9A. Antiviral and Vaccine Tools

Contents

Vaccination Training Manual

I. Introduction

This document is a resource to help local public health units in Ontario train people to administer vaccines in the event of an influenza pandemic or other health emergency requiring the activation of the Ontario Mass Emergency Vaccination/Prophylaxis Plan. It is not meant to apply to routine seasonal influenza vaccination campaigns.

During an influenza pandemic, Ontario's goal is to obtain enough vaccine for the entire population but vaccine will be in short supply during the early stages of a pandemic. Once sufficient doses of pandemic influenza vaccine are available, Ontario will use primarily a "pull" strategy to ensure best use of available resources: influenza vaccine will be sent only to public health units, which will organize mass vaccination clinics, and people will attend the clinics to be immunized.

Objectives of the Pandemic Vaccine Program

1. To provide a secure supply of safe, effective vaccine for all Ontarians as quickly as possible.
2. To store, distribute, allocate and administer vaccine supplies efficiently and appropriately.
3. To monitor the safety and effectiveness of vaccine programs.

Influenza

Influenza, commonly called "the flu," is a serious contagious illness caused by a virus which infects the respiratory system (nose, throat, lungs).

People of any age can get influenza. Symptoms usually start with a headache, chills and cough which are followed rapidly by high fever, extreme tiredness, sore throat, runny or stuffy nose, and muscle aches. Children can also get earaches, nausea, vomiting, and diarrhea.

Illness due to influenza usually lasts from three to five days, but can last longer. The cough and fatigue can persist for several weeks, making the return to full personal and work activities difficult.

While most healthy people recover from influenza without complications, some people – such as people 65 years of age and older, very young children, and people with chronic medical conditions – are at high risk for serious complications from influenza.

How Influenza Spreads

A highly contagious disease, influenza is directly transmitted from person to person when people infected with the influenza virus cough or sneeze, and droplets of their respiratory secretions come into contact with the mucous membranes of the mouth, nose and possibly eyes of another person.

Influenza can also be transmitted indirectly when people touch contaminated hands, surfaces and objects. This is because the virus in droplets can survive for 24 to 48 hours on hard non-porous surfaces, for eight to12 hours on cloth, paper and tissue, and for five minutes on hands.

The incubation period for influenza is from one to three days. People with influenza are infectious and able to transmit the virus for up to 24 hours before the onset of symptoms, and for up to five days after, longer for children.

People with influenza tend to shed more virus in their respiratory secretions in the early stages of the illness. Viral shedding

tends to last longer in infants, young children and people with weak or compromised immune systems.

Pandemic Influenza

Pandemic influenza is a type of influenza that occurs every few decades and spreads rapidly around the world affecting many millions of people. Pandemics happen when a new influenza virus develops that few people have immunity against. Unlike seasonal influenza that occurs every winter, pandemic influenza can occur at any time of the year.

Pandemic influenza is likely to cause the same symptoms as seasonal influenza but the symptoms may be more severe and varied (e.g. neurological symptoms), causing more serious illness and more deaths. More than a quarter of the population could be affected. A pandemic is likely to cause many deaths, disrupt the daily life of people, and cause intense pressure on the healthcare system and all other essential services.

II. Influenza Vaccine

Vaccines are the primary means to prevent disease and death from influenza during an epidemic or pandemic. One of the assumptions guiding planning for an influenza pandemic is that a vaccine will not be available for at least four to five months after the pandemic virus strain is identified and will likely not be available during the first pandemic wave.

Vaccinations, hand hygiene and respiratory etiquette (covering mouth when coughing or sneezing, proper tissue disposal) are the best ways to reduce the risk of getting and spreading influenza.

Pandemic Vaccine Product

A pandemic influenza vaccine can only be developed once the strain of the circulating pandemic virus has been identified. The vaccine manufacturer will begin production once the seed strain has been provided. The federal government is responsible for vaccine supply, including developing the domestic infrastructure, maintaining a standby supply of fertilized hens' eggs ready to convert into vaccines, phasing in new technologies, and ensuring security of supply (i.e., via a pandemic contract). In case of a pandemic, the domestic supplier (IDBiomedical) guarantees to manufacture 8 million (+/- 10%) monovalent doses per month, for a period of 4 months starting within 4 to 5 months after the receipt of the pandemic seed strain for Canada.

When the vaccine has been developed, a product monograph will be available, that will provide additional information.

III. Vaccine Storage and Handling Guidelines

The MOHLTC's Vaccine Storage and Handling Guidelines can be accessed at: https://www.publichealthontario.ca/portal/server.pt/gateway/PTARGS_0_2_268_213_0_43/http;/cmsv1.srv.ehealthontario.ca/NR/rdonlyres/B0917DD8-4E17-4B6A-BAB7-3C8CA8A5DEE4/335/Vaccine_StorageGuide_E_19Jan06.pdf

The Importance of Cold Chain

Vaccines are sensitive biological substances that can lose their potency and effectiveness if they are exposed to heat and/or direct sunlight or fluorescent light. Certain vaccines lose potency when exposed to room temperature for as little as 30 minutes. Freezing damages most vaccines. The loss of vaccine potency cannot be reversed. Vaccines may be wasted if they have been exposed to temperatures below $^{+}2^{o}C$ or above $^{+}8^{o}C$, and are spoiled, or if they have expired before they can be used.

Storage Guidelines for Immunization Clinics

(Adapted, with permission, from the Region of Waterloo Public Health Influenza Immunization Program Training Module)

- Remove vaccines from insulated bag only for withdrawal of the required dose(s).
- Store all vaccines between $^{+}2^{0}$C and $^{+}8^{0}$C.
- Use insulated containers and ice packs when transporting vaccines.
- To avoid freezing, do not place vaccine directly on an ice pack (tuck into pocket of towel wrapped around the ice pack).
- Check expiry dates on the vaccine vial Vaccines expire at the end of the month listed (i.e. expiry *Oct/2005* means *October 31, 2005*).
- The clinic coordinator will be responsible for transporting vaccine to and from the clinics, along with the required number of ice packs.
- Clinic coordinators may store vaccine at their home for short periods of time (overnight or through a weekend) if they have a minimum/maximum thermometer in their refrigerator and the refrigerator is able to maintain the required storage temperature.

IV. Health Care Consent Act

(Reprinted, with permission, from the Region of Waterloo Public Health Influenza Immunization Program Training Module)

The ***Health Care Consent Act*** (HCCA), 1996 sets out certain requirements for consent for treatment and how consent must be obtained. Immunization is considered a treatment and therefore requires consent. The consent must:

- relate to the treatment being proposed
- be informed
- be voluntary, and not have been obtained through misrepresentation or fraud.

Giving Consent

A person is capable of giving consent to immunization, if he or she:

- understands the information that is important to making a decision concerning immunization and
- appreciates the consequences of a decision or lack of a decision.

There is no minimum age for giving consent. This means a grade 7 student can give consent regardless of a parent's wishes. Registered nurses and registered practical nurses must use professional judgment to decide whether the student understands and appreciates the information needed to give informed consent.

Informed Consent

Consent is informed, if before giving it:

- the person received information about the issue/treatment requiring consent (i.e., the same information that any person in the same circumstances would require in order to make a decision) and
- the person received answers to his or her requests for additional information about the issue/treatment (e.g., nature of the treatment, expected benefits, materials risks and side effects, alternative courses of action, likely consequences of not having the treatment).

Registered nurses and registered practical nurses must use professional judgment to decide whether the person understands and appreciates the information needed to make the decision.

The Role of the Parent/Guardian

Parents or legal guardians of children who are too young to understand the risks and benefits of immunization may consent on behalf of their child. Foster parents are able to consent on the behalf of foster children in their care. Grandparents, aunts, uncles, older siblings, child care providers, nannies or baby sitters who are not the legal guardian of a child **cannot consent** on behalf of the parent. They may present a consent form that a parent has signed if the parent is unable to attend a clinic with their child.

The nurse must consider whether the client/guardian is capable of giving consent. If the person is not felt to be capable, the nurse will defer the immunization until a substitute decision maker is available. A substitute decision maker is someone authorized by the Ontario *Health Care Consent Act* to make decisions related to health care on behalf of an individual who has been deemed incapable of making his/her own decisions.

