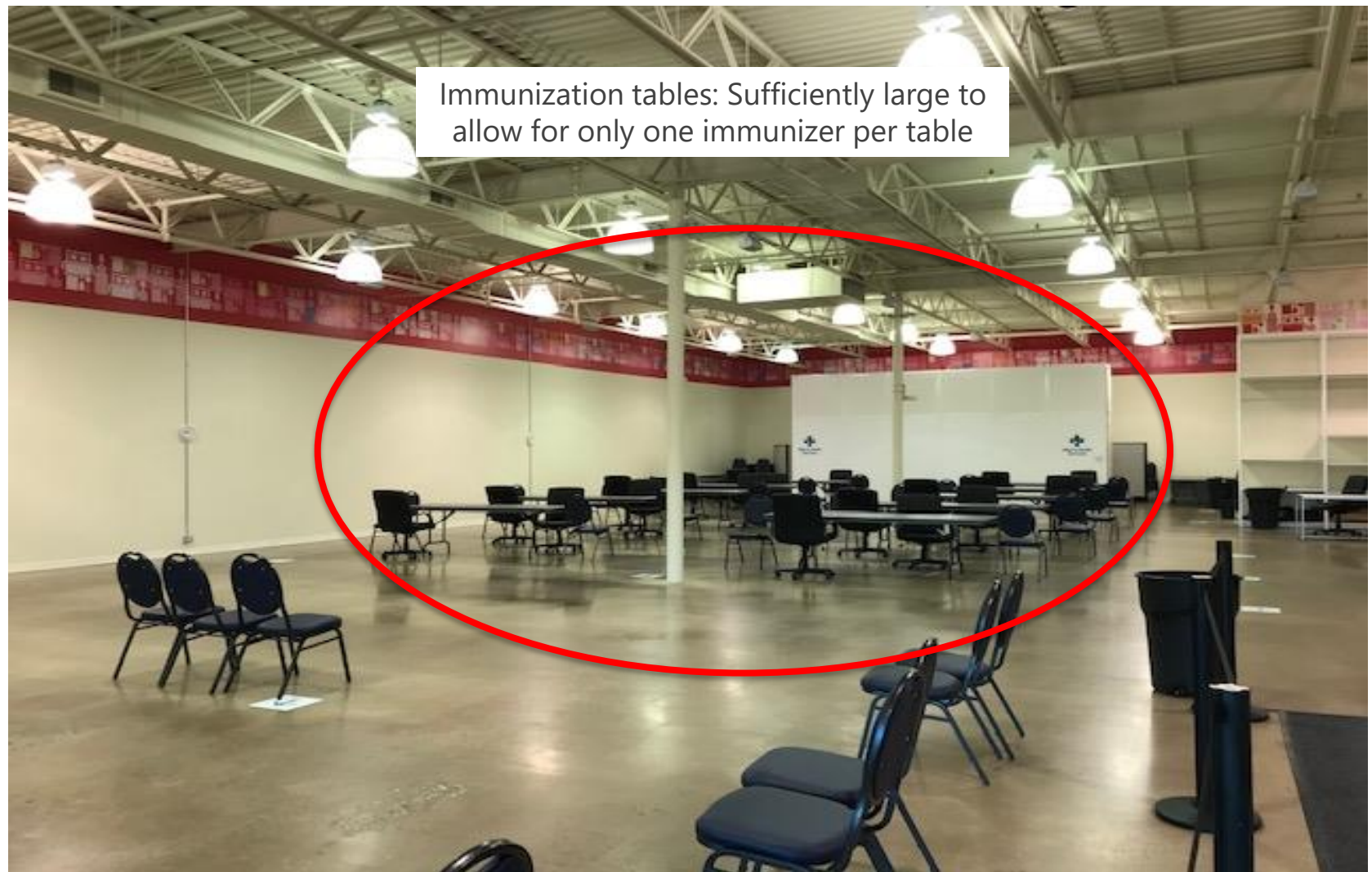
Good lighting

Reception



Courtesy of Alberta Health Service, Edmonton Zone

## 20 immunization tables on the left



Immunization tables: Sufficiently large to allow for only one immunizer per table

Courtesy of Alberta Health Service, Edmonton Zone

## Waiting areas in groups of two or three



Courtesy of Alberta Health Service, Edmonton Zone



Refrigerator



Freezer for ice pack



Ultra-low temperature freezer

Courtesy of Alberta Health Service, Edmonton Zone

# Planning parameters and staff complement

# Planning parameters for immunization clinics

**People to vaccinate over what timeframe. May be dependent on:**

- **Number of doses of available vaccine**
  - Each person needs two doses (for most vaccines)
- **Who is eligible**
  - If vaccinating those in congregate living settings, best to vaccinate in the setting and not in an immunization clinics