Revoking Consent

A person/guardian/substitute decision-maker can revoke consent any time prior to the vaccine being administered. If a person revokes consent, the nurse will defer the immunization, explore the person's rationale for not consenting and review the importance of the flu shot as well as its risks and benefits. If consent is still not obtained, the person can be referred to another flu clinic or to their primary care provider.

V. Administration of Pandemic Influenza Vaccine

Medical Directives

Adapted from the College of Nurses of Ontario Practice Guideline: Medical Directives, Rev. 2000.

Medical directives are required for nurses to administer vaccines. Medical directives are always written and, for the purposes of mass vaccination during an influenza pandemic, will be signed by a physician (the local medical officer of health).

Information in a Medical Directive

Medical directives need to include the following information:

- the name and description of the procedure(s)/ treatment(s)/intervention(s) being ordered;
- specific client clinical conditions and situational circumstances that must be met before the procedure(s) can be implemented;
- clear identification of the contraindications for implementing the directive;
- the name and signature of the physician approving, and taking responsibility for, the medical directive; and
- the date and signature of the administrative authority approving the medical directive.

Guidelines for Administering Vaccines by Intramuscular Route

(Adapted, with permission, from the Region of Waterloo Public Health Influenza Immunization Program Training Module)

Influenza vaccines may be given by intramuscular route. Certain common body sites are used for intramuscular injections. The site selected will depend on the person's age, skin and muscle condition, the volume of vaccine being administered and any manufacturer's specification.

Table 1: Vaccine Injection Sites

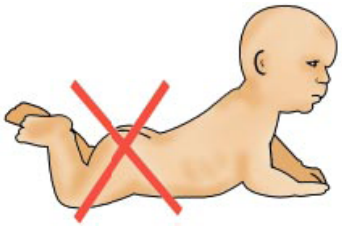
Age Group	Preferred Site
infants and toddlers	vastus lateralis muscle in the anterolateral area of the middle to upper thigh
children and adults	deltoid muscle

Particular landmarks will identify the exact point of needle insertion for an IM injection. Theses landmarks are illustrated below. (Source of illustrations is Kozier & Erb.)

Vastus lateralis site

Locate the middle third of the vastus lateralis (thigh) as shown:

- IM site for infants and toddlers (birth to 36 months of age)
- Insert needle at 80º - 90º angle into vasus lateralis muscle in anterolateral aspect of middle or upper thigh.
- **Do NOT administer any injections in the gluteus maximus area in infants and young children.**



Deltoid

Locate the triangle that lies between the lower edge of the acromion process and the midpoint on the lateral aspect of the arm that is in line with the axilla as shown below:

- IM site for older toddlers, children, and adults
- Insert needle at 90º angle into densest portion of deltoid muscle - above armpit and below acromion.

Procedure for Preparing Vaccines

This is the standard procedure to be used in community clinic settings where the dosage may vary depending on the age of the client but only one vaccine is being administered.

Materials and Supplies Needed:

- **vaccine in cooler bags**
- **3 cc syringes**
- **loader needles (18 or 20 gauge)**
- **7/8" needles**
- **alcohol swabs**
- **biohazard containers**
- **ice packs**
- **towelling for inside cooler bags or to wrap ice packs**
- **pens**
- **alcohol hand gel.**

1. Nursing staff may administer vaccine that has been prepared by another nursing staff member at a central loading table. Only RN or RPN staff members can prepare and withdraw the vaccine into syringes at the loading table.
2. All syringes prepared at the vaccine loading table will have a 0.5 ml dose loaded (for persons aged 3 years and up).
3. Vaccine vials will be kept in the vaccine cooler bag until needed.
4. Staff should perform hand hygiene prior to filling the syringes. Use an alcohol-based hand sanitizer, or if hands are visibly dirty, wash hands for at least 15 seconds using soap and running water.
5. To load from a multiple dose vial:
   - Attach an 18 or 20 gauge needle to the first syringe (do not tighten too securely).
   - Check the vial to see if any particles present (faulty stoppers will sometimes "core" as the loader needle is passed through them).
   - Withdraw one 0.5 ml dose into the syringe, remove any air bubbles by tapping and then detach the syringe from the loader needle by grasping the plastic hub of the loader needle and gently unscrewing the syringe (leaving the loader needle in the vial).
   - Attach a 7/8" 25 gauge needle to the syringe and immediately place the loaded syringe into the pocket of the cloth-covered ice pack.
   - Attach a new syringe to the loader needle and again withdraw the next dose. You do not need to inject more air as the pressure in the vial will equalize each time the syringe is detached from the loader needle.
   - If the full number of doses is not withdrawn, attach a syringe to the loader needle and leave it in place (to prevent any contamination from entering) or remove the loader needle from the vial and discard the needle.
6. When a vial has been emptied, remove the loader needle from the vial and discard it in the biohazard container. Place the empty vaccine vials into the orange garbage bag. Vials that are broken/shattered should be disposed of in the biohazard container.

7. For children under the age of 36 months requiring a dose of 0.25 ml, a vial of vaccine will be kept at each immunization station for loading by the immunizing nurse immediately prior to immunizing the child.

Procedure for Injecting Vaccines by the Intramuscular Route

1. Complete the verification and screening of the consent with the individual or parent.
2. Select the proper needle size to reach the muscle (syringes will be fitted with a 7/8" needle at the loading station – these needles may be changed to a shorter or longer needle as required).
3. For individuals requiring a 0.5 ml dose, check that the loaded syringe contains the proper dose and make any adjustment of needle size.
4. For children requiring a 0.25mL dose, draw up the appropriate dose into the syringe from the vaccine vial located at the immunization station (refer to step 5 in Preparing Vaccines).
5. Cleanse the injection site with an alcohol swab, beginning at the centre and moving outward in a circular motion.
6. Gently agitate the syringe to mix any settled vaccine, remove the needle cover and use the non-dominant hand to spread the skin at the injection site.
7. Holding the syringe between thumb and forefinger, pierce the skin at a 90^0 angle to the skin surface. The needle should be inserted quickly and in one motion.
8. Pull back on the plunger to determine whether the needle is in a blood vessel. If blood appears in the syringe, discard the syringe and prepare a new injection.
9. If no blood appears on aspiration, slowly and steadily inject the medication.
10. Withdraw the needle.
11. Without recapping the needle, dispose of the syringe and needle in the biohazard (sharps) container.
12. If the injection site is bleeding, place a bandage on the site.
13. Document all pertinent information (lot #, date, time, site, comments and signature) on the individual's consent (which constitutes the record). Record any reactions following the injections on the back of the consent form for that individual.
14. Cleanse hands often.

Materials and Supplies Needed at Immunization Tables

- **table and chairs**
- **garbage container**
- **biohazard container**
- **alcohol swabs**
- **date stamp and pad**
- **pen**
- **immunization record (lavender and white)**
- **bandages**
- **cotton balls if necessary**
- **wrapped ice pack for vaccine syringes**
- **extra vial of vaccine in ice pack**
- **empty 3 cc syringes (kept separate from loaded syringes)**
- **additional 1" or 5/8" needles**
- **alcohol hand sanitizer.**

Infection Control Practices for Immunization Clinics

Hand Hygiene

- Hands should be washed before and after the clinic with soap and water
- Wash hands before preparing vaccine syringes
- Cleanse hands with hand cleanser between clients or as necessary
- Wash hands with soap and water if contact with blood or if visibly dirty.

Gloves

- Staff who have open lesions or areas on their hands should glove
- Gloving is not required for immunization staff with intact skin
- Glove if providing first aid to someone who has suffered a cut due to a fall or faint
- Gloves must be changed regularly and when contaminated with blood or other body fluids
- Cleanse hands with an alcohol-based hand sanitizer after removing gloves
- Dispose of gloves in garbage container – not the biohazard container.

Sharps

- Never recap needles after immunizing
- After giving immunization, discard dirty needle directly into the sharps container (for immediate disposal i.e.: don't put it down onto the table first)
- Dispose of all sharps **carefully** in the biohazard container provided
- **Biohazard containers must remain on the table – never on the floor**
- Securely cover all biohazard containers with lids supplied prior to moving them
- Watch young children around the immunization table to ensure they don't reach for the biohazard container.

Immunization "After Care" Guidelines

1. Give the vaccine recipient or parent/guardian the appropriate "Immunization Record" slip and advise them that common post-immunization symptoms include:
   - A slightly sore arm for up to two days (reported by 1/3 of vaccines) and
   - Less frequently – a systemic response of fever, malaise and aching muscles starting 6 to 12 hours after immunization and persisting up to 2 days (especially in those persons receiving influenza vaccine for the very first time)
   - Acetaminophen in doses outlined by the manufacturer for over the counter use may decrease the frequency of some side effects in adults.
2. Direct the vaccine recipient(s) to the waiting area and ask them to remain for 15 minutes prior to departing from the clinic site. Advise them to report any immediate reactions or concerns to staff.
3. Advise clients that the Immunization Record (yellow) is the certificate of Immunization that may be required by places of employment, schools or sites where they provide volunteer services.

Guidelines for Documentation Related to Vaccine Administration

The client record: For the purposes of vaccine administration, the client's consent form constitutes the client record. Additional documentation of reactions or incidents can be completed on the back of the consent form. If additional pages are necessary, identify theses with the client's personal information as indicated below. Attach all extra pages by stapling.

Client information: The following personal client information is collected in accordance with Freedom of Information requirements:

- name, first name and surname and date of birth
- address and telephone number.

Nursing documentation guidelines:

- Record any relevant information that was obtained during the screening process
- Immediately following the administration of vaccine, document the following information on the client record:
  - date vaccine was given
  - name of vaccine
  - dosage
  - route of administration
  - site of injection
  - vaccine lot number
  - signature and status of nurse who administered the vaccine.
- Document any significant client response to the vaccine (i.e. adverse events, feeling faint, immediate skin reactions on the back of the consent form along with actions taken or persons notified)
- **If the vaccine is withheld or a second injection is required due to aspiration of blood in the syringe or client moved before injection was complete, document the reason**
- Sign the documentation, indicating professional status, i.e., R.N. or R.P.N
- In the event of a medication incident, follow the procedure and staple the report to the client's record.

6. Adverse Events Following Immunization

The MOHLTC collects information on Adverse Events Following Immunization (AEFI). These case reports are then reported to the Public Health Agency of Canada (PHAC) and stored in the Canadian Adverse Events Following Immunization (CAEFI) database. Through this database, the safety of vaccines in Canada can be monitored.

Under section 38 of the *Health Protection and Promotion Act*, a physician, a member of the College of Nurses of Ontario or a member of the Ontario College of Pharmacists who, while providing professional services to a person, recognizes the existence of a reportable event and forms the opinion that it may be related to the administration of an immunizing agent must report the "reportable event" to the local medical officer of health, **within seven (7) days** after the reportable event is recognized.

A "reportable event" includes the following:

- a persistent crying or screaming, anaphylaxis or anaphylactic shock occurring **within 48 hours** after the administration of an immunizing agent

- shock-like collapse, high fever or convulsions occurring **within three (3) days** after the administration of an immunizing agent
- arthritis occurring **within 42 hours** after the administration of an immunizing agent
- generalized urticaria, residual seizure disorder, encephalopathy, encephalitis or any other significant occurrence [significant occurrences which are unexpected or unusual in severity including reactions such as Oculo-Respiratory Syndrome (ORS), Guillain-Barré Syndrome (GBS)] occurring **within 15 days** after the administration of an immunizing agents
- **death** - occurring at any time and following upon a symptom described in clause (a), (b), (c), or (d). Common Adverse Reactions.
- **fainting –** cccurs when an individual temporarily loses consciousness which is caused by diminished blood supply to the brain due to an emotional reaction or a painful stimulus.
- **anxiety attack** - People experiencing anxiety may appear fearful, pale and sweaty and complain of light-headedness, dizziness and numbness, as well as tingling of the face and extremities. Breathing too quickly (hyperventilation) is usually evident. Treatment consists of reassurance and breathing into a paper bag until symptoms subside.
- **breath-holding spell** - Breath-holding spells occur in some young children when they are upset and crying hard. The child is suddenly silent but obviously agitated. Facial flushing and blueness around the mouth deepens as breath-holding continues. Some spells end with resumption of crying, but others end with a brief period of unconsciousness during which breathing resumes. No treatment is required beyond reassurance of the child and parents.
- **severe allergic reactions** (anaphylaxis) - Anaphylaxis is a potentially life-threatening allergic reaction. Pre-vaccination screening should include questions about a possible allergy to any component of the product(s) being administered. Anaphylaxis is a rare complication of immunization but should be monitored for after every vaccination. Most instances of anaphylaxis begin within 30 minutes after an injection of vaccine. Shorter intervals to onset of a reaction foretell more severe reactions. Vaccine recipients should be kept under supervision for at least 15 minutes after immunization. In low risk situations, supervision can include having vaccinated people remain within a short distance of the vaccinator (e.g., within a school being used for immunization) and return immediately for assessment if they feel unwell.

Management of Anaphylaxis

(Adapted, with permission, from Immunization Manual Procedure, Management of Anaphylaxis, Perth District Health Unit)

"Anaphylaxis is a potentially life-threatening allergic reaction to foreign protein antigens such as food and bee stings. It is a rare complication of immunization but even so, it should be anticipated in every vaccine". Anaphylaxis is rare and based on national reports, the annual rate ranges from 0.11-0.31 reports per 100,000 doses of vaccine distributed (Canadian Immunization Guide. Health Canada; 2002. p. 15)

1. Call for assistance, including an ambulance.
2. Place the patient in a recumbent position (elevating the feet if possible). Remember that patients experiencing shortness of breath may be unwilling or unable to lie down.
3. Assess airway, breathing and circulation. Establish an oral airway if necessary. Begin CPR if patient is Vital Signs Absent (VSA).
4. If the patient is experiencing only urticaria, rash and/or itching (no respiratory or oral symptoms) give Benadryl. Oral treatment is preferred for conscious patients who are not seriously ill because Benadryl is painful when given intramuscularly. This drug has a high safety margin, making precise dosing less important. The approximate doses of Benadryl are shown in Table 1. [Onset of action is 20 minutes both PO and IM administration]

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Table 2: Symptoms of Anaphylaxis and Shock

Symptoms of Anaphylaxis	Symptoms of Shock
Itchy, hive-like rash in over 90% of cases.	Low blood pressure (hypotension).
Progressive, painless swelling about the face and mouth which may be preceded by itchiness, tearing, nasal congestion or facial flushing.	Rapid breathing (hyperventilation).
Respiratory symptoms including sneezing, coughing, wheezing, laboured breathing and upper airway swelling (indicated by hoarseness and/or difficulty swallowing) possibly causing obstruction.	Weak rapid pulse.
Low blood pressure which generally develops later in the illness and can progress to cause shock and collapse.	Cold clammy grayish-bluish skin.
In anaphylaxis, changes develop over several minutes and usually involve at lease two body systems affecting the skin, respiration, circulation. Unconsciousness is rarely the sole manifestation of anaphylaxis. It occurs only as a late event in severe cases.	Mental changes (a sense of great anxiety and foreboding, confusion and, sometimes, combativeness).

Appropriate Dose of Benadryl

Age	Dose	Dose of elixir (6.25 mg/5 ml)	Dose of caplets 25 mg	Dose of injection 50 mg/ml
< 2 years	12.5 mg	10 ml	N/A	0.25 ml deep IM
2-4 years	25 mg	20 ml	N/A	.5 ml deep IM
5-11 years	50 mg	40 ml	2 tablets	1.0 ml deep IM
≥ 12 years	50 to 100 mg	40 to 80 ml	2 to 4 tablets	1.0 to 2.0 ml deep IM

Age	Dose/Route
2 to 6 months*	0.07ml SC/IM (0.07mg)
12 months*	0.10ml SC/IM (0.10mg)
18 months* to 4 years	0.15ml SC/IM (0.15mg)
5 years	0.20ml SC/IM (0.20mg)
6 to 9 years	0.30ml SC/IM (0.30mg)
10 to 13 years^	0.40ml SC/IM (0.40mg)
≥ 14 years^	0.50ml SC/IM (0.50mg)

*Dose for children between the ages shown should be approximated, the volume being intermediate between the values shown or increased to the next larger dose, depending on practicability.

^For a mild reaction a dose of 0.3ml can be considered.