- **How to organize clinics:**

- **Number of vaccine doses an immunizer can give per hour** (immunization rate)
- **Number of immunizers per clinic** – limited by size of clinic and available staff
- **Duration of each clinic** – consider keeping clinics short (~6 hours open to public, can have two shifts)
- **Number of clinics per day and week** – consider some clinics at nights and on weekends

## Staffing – Numbers of Immunizers

- If consent forms completed, and clients flow continuously and:
  - Syringes are pre-loaded – approximately **14 immunizations per hour**
  - Syringes not pre-loaded – approximately **12 immunizations per hour**
  - Syringes not pre-loaded and mixing required – approximately **11 immunizations per hour or slower if mixing for 6-dose vials**
  - **Slower** at first clinics, if clients have special needs, or if young children
  - **Faster** with experienced staff, if vaccinating couples / families without young children
- **In a clinic open to the public for 6 hours (with 30 minute break) and syringes pre-loaded, can immunize**
  - 1,000 people with 13 immunizers
  - 450 people with 6 immunizers



# Staff - Sources of immunizers

- Public health nurses
  - Community nurses and physicians
  - Hospital nurses and physicians
  - Contract nursing agencies
  - Pharmacists
  - Paramedics
  - Students:
    - Nursing
    - Medical
    - Pharmacy
  - Dentists
  - Retired individuals in above groups
- In smaller, remote Indigenous or rural communities:
    - Consider cancellation of non-urgent activities within health centre / nursing station to increase staff complement
    - Consider sharing staff between communities
    - Consider mobile immunization teams

# Syringe pre-loading

- Helps to keep clinic running efficiently
- Dependant on the stability of the vaccine in a syringe
- Best done if only one product with one lot number being used at the clinic
- Can be done by the immunizer or dedicated health care providers
- If mixing with diluent or adjuvant required, separate health care provider recommended to do only mixing
  - Mark date and time of mixing on the vial
- If separate staff pre-loading, use a runner to deliver vaccine from pre-loaders to immunizers
- Only pre-load enough to keep the clinic running efficiently
  - Runners can monitor pace of pre-loading
- Be careful near the end of the clinic to stop pre-loading to avoid wastage
- Have a plan to use extra doses at the end of the clinic to avoid wastage
- **Syringe Pre-Loaders / Mixers:**
  - If mixing is required – 1 Syringe Pre-Loader per three Immunizers
  - If mixing is not required – 1 Syringe Pre-Loader per four Immunizers

# Other staff at the clinic

- **Clinic Leaders / Clinic Floaters:**
  - In charge of the clinic, training/orientation, supervision, trouble-shooting, media
  - At least 2 per clinic; three or more in larger clinic (10 to 15 immunizers)
- **Runners:** bring vaccines and supplies to Immunizers
- **Registration / Administrative Support:** registers or verifies clients registration and completion of the consent form
- **Medical Support:** Assists with client's questions and medical issues if on site; or can be available remotely by phone
- **Clinic Specialized Support:** Supports cold chain management, infection prevention and control / occupational health and safety, assists with client's questions
- **Security:** Consider two per clinic
- **Custodial staff**
- **Translator:** Depending on main language(s) of clients

## Non-health care provider staff or volunteer roles

- **Parking Lot Attendants** – monitors and directs traffic and clients in parking lot
- **Greeters** – welcomes clients, ensures they are eligible, COVID-19 screening
- **Client Flow Monitors** – directs clients to Immunizers after registration
- **Post-Immunization Waiting Area Monitors** – monitors clients during the 15-30 minutes after they are immunized, either in the clinic, on the clinic grounds or in the parking lot

# Sources of non-health care provider staff or volunteers

- Community volunteers organizations, local businesses, general public
- Other health care providers or non-health care providers from public health unit, hospital
- Military
- Red Cross

## **Staff to support planning and logistics – Not in the clinic**

- **Immunization Campaign Leader** – in charge of overall planning and implementation
- **Medical Support** – plans medical aspects; assists with training
- **Human Resources and Scheduling** – finding, onboarding and scheduling staff and volunteers, manages scheduling changes
- **Finance**
- **Logistics** – finding sites, site set-up, procuring supplies, transportation
- **Administrative Assistants** – organizing and packing supplies and documents, data entry
- **Epidemiology / Data Base Support** – manages data from clinic, compiles data for reporting
- **IT Supports**
- **Specialized Support Functions** – infection prevention and control, cold chain management
- **Communications Officer** – public and media communications