5. If the patient is experiencing symptoms of anaphylaxis (facial, respiratory or cardiovascular involvement - shortness of breath, wheezing, hypotension, and any swelling of face or mouth/tongue) **promptly administer adrenalin 0.01 ml/kg (maximum of 0.5 ml) of aqueous epinephrine 1:1,000 by subcutaneous or intramuscular injection in the opposite limb to that in which the vaccination was given**. Speedy intervention is of paramount importance: failure to use adrenalin promptly is more dangerous than using it improperly.
6. Repeat the adrenalin dose once in 5-10 minutes if necessary, again avoiding the limb in which the vaccination was given. A different limb is preferred for each dose to maximize drug absorption. For severe cardiovascular collapse or VSA a second dose can be repeated anytime.
7. If patient has asthma, he or she should be allowed to self administer bronchodilator as necessary.
8. Give a dose of diphenhydramine hydrocholoride (**Benadryl**) as an adjunct to adrenalin to maintain symptom control in those who have

responded (adrenalin being a short-acting agent).

9. Keep client lying down if possible. Reassure. Adrenalin causes jitters and racing hearts.
10. Monitor pulse, blood pressure and respirations every 5-10 minutes.
11. Arrange for rapid transport to an emergency department. Provide record of vaccine, lot number, time and dosage of adrenalin and Benadryl.
12. Report the adverse vaccine event to the immunization clinic Manager. The Manager should inform the appropriate individuals at the health unit (i.e. Medical Officer of Health) as soon as possible.
13. Complete a Client Incident - Employee Report form and submit to the clinic Manager.
14. Complete an Adverse Vaccine Event report and submit to the Medical Officer of Health. Report the adverse vaccine event on iPHIS as appropriate.

Roles and Responsibilities in Management of Anaphylaxis

In the event of a reaction to a vaccine, the treatment will be administered by a public health nurse. The immunization clinic will always have two public health nurses available on site to respond immediately.

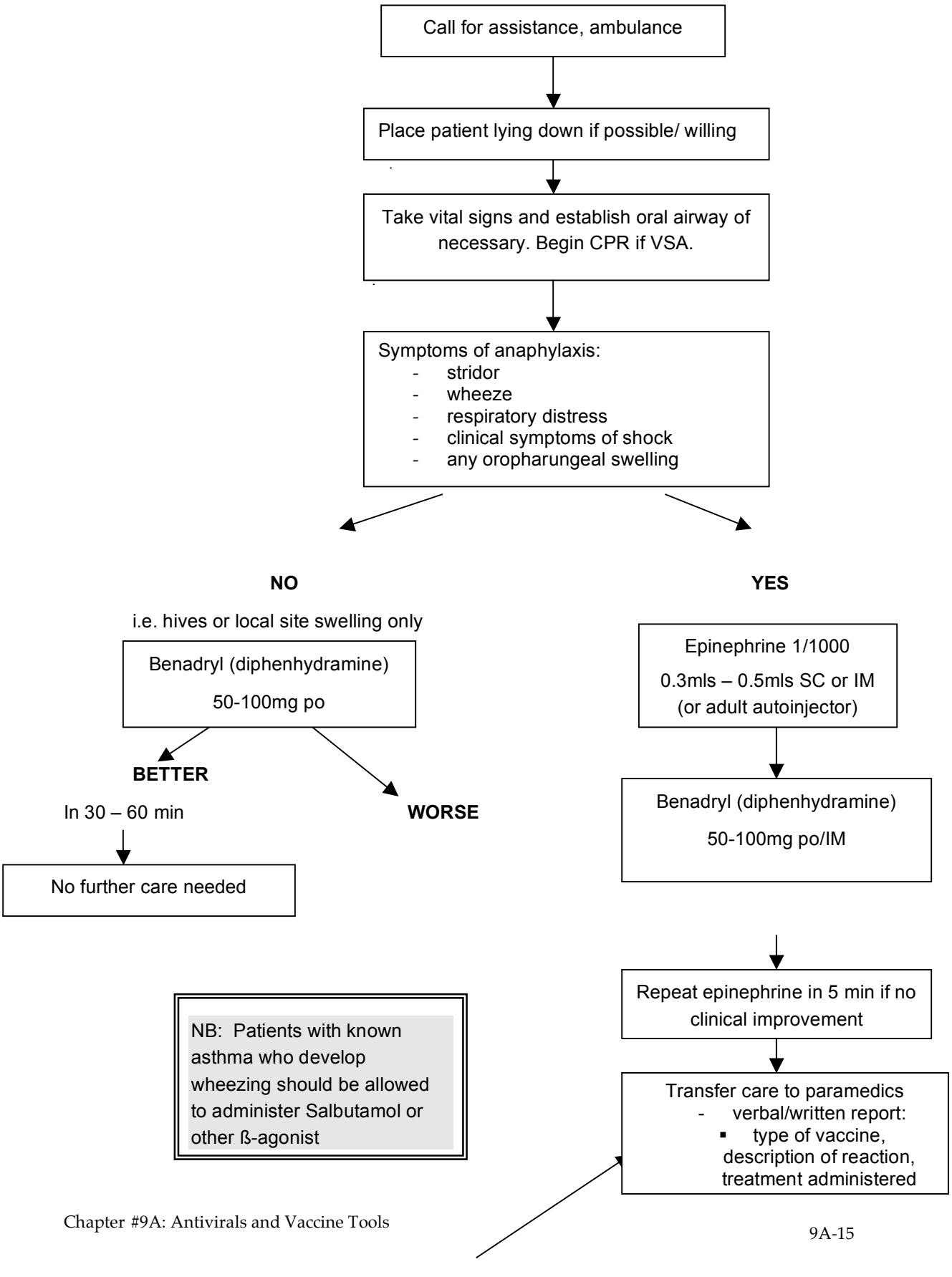
Responsibilities of First Immunization Nurse (Giver):

- stay with patient - determine if there is a need to call an ambulance
- direct second immunization nurse to call ambulance with exact location of patient and reason for call
- follow the protocol for fainting and anaphylaxis as appropriate.

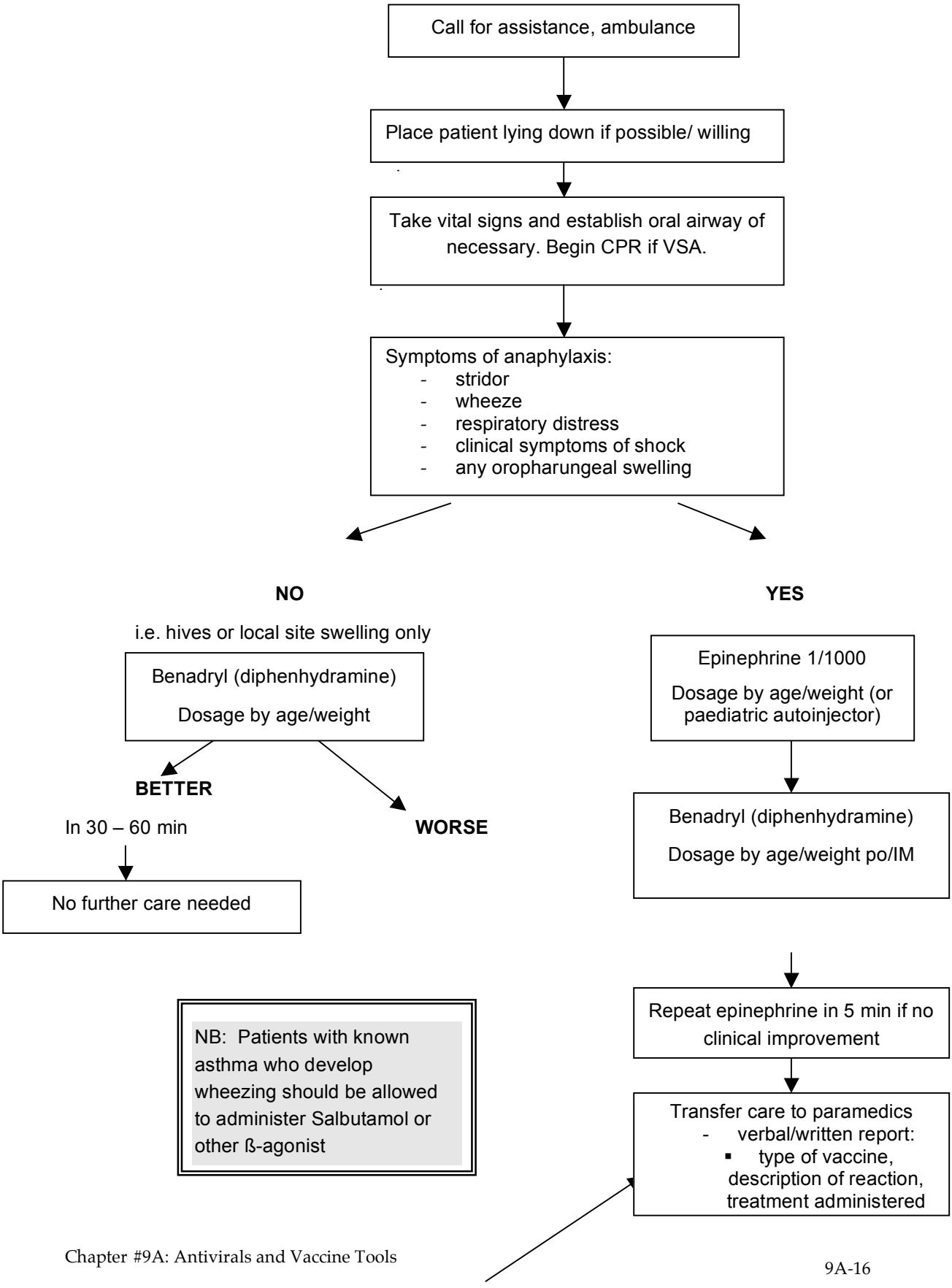
Responsibilities of Second Immunization Nurse (Loader):

- call ambulance
- assist with anaphylaxis procedure as directed by first immunization nurse, i.e. get adrenalin, 1 ml syringe and needle from anaphylaxis kit
- in the event of cardio-respiratory collapse, get a mask
- complete appropriate documentation (i.e., on Adverse Vaccine Reaction Form). Record all emergency interventions and the times that they were completed by the first immunization nurse (e.g., dose, route, site, time of adrenalin administration)
- enlist help of another team member, or volunteer to reassure other clinic attendees and for crowd control
- ensure record of vaccine, lot number, time and dosage of adrenalin and Benadryl are given to ambulance attendants.

Anaphylaxis Treatment Algorithm – In a Clinic Setting - Adults



Anaphylaxis Treatment Algorithm – In a Clinic Setting - Paediatrics



7. Needle-Stick Injuries

Procedure to Follow in the Event of a Needle-stick Injury

(Adapted, with permission, from the Region of Waterloo Public Health Influenza Immunization Program Training Module.)

Any needle-stick injury from a needle that has been used in providing an immunization to a known client or a used needle from an unknown source should be reported to and followed up by the employer of the staff member involved. An injury due to contact with a loader needle does not constitute a risk for blood-borne pathogens, but should be reported.

If you receive a needle-stick injury after completing an immunization for a client or have an injury due to an exposure to a needle from an unknown source (biohazard container spills or a sharp has punctured the container, follow these immediate steps:

Step 1. Administer first aid:

- allow puncture site to bleed freely
- wash area well (two to four minutes) with soap and water
- cleanse area with alcohol wipe
- apply dressing (if necessary) to puncture site.

Step 2. Report the injury to the clinic coordinator and to your manager and arrange to complete an incident form.

Step 3. Advise the clinic coordinator if you know the source and they will do a quick screening to determine if the client has any risk factors for flood-borne diseases.

Step 4. Seek medical attention.

- You may need to have your hepatitis B antibody levels determined right away if you have not had a titre done following a Hep B immunization series to establish immunity.
- If you are not immunized or have not responded to a previous Hepatitis B Immunization series, you may also need Hepatitis B Immunoglobulin (HBIG) and/or hepatitis B vaccine.
- You may also require baseline and follow-up testing for Hepatitis C and HIV If your doctor is not readily accessible, go to the nearest emergency department.

Prevention

- NEVER recap used needles
- Dispose of needles carefully in biohazard containers
- Place biohazard containers on the immunization table – NEVER on the floor
- Do not overfill biohazard containers (fill only to the line indicated and then obtain a new container)
- Do not dispose of used gloves or other articles in the biohazard container
- Always place the lid securely on the biohazard container prior to removing it from the table
- Use the handle to grasp the biohazard container when moving it – don't hug it!
- **Ask for assistance from another nurse or volunteer if a vaccine recipient is very anxious.**

Ontario Emergency Mass Vaccination/Prophylaxis Plan

I. Background

In the event of a health emergency such as a widespread outbreak of an infectious disease, a bioterror incident, or broad exposure to a harmful substance, it may be necessary to rapidly provide vaccines or other prophylactic medications to large numbers of people. While Ontario has a robust infrastructure supporting regular vaccination programs such as the annual Universal Influenza Immunization Program, this system as it stands cannot be expected to handle the unique challenges of an emergency mass vaccination/prophylaxis campaign.

The **volume** of such a campaign will far outstrip that of a typical vaccination campaign, expanding beyond the standard target populations, up to and potentially including the entire population. The **speed** with which emergency mass vaccination/prophylaxis must be implemented is also key, particularly for events in which there is a narrow post-exposure window during which prophylaxis is effective. Where a typical vaccination campaign may operate for weeks or months, an emergency may require activation and broad coverage within days or hours. Concrete, detailed planning around supplies, logistics, and communication must be put in place prior to an event so that response can be comprehensive and immediate.

Safety and **security** are vital considerations in large-scale emergency campaigns as well, particularly in a context where supplies may be limited and fear and anxiety may be widespread. Immunizing or dispensing to large populations over a short period of time poses specific safety challenges, particularly when administered outside of a standard healthcare setting. Injection and drug safety, safe waste disposal, and monitoring for/responding to adverse events must all be carefully addressed. All emergency mass vaccination/prophylaxis campaigns require security measures to address the safety of patients and supplies, site security, and crowd and traffic control. Some emergencies, such as a bioterrorism event, will pose additional security issues, including managing the public perception of threat, the potential or perceived potential for clinic sabotage, and accommodating/facilitating the investigation of the event.

This plan is based on a range of sources, including information regarding Ontario's current vaccination programs, a literature review examining best practices in mass vaccination and mass prophylaxis, and a review of existing frameworks and plans from the local level and other jurisdictions.

II. How to Use This Plan

Ontario's current mass vaccination planning focuses to a large extent on the threat of an influenza pandemic. It is assumed, as outlined in the Ontario Health Pandemic Influenza Plan (OHPIP), that a vaccine will not be available until three to nine months after the pandemic strain is identified. However, extensive planning for the vaccination process should be done before the appearance of the pandemic strain.

This plan also contains information on planning for an oral-medication based

prophylactic clinic. The potential role of prophylaxis in an influenza pandemic is under discussion at a national level. While a provincial stockpile of the antiviral oseltamivir is being put in place, Ontario is currently planning to use its supply primarily for treatment. Should the national strategy on prophylaxis, currently under development, recommend prophylactic use of this supply, the information in this document can be used to support the implementation of these recommendations.

Each section of this plan addresses the general approach and expectations for any emergency mass vaccination/prophylaxis campaign, then goes on to indicate any specific strategies and details concerning an influenza pandemic. This plan will be expanded in future iterations to address in more detail disease-specific emergency mass vaccination/prophylaxis situations.

III. Goals of the Emergency Mass Vaccination/Prophylaxis Plan

- To protect Ontarians by providing safe, effective emergency mass vaccination/prophylaxis to appropriate groups as quickly as possible.
- To store, distribute, allocate and administer vaccination/prophylaxis supplies securely, efficiently, and appropriately.
- To monitor the safety and effectiveness of the vaccination/prophylaxis campaign.