# Staff and volunteer training

# Training for staff and volunteers – A variety of formats

- On-line webinars, modules, Q and A sessions and discussions group
- Written training material
- “Just in time” before the clinic starts
  - Could be done virtually before clinic
  - Could be done one-on-one
  - Be careful with group huddles (physical distancing, personal protective equipment, not yelling)
- Close observation by Clinic Leaders
- Buddy system for new immunizers
- Immunization certification for immunizers (if available)
- Post-clinic debrief to capture lessons learned
  - Can be on-line
  - Be careful with group huddles



# Training for staff and volunteers - a variety of topics

- **Administrative matters for all**
  - Scheduling and how to change schedule, time sheets, what to wear, personal protective equipment expectations, food and breaks
- **Standard information for all**
  - Organization and flow of the clinics
  - Overall roles and responsibilities
  - Infection prevention and control measures
  - Privacy and confidentiality
  - Cultural sensitivity and responding to diverse needs
- **Role specific training**
  - Health care providers (Clinic Leaders / Clinic Floaters / Immunizers / Syringe Pre-loaders / Medical Support / Clinic Specialized Support)
  - Administrative Assistants (Registration and Runners)
  - Volunteers and non-health care provider staff members (Parking Lot Attendants, Greeters, Client Flow Monitors and Post-Immunization Waiting Area Monitors)

# Specific training for health care providers

- Information about **COVID-19 and the available vaccines**, including counseling those who may be hesitant about receiving the vaccine
- Strategies to **manage pain and fear** in vaccine recipients
- Determining **capacity to consent** based on age or cognitive functioning
- **Seeking informed consent, counselling clients and identifying contraindications**
- **Preparing and administering** the vaccine (including appropriate land-marking), disposing of the used needle and syringe, and conducting post-immunization counseling
- Appropriate **documentation** for the clinic and the client
- Identifying and managing a client who may faint, and managing **fainting and anaphylaxis**
- Preventing and managing **needle stick injuries**
- **Proper storage and handling of the COVID-19 vaccines** for staff members in specific roles (including dry ice if needed)
- Refresher on **Cardiopulmonary Resuscitation (CPR)** if needed

# Infection prevention and control

# Infection prevention and control (1)

## Do not want transmission of COVID-19 while receiving the vaccine

- Large well ventilated spaces for clinics with one way flow
- Minimize crowding and time in the clinic, best to use an appointment system
- Maintain physical distancing (client remain 2 metres apart from others outside of their household)
- Physical barriers in registration area and other areas as possible
- Immunizer tables as far apart as possible; only one immunizer per table
- Screening - passive and active on entry into the clinic
  - Clients, staff and volunteers should be advised not to attend if unwell
  - No need for temperature checks
- Clients wear a mask (medical or non-medical); have extra masks available
  - If not able to wear a mask:
    - Expedite through the clinic
    - Consider having attend at the beginning or end of clinic

## Post-immunization waiting period

- Can wait in the clinic with seats as far apart as possible (at least 2 metres apart) and masks on
- Can wait outside / in vehicle, if:
  - Accompanied by a responsible adult
  - Feels well
  - No history of fainting after vaccines or medical procedures or concerns about possible vaccine allergy
  - Remains on the grounds of the clinic or in the parking lot
  - Can reach staff directly or by telephone
    - If need assistance, can honk their horn, call the clinic on their phone or their accompanying person can get a staff member / volunteer who is in the parking lot or in the clinic
  - Does not drive or use other forms of transportation for 15-30 minutes after vaccination, as advised by the health care provider

## Infection prevention and control (2)

- Personal protective equipment for staff
  - medical mask at all times, except when eating
  - eye protection (e.g., face shield) unless behind a barrier
  - only change mask if damp, damaged or need to remove to eat
  - do not use gloves (except if skin not intact)
- Alcohol-based hand rub for clients, staff and volunteers
  - immunizers use before and after each client
- Position client so shoulder (but not face) faces immunizer
- Limit client's contact with immunization table
- Cleaning and disinfection of surfaces if client touches table; client to use alcohol-based hand rub on their hands
- Clean frequently touched surface regularly; clean washrooms frequently