IV. Planning Assumptions

This plan assumes that:

- Stockpiles of the vaccines/medications will be available at the provincial level, whether obtained from a national stockpile or purchased provincially.
- Due to the emergency situation, many routine public health activities will be curtailed, freeing up staff to be redeployed in support of an emergency mass vaccination/prophylaxis campaign (see chapter 5 of the OHPIP 2006 for details regarding curtailing services in an influenza pandemic).
- Local public health authorities are the experts on what works in their community. This plan will outline the overall provincial approach, responsibilities and expectations, and will offer guidelines, options, and advice regarding best practices that may be useful at a local level. However, it will be up to local decision-makers to adapt the details of this approach to accommodate their specific needs and opportunities, while still ensuring their accountability for tracking supplies, uptake, and the required data. This planning will be included in their local emergency plans.
- In the event of an emergency, local public health units will participate in local Emergency Operations Centres, employing the Incident Management System.
- In some outbreak control situations, certain medications that would be used for prophylaxis are also used in treatment. In those instances, the distribution process developed for prophylactic medications may be used for centrally-held treatment supplies as well. Treatments for hospitalised patients will be handled through the hospitals. As outlined in section V.2, a limited "Pull"/targeted "Push" strategy can be used for treatment of people who are ill but not hospitalised. Some medications may be able to be provided to health care and other essential service workers through their workplace settings, or dispensed at targeted clinics/settings. This will apply to all medications in

limited supply being centrally provided for emergency use. Chapter 11 deals with community treatment and assessment centres in an influenza pandemic, which will be the source of antiviral treatment for outpatients in a pandemic.

V. Prophylaxis Strategy

1. Triggers and Authority

In some emergency scenarios, mass vaccination/prophylaxis is an appropriate first strategy to adopt. In other situations, the recommended initial strategies may be smaller-scale and more targeted, such as ring vaccination, and mass prophylaxis is appropriate only if those initial measures are overwhelmed or if, in the case of ring vaccination, the ring is broad enough to require mass measures (e.g., an entire community is affected). Clear criteria for the activation of the Emergency Mass Vaccination/Prophylaxis Plan should be identified. Local public health units will be informed by provincial public health authorities/Chief Medical Officer of Health if this plan should be activated in an emergency. Local public health units may also choose to use this plan to shape mass vaccination planning for events such as meningococcal outbreaks.

Provincial guidelines for delegation of authority and medical directives for the appropriate action and medication(s) will be developed and issued. These can be adapted by local Medical Officers of Health for their jurisdictions, but the content should remain substantially the same to ensure consistency across the province. These directives will include the specific medication, the treatment for an anaphylactic reaction, the specific conditions that must be met and any specific circumstances that must exist before the directives can be implemented.

The MOHLTC is currently working to identify and address any scope of practice issues associated with emergency mass vaccination/prophylaxis, including the issuing of medical directives. If the medications being dispensed are not approved in Canada or face other regulatory challenges, they may have to be made available under the Special Access Program, and the approvals and authorities related to that program will have to be accommodated.

For pandemic influenza, the vaccination clinics will be activated once vaccine is available, but planning for the implementation of this capability should be initiated in phase 5. Activation of any prophylaxis clinics will be dependent on the recommendations developed at the national level.

2. Vaccination/ Dispensing of Oral Medication Strategy

In a situation which requires activation of the Emergency Mass Vaccination/ Prophylaxis Plan, it is likely that there will be significant public anxiety, a demand for vaccination/prophylaxis that outstrips the available supply and pressure on the existing capacity of the system. This requires that accountability for the key functions of secure storage, inventory control and tracking, enforcement of any priority groups, and data collection be clearly assigned and consolidated as much as possible.

As outlined in more detail in the remainder of this document, the province is responsible for ensuring that there is a supply of vaccines/medications available at the provincial level, identifying any priority groups for Ontario, making allocation plans based on information gathered at the local level, and for distributing vaccines/medications and any provincially held supplies to a designated location within each health unit jurisdiction.

The overall responsibility for secure storage,

distribution, tracking, and data collection at the local level, and for the actual administration of any vaccine/medication to any priority groups, lies with the local public health units. Emergency mass vaccination/prophylaxis will not be available through doctor's offices as would be possible in a standard vaccination campaign, but rather through the mechanisms outlined below. This will reduce the demand on other healthcare settings, increase the efficient use of scarce health care workers and resources, and facilitate a consistent approach. It will also, where relevant, provide central points of access for law enforcement investigations.

This does not mean that local public health unit staff alone has to perform every function associated with carrying out an emergency mass vaccination/prophylaxis campaign. There are various options that the local public health units could apply within their jurisdictions that take advantage of existing systems, skills, and infrastructure. However, final accountability for the key functions outlined above remains with the local public health units, and this must be accommodated in how these options are selected and implemented.

Mass vaccination/prophylaxis can be administered with a "Push" or a "Pull" approach. The Push approach brings medications directly to individuals or homes in an affected community. The "Pull" approach requires individuals to leave their homes or workplaces to travel to specially designated centres to receive the medication.

Emergency mass vaccination/prophylaxis in Ontario will be conducted using a phased process that focuses primarily on a "Pull" approach but also incorporates the option for some limited "Push".

A limited "Push" approach is an option to address certain groups, such as front-line health care workers, where the existing infrastructure of their work places can be used to lessen the burden on public health resources.

In the first phase, local public health units may choose to distribute the vaccines/medication for front-line healthcare workers in institutional settings directly to the institutions. They may then be able to use existing skill sets and systems within the institutions to perform functions such as screening and administration/dispensing. Institutions may already have sophisticated systems in place for vaccinating/prophylaxing staff (e.g., through their occupational health departments), and in those cases local public health units need only ensure that priority groups are adhered to and that they can fulfill their own responsibilities regarding overall accountability.

For front-line healthcare workers who are in the community rather than an institution, there may still be existing systems and skill sets that can be accessed to support the campaign. However, it may be necessary to shift to a targeted "Pull" strategy where targeted Emergency Mass Vaccination/Prophylaxis Clinics are established in designated community settings such as Community Health Centres (CHCs) or Community Care Access Centers (CCACs), rather than taking place directly within the range of work settings in which community-based frontline health care workers operate.

Similar targeted clinics/sites can also be used for other groups such as essential service workers, although the infrastructure support that can be accessed to support public health for these clinics is likely to be minimal (e.g. occupational health nurses).

The next phase of an emergency mass vaccination/prophylaxis campaign would be broad public clinics. Depending on the

situation, these may be conducted once the above phases are completed, simultaneous with the above phases, or it may be necessary to quickly administer prophylaxis to health care workers while working to setup broader public clinics. This decision will depend on the availability of vaccine/medication, the existence of any priority groups, and the epidemiology of the situation at hand.

The principles and expectations outlined in this plan apply to all phases of an emergency mass vaccination/prophylaxis campaign, not only to broad public clinics. Please note that this phased approach is intended to make the best use of limited public health resources at the local level. It is up to local planners to determine, with the leadership of local public health units, the applicability of the various phases to their communities and available resources; for some jurisdictions, the phased approach may not be practical, and they may move immediately to the targeted "Pull" phase.

A limited "Push" approach may also be necessary for populations such as residents in Long-Term Care Homes and other institutions, people who are hospitalized, individuals housebound due to disability, prison inmates, the homeless, and populations that fall under federal jurisdictions such as the armed forces, federal prisons, and First Nations.

Local pandemic planning groups, with the leadership of public health units, must explore various options to access these populations. Plans must ensure the public health units continue to fulfill their designated responsibilities for distribution and tracking to manage limited supplies, ensure consistency, and maintain accurate data collection. For groups such as the housebound disabled, local public health may able to work to some extent with their local CCACs to access individuals and administer the vaccine/medications.

Further planning will have to be done to identify the best approach for those groups who are not tied into the CCAC system. For First Nations issues, coordination should take place through the First Nations and Inuit Health Branch Regional Office.

More detail will be added to this plan as protocols are solidified, but the current assumption is that, in the event of an influenza pandemic, the federal government will distribute antivirals from their stocks directly to First Nations communities; however provincial and local distribution systems will be used to distribute vaccines.

For vaccination that requires more than one injection, at a set interval, it is recommended that recipients return to the same clinic or that a patient identifier be assigned that allows their uptake to be tracked. For prophylaxis requiring a prolonged course of medication, a policy must be put in place regarding whether the full course will be given at the visit to the clinic or whether a portion of the total dose is being given (e.g. the first 10 days of medication), and if so, the process by which refills are to be obtained. This decision will have to take into account the availability of medication stockpiles, the potential demand, the logistical demands of a refill process, and the risks of lack of follow-up and an incomplete course. (The Vaccine and Antiviral appendix to OHPIP will include recommendations on best practices for distributing vaccine and antivirals.)

3. Priority Groups

While the goal of the Emergency Mass Vaccination/Prophylaxis Plan is to protect Ontarians, it will take 3 to 5 months to develop a vaccine and initially it will only be available in limited amounts. Priority groups will have to be identified to guarantee that the health of the province is protected and critical infrastructure maintained while ensuring

efficient use of existing supplies.

As outlined in the OHPIP, the Pandemic Influenza Committee (PIC) will make recommendations federally about priority groups for vaccines in the event of an influenza pandemic, and these recommendations will be adapted at the provincial level for use in Ontario. Any priority groups for prophylaxis will depend on the recommendations from the national level regarding prophylactic use of antivirals.

National recommendations regarding priority groups for prophylaxis in some other health emergencies (e.g. for smallpox) also exist, but when situations arise in which rapid adaptation is needed or national recommendations are not readily available, responsibility for making recommendations regarding priority groups in Ontario lies with the Public Health Division, supported by the Provincial Infectious Disease Advisory Committee (PIDAC).

The issue of how to confirm priority group status is one that requires further planning. One possible approach is to request photo ID and some sort of documentation from the worker's employer (where the priority group is employment-based) as confirmation.

VI. Communication

1. Public Communication

Public trust is essential to the success of an emergency mass vaccination/prophylaxis campaign. It is necessary both for successful uptake/coverage, and also to maintain an orderly response and avoid panic.

Key messages for media lines and messaging regarding the overall provincial approach will be provided by the MOHLTC through resources such as the MOHLTC InfoLine and media line, Telehealth Ontario, the MOHLTC and the Healthy Ontario websites, and through provincial media spokespeople. In addition, the MOHLTC has developed a Crisis and Risk Communications Response Plan to be activated in the event of a pandemic or other health emergency to manage provincial health communications. The local level is responsible for local media spokespeople, and for communicating the details of their campaign to their communities and ensuring that communication is consistent with national and provincial messaging.

Information can be shared pre-event with communities to promote awareness of the general kinds of actions that will be taken if emergency mass vaccination/prophylaxis is required, including key procedures and protocols, the concept of priority groups, how they will be assigned to clinic areas, and post-clinic responsibilities.

It may not be advisable to specify clinic locations pre-event, but a robust system must be in place to quickly and comprehensively publicize the activation of such a campaign and the locations involved.

During the campaign it will be necessary to provide information to the public on an ongoing basis regarding the disease itself, priority groups, campaign status, clinic location and hours, etc. There will likely also be media interest in the status and success of the campaign, including statistics such as number of people immunized and number of deaths.

Tips for Best Practice:

- **Complex messages should be delivered repetitively through multiple channels.**
- **Translation or other language needs for communities should be identified and planned for in advance.**
- **For individuals staffing phone lines, prepare basic scripts and FAQ sheets.**

It is important to make sure that communication is aligned with the phased

approach outlined under vaccination/dispensing strategy. Communication regarding campaigns within health care institutions and/or other targeted clinics should be aimed primarily at the eligible groups, and times and locations should not be widely publicized. However, the province's approach must remain transparent, and communication with the public regarding the overall response and potentially contentious issues must continue. If changes to protocol or practice are necessary as the situation evolves, and those changes impact the public, it is important to clearly communicate what these changes are and the rationale for making them, in order to avoid the perception of disorganization or arbitrary decision-making and maintain public trust.

In an influenza pandemic, where the goal is to keep the well and the ill from mixing as much as possible, it is important in messaging to reinforce who should and who should not be presenting at clinics. The symptoms and durations of symptoms which would render people ineligible should be communicated clearly and repeatedly, as well as the screening process that will be in place at the clinics.

The following communication channels may be useful. The capacity of the systems in place to handle a planned campaign should be determined ahead of time by the local authorities.

- Telephone: staffed hotlines, as well as use of "hold messages" and automated voice messaging systems to convey basic information about clinics.
- Websites (ensure that content is updated regularly with new information).
- Media: bought advertisements, media releases/updates, and briefings/news conferences; designated media spokespeople.
- Written communications: information packages in public places and available at the clinics themselves.
- Highway/road message boards, message board in public transit systems.

In the event of an influenza pandemic, the province is preparing basic information resources such as fact sheets on vaccination, vaccines and antivirals, which can be distributed to the public and made available at clinics. The local level will be responsible for augmenting this basic information with the details of their program and any other information relevant to their communities.

2. Health Care Provider Communications

The MOHLTC will ensure that health care workers are provided with accessible, useful and accurate real-time information. Provincial and national recommendations, guidelines and directives will be communicated to health care workers and stakeholders by the MOHLTC through a number of different mechanisms, including the EMU Healthcare Provider Hotline and website, videoconferencing with the Health Care Stakeholder Council, and notices such as daily Important Health Notices and directives distributed through the Communications

Tips for Best Practice:

- **Consider naming a dedicated person to monitor/facilitate communications between command in the local Public Health Units and the clinics, including dissemination/ replacement of updated materials for the protocol binders at the clinics.**
- **Also consider having a central communications area where protocol binders, daily IHNs, and other resource materials are housed, so that it is easy for staff to review at the start of the clinic/shift and make sure they have the appropriate materials at their site.**
- **Exceptions to standard staff time commitments and other staffing practices may be necessary; it's useful to anticipate, define and communicate this clearly to staff and labour associations.**

Mailer. The intent with these directives is to make them as much as possible consistent across health care settings.

As discussed in the OHPIP, the MOHLTC has also developed an information cycle which includes a daily public health teleconference. See section 9 of the OHPIP for details about influenza pandemic communication.

Other materials that are being developed specifically for health care workers in the event of an influenza pandemic include:

- a vaccination manual
- guidelines for antiviral management and handling, including dispensing procedures and limiting wastage
- clinical guidelines for antiviral use and patient care in clinical settings
- medical directive guidelines for dispensing antiviral medications by delegation in health care settings.

3. Intergovernmental and Internal Communications

The complex, challenging nature of an emergency mass vaccination/prophylaxis campaign and the speed with which decisions must be made and relayed requires a strong system of communications between federal and provincial authorities, between provincial and local public health authorities, and between local public health authorities and clinic sites.

At the federal level, the Public Health Agency of Canada has established a secure website to facilitate pandemic planning and response with the provinces and territories, as well as a federal Crisis and Risk Communications Response Plan. As discussed above, the MOHLTC has developed an information cycle for use during a public health emergency, which will ensure regular and timely updates from the province. Resources that may be of use to stakeholders at various levels (e.g. current guidelines, forms, plans, etc) will be made available through mechanisms such as the Ministry's website.

At the local level, it is important to establish clear channels for communication of command decisions and other important information quickly to operations and logistics staff at the clinics and elsewhere, and for feedback from those functions to get back to command. All changes to practices and protocols should be documented and disseminated. It is also important to communicate to staff the level of urgency of the campaign and expectations regarding the kinds of staff responsibilities and time commitments that may be necessary.

In addition to the range of clinic communication equipment that is recommended (see section XI, Clinic Operations), cell-phones, pagers and blackberries may play an important role in internal and intergovernmental communications.

VII. Supplies

1. Procurement and Access

Stockpiling of supplies such as vaccines and prophylactic medications is often handled at the federal or provincial level. As outlined in the OHPIP, Canada has a pandemic contract with its domestic manufacturer to supply vaccine. However, a wide range of other supplies are also needed to support mass prophylaxis campaigns, including:

- syringes and/or medication dispensing supplies
- general medical supplies
- emergency supplies for adverse reactions
- paper supplies
- clinic infrastructure supplies.

As part of pandemic planning, the Ministry is in the process of developing a four-week provincial stockpile, which will include basic supplies such as needles, syringes, sharps containers, and Personal Protective Equipment (PPE) for a province-wide mass vaccination campaign. However, local planners should be prepared to address procurement, local storage, and local distribution of other supporting supplies in their plans.

The ministry is developing a procurement strategy for the provincial stockpile, but the expectation, as outlined in the OHPIP, is that a baseline stockpile of one month's supplies of Personal Protective Equipment and other essential supplies be established at the local level to ensure business continuity.