## Infection prevention and control (3)

- Staff and volunteer breaks are outside (in vehicle alone) or in very large indoor space
  - Maintain at least 2 metre separation if need to remove mask for eating
  - Keep breaks short and spread out staff breaks to avoid crowding
  - If providing food for staff and volunteers, it should be prepackaged and staff and volunteers should not congregate around it
- No food or beverages for clients except for those who feel faint or have fainted

# Immunization for staff members and volunteers

- COVID-19 immunization
  - Suggested to receive vaccine before start working at clinics or at first clinic they work at
  - Could run a staff and volunteer clinic as a first clinic to provide vaccine to staff and volunteers and to test processes
- Hepatitis B vaccination and titres (if possible to obtain titres) for those handling sharps
- Influenza vaccination if the clinics are occurring during influenza season
- Up-to-date tetanus (if possible)



# Supplies, vaccines, documents and forms

# Supplies – Long list provided in Appendix

- Some may be at site:
  - Chairs, tables, garbage cans, mats, physical barriers, privacy dividers
- Many will need to be brought:
  - **Vaccines, diluents, adjuvants** as appropriate
  - **Cold chain equipment** – e.g., coolers, ice packs, thermometers
  - **Clinical supplies** – e.g., needles, syringes, alcohol swabs, sharps containers
  - **Administrative supplies** – e.g., papers, pens, clip boards, staplers, tape
  - **Emergency supplies** – e.g., emergency kit, including supplies to manage anaphylaxis, instructions and dosages for epinephrine, food and drink
  - **Cleaning supplies** – e.g., disinfectant wipes, alcohol-based hand rub
  - **Personal protective equipment** – e.g., masks, eye protection, gloves for messes but not for immunizing (unless skin is not intact)
  - **Documents and forms**
  - **Signs**
  - **Electronic equipment**

# Supply management

- How much do you need to order and from where
- Storage room
- Packing lists
- Packing boxes with labels for what is in each box
- Transportation to site
- Organization at site
- Inventory tracking and replenishing supplies at site (if staying at clinic site for length of time)
- Return and storage of completed forms
- Return and storage of filled sharps containers

# Vaccine management

- Get vaccine to the clinic
- Store vaccine at clinic
  - frozen or ultra-frozen or in refrigerator or cooler
- Monitor temperature
  - at beginning and end of clinic and as per jurisdictional requirements during the clinic
- Thaw vaccine and bring it to room temperature if required
  - Ensuring enough but not too much
- What to do with doses that need to be used quickly?
  - Have a plan; aim for eligible groups; document decisions if not giving to eligible groups
- Security and ability to store vaccine on site, or need to transport it back to the office

# Documents and forms

- **Vaccine Information Sheets** – information to assist with informed consent
- **Consent Form** – paper or electronic; documents consent and administration of vaccine
- **After Care Sheet** – instructions for after vaccination; can contain client record
- **Client Immunization Record** – Client’s record of immunization
- **Daily Clinic Summary** – Keeps track of the activities of the clinic
- **Medical Directive for Immunization** – For delegating the obtaining of consent and administering vaccine or **information sheets**
- **Medical Directive for Anaphylaxis** – For managing anaphylaxis, including administration of epinephrine or **quick reference documents**
- **Serious Event Form** – For internal documentation of serious adverse events, like anaphylaxis; also complete jurisdictional AEFI form
- **Incident Report** – For documenting more minor events
- **Client Evaluation Form** – For obtaining client’s feedback
- **Time Sheets** – For staff (and volunteer) documentation of hours
- **Supply / Re-supply List** – To assist with packing and re-supplying clinic

# Data management

# Data management – important to report on

- **Numbers vaccinated at each clinic**
  - Demographic information
  - Eligibility/risk conditions for vaccination
- **Adverse events**
- **Vaccine wastage**
- **Information required for provincial / territorial / federal reporting**
- **Overall summary of clinics**
  - Number of clinics
  - Numbers vaccinated
  - Locations
  - Staff numbers

# Medical emergencies



# Medical emergencies

## Fainting

- Fainting common (and can be accompanied by brief seizure-like activity)
  - Try to recognize and prevent based on past history and signs of anxiety, pallor
  - Vaccinate those prone to fainting lying down
- Training on management of fainting
- Have prepackaged food and drink available on site for those who faint or feel faint

## Anaphylaxis

- Have at least two emergency kits per clinic - keep in consistent locations
- See [Canadian Immunization Guide](#) for content
- Monitor supplies and ensure medications are not expired
- Have medical directive or quick reference material on management of anaphylaxis
- Training on management of anaphylaxis
- Client should go to hospital
- Document incidents on internal form and official AEFI form
- Follow-up with the client afterwards

# Communications

## Communications - Internal

- Many moving parts in organizing immunization clinics
- Keep staff and volunteers up-to-date
- Training sessions, webinars, emails, text messages, “just in time” meetings, newsletters, phone calls, web posting on confidential part of a website, social media
- Ensure staff and volunteers know who to call for schedule changes and questions

# Communications – public (1)

- Need for clear, consistent, straightforward information for the public about the vaccines and the vaccination process
- Practical considerations:
  - Who is eligible
  - Where to go to be vaccinated
  - What to wear (short sleeves shirt or sleeves can be rolled up)
  - What to bring (mask, health card, other identification as needed, record from first immunization)
  - Be sure eat regularly that day
  - Do not attend if unwell
- Need to continue to follow COVID-19 precautions despite vaccination as advised by local public health officials
- Need for second dose
- Many available communication mechanisms: main stream media (television, radio), websites, social media
- Ensure communications are culturally sensitive and in appropriate languages
- Consider mechanisms that specifically target groups eligible to be immunized

# Communications regarding vaccines for the public

- Expected availability and how to access vaccine
- The benefits of receiving the vaccine, both to the individual and the community (if known), including known efficacy and effectiveness data
- Information on vaccine safety, including:
  - How vaccine safety is being monitored
  - What to expect and watch for after immunization
  - How to respond if an adverse event occurs, including the reporting of serious or unexpected adverse events
- Who is eligible to receive the vaccine and why
- Differences between vaccine formulations (if more than one formulation is available), including:
  - Mechanism of action
  - Efficacy
  - Intended recipients
  - Contraindications
  - Side effects
  - Need for one or two doses and the interval between doses if two doses are required.

## Communications – other groups

- Media
  - Designated spokesperson at the clinic
  - Staff and volunteers aware of what to do if approached by the media
- Health care providers
  - Even if not administering vaccine, need to know and understand the available products to support their patients
  - Most influential group in patient decision making about vaccine
- Local emergency services personnel and hospitals
  - Notify them of the date, time and location of the clinics so they can respond rapidly in case of an emergency

# Evaluation

# Evaluation

- Important to evaluate the immunization program and clinics throughout and at the end of the campaign
- Sources of information for the evaluation
  - Client feedback forms from the clinics or by email or other electronic means after each clinic
  - Unprompted client feedback
  - Staff feedback after each clinic
  - Staff surveys
  - Staff debrief / evaluation sessions
  - Media coverage
  - Incident reports and adverse event review



# Conclusions

- Immunization clinics are large scale operations that require careful planning, execution, monitoring and re-adjusting
- Require:
  - Speedy and precise interactions between each step in the clinic process
  - Very strong team work, collaboration and communication among staff and volunteers
  - Excellent, helpful, kind and compassionate client service
  - Extra attention to infection prevention and control in the context of COVID-19
- Bound to be a bit stressful but extremely rewarding
- Keep your eye on the other side.... successful implementation can have a tremendous impact on the pandemic.

## Additional resources

### Planning Guidance for Administration of COVID-19 Vaccine

<https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/guidance-documents/planning-guidance-administration-covid-19-vaccine.html>

### Planning Guidance for Immunization Clinics for COVID-19 Vaccines

<https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/guidance-documents/planning-immunization-clinics-covid-19-vaccines.html>

### Guidance for influenza vaccine delivery in the presence of COVID-19

<https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci/guidance-influenza-vaccine-delivery-covid-19.html>

### Canadian Immunization Guide – Part 1- Key Immunization Information

<https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-1-key-immunization-information.html>

### National Advisory Committee on Immunization Statements

<https://www.canada.ca/en/public-health/services/immunization/national-advisory-committee-on-immunization-naci.html>

### Public Health Agency of Canada

<https://www.canada.ca/en/public-health.html>

## **Additional resources**

- **SAMPLE mRNA COVID-19 Vaccines Information Sheet; Pfizer-BioNTech or Moderna COVID-19 Vaccines**
- **SAMPLE mRNA COVID-19 Vaccines Consent Form; Pfizer-BioNTech or Moderna COVID-19 Vaccines**
- **SAMPLE mRNA COVID-19 Vaccines After Care Sheet; Pfizer-BioNTech or Moderna COVID-19 Vaccine**
- **Summary of key features of both mRNA COVID-19 vaccines**
- **Administration, storage and handling of mRNA COVID-19 Vaccines**