Sample lists of suggested supplies for an influenza pandemic are included in Appendix B of this plan. Additional information such as quantification formulas for masks and gloves can be found in the supply and equipment lists in (new E&S section) of the OHPIP.

2. Storage and Distribution

The province has established storage capacity for a stockpile of PPE and other clinical supplies and equipment at the Ontario Government Pharmaceutical and Medical Supply Services (OGPMSS), including storage for vaccine/medications. However, storage capacity at the local level must be addressed in local planning. Local public health units should assess their storage needs and potential solutions, and consider designating one secure centralized storage location within their jurisdiction. This location does not have to be within a local public health unit facility. Locations such as hospital pharmacies which have existing security and refrigeration capacity may be the best solution in some areas.

Once chosen, this location should be communicated in advance to the MOHLTC. The province will deliver all provincially-held supplies (including vaccines/medications) to this central storage site, and all supplies should be kept at this secure location when not on-site at clinics. Even for clinics operating over more than one day, all supplies that have not been used at a clinic during its operational hours should wherever possible be returned to this location for secure storage during off-hours. Where geography does not allow the timely return of supplies to a central location, contingency plans for secure alternate/interim storage must be in place.

Storage protocols on-site in clinics during their operational hours must also be developed, and capacity for secure storage is one of the factors that should be considered in selecting a site. (See section VIII.2).

Storage locations and protocols should address:

- proper conditions to maintain the safety and efficacy of the product (e.g. cold chain requirements)
- inventory management (including monitoring of expiry dates where relevant) and restocking
- security of supplies, particularly where shortages or potential tampering is an issue, including access and requisition authority
- contingency planning for cases where the event takes place during a routine vaccination campaign and existing refrigerated storage may already be at capacity.

Given the need for rapid distribution, there must be measures in place to ensure the safe, secure transportation of the planned allocations. The Ontario Government Pharmaceutical and Medical Supply Services has a fleet of trucks which routinely deliver

Tips for Best Practice

Storage:

- **Consider storing supplies as pre-packaged "packs" or "bundles" (e.g. "Clinic in a box") for ease of set-up and assurance of appropriate supplies in appropriate amounts to maintain safe practices.**

Distribution:

- **Form a dedicated supply and transportation team, particularly at the local level where goods may be converging from a number of sources, potentially being repackaged, and transported to different clinic locations.**
- **Develop a regular requisition and stocking procedure at the local level for the clinic sites (e.g. requisition slips to be submitted by each clinics at the end of each day to the Health Unit) along with the capacity for urgent delivery when needed.**
- **As part of local mass emergency prophylaxis planning, establish communication channels with local health care facilities to ensure a rapid response to requests for resources such as antivirals during an emergency.**
- **Establish protocols ahead of time for issues such as where deliveries should arrive, who can sign for deliveries, and the necessary security precautions.**

large volumes of vaccine during routine vaccination campaigns. Once the province has delivered supplies to the designated local storage location, the local public health units are responsible for coordinating the transportation of supplies and equipment to and from the clinics within their jurisdiction and, in cases where the medication is also being used for treatment of the ill, to hospitals and other institutions.

Transportation of supplies should address:

- Vehicles: can public/government vehicles be used or will rentals be required? Are public/private partnerships an option, particularly if refrigerated trucks are needed? Can Federal vehicles, including planes, be used at provincial/local levels?
- Planning for safe secure supply routes at all levels, and coordination between levels.
- How to quickly access remote communities.
- Liaison with law enforcement or other groups needed to ensure security.
- Staffing issues: is special licensing (e.g. trucks or buses, transport of dangerous goods) required?
- Safety issues (e.g. biohazards).

During an influenza pandemic, the MOHLTC Ministry Emergency Operations Centre (MEOC) will coordinate through the OGPMSS the distribution of antivirals and vaccines across the province to local public health units. The manufacturers of the flu vaccine have contracted to deliver to a number of sites within Ontario, and discussions are underway to identify these sites. Additional work on an operational protocol for distribution is being done at the provincial level, and will be communicated to the local level once it has been completed.

Tips for Best Practice

- **In addition to security at the clinics themselves, security staff may be needed at other sites that the public associates with the campaign, such as the Local Public Health Unit offices or communications centre.**
- **Have protocols and contingency plans in place to accommodate illness and absenteeism.**

VIII. Vaccination/ Dispensing of Oral Medications

1. Determining Resource Needs

At the local level, planners should determine the number of clinics, duration / hours of operation for clinics, and clinic staff required to cover their population within the expected timeframes for the given situation. Staff requirements may be based on the models outlined in the Clinic Operations Section, and should address number of staff per site per

shift and planned number of shifts per day, which may depend on the nature of the emergency. It is estimated that one nurse can vaccinate 20 adults or adolescents in an hour, or 15 children, but this will depend to some extent on how the staff functions within the clinic will be assigned (e.g., whether nurses are also performing the medical assessment, or whether vaccination assistants are available). Dispensing time for other prophylactic medications (e.g. Tamiflu®) will depend on the complexity of the dispensing process.

Local public health units should determine as much as possible in advance ways to supplement their existing staff resources, including volunteers, private agencies or other health care organisations in the region, and charitable agencies such as Red Cross. Section 5.2 of the OHPIP provides a discussion of and tools for competency-based health human resources planning in a pandemic context. This may shape an approach to staffing clinics which varies from that of standard vaccination clinics. It will allow additional support to be provided through regulated health professions with relevant skills for functions such as administering injections within the clinics, so that nursing staff can be concentrated in those functions where their particular skills are most needed.

If an emergency mass vaccination/prophylaxis campaign must be conducted during the time that a routine vaccination campaign is taking place and resources are at full capacity, local public health units will have to make decisions regarding their priorities, the possible need to scale back their activities, and the best ways to implement scale-back to free up the necessary resources. The province will be providing guidance to aid the local level in making decisions regarding priority activities and resource reallocation.

Populations may be assigned to various clinic sites based on priority status, their postal code, alphabetically, according to available translators or other language resources on site, or other options specific to the nature of the community. Local planners can make their decisions based on the population density, demographics and other characteristics of their community. The system by which people have been assigned must be clearly explained in communication materials, and policies must be in place to address people who present at clinics other than they were assigned to, including dispute resolution. It is also recommended that local planners in neighbouring communities work closely together in making these decisions.

2. Site Selection

Locations should be selected at the local level with the following considerations in mind:

- local population density and pattern
- potential supply routes
- accessible by public transit in urban centres; by car in rural and suburban areas
- availability of sufficient parking
- availability/accessibility during evenings and weekends.

Specific facilities can be selected considering the following:

- familiarity to the community
- size/space requirements for floor plan/local population, including:
- space for internal storage and a ‘dispensary” or area to reconstitute/draw-up vaccine
- area separate from the dispensing/administration areas to care for those suffering faints or adverse events

- space for removal and temporary storage of medical waste
- ease of set-up
- handicapped & stroller accessibility
- secure and accessible area for supply delivery
- the special needs of any populations (e.g., Mennonite populations might need hitching posts for horses, or some ethnocultural groups may have higher needs for privacy if vaccination will involve removing any clothing or if gender sensitivity is an issue)
- interior or sheltered areas for line-ups in the event of unfavourable weather conditions
- good lighting, ventilation, and comfortable temperature (i.e. appropriate temperature control according to season)
- facilities for controlled storage of medications/vaccines, including electrical outlets for externally powered cold storage containers,
- electrical system capable of supporting multiple electrical and electronic appliances
- backup power generation capacity/fuel delivery capacity (important particularly in the event of bioterrorism)
- security issues, including:
- capacity for both an outer and an inner perimeter that can prevent wholesale movement of crowds into dispensing area
- separate but limited number of entry and exit points, capable of being controlled for security
- security of storage and 'dispensary'/reconstitution/draw-up during operational hours
- on-site portable water supply and food

Tips for Best Practice

- **Involve appropriate authorities (e.g. school board, Parks and Recreation) early in the planning process regarding potential sites, and resolve issues regarding leases/liability beforehand.**
- **Back-up generator capacity is best, but if this is unavailable have extra coolers, frozen ice-packs, and temperature monitors on hand to maintain and confirm cold chain in case of power outage.**
- **Keep extra batteries/chargers on hand for cell phones and pagers.**

storage/preparation capacity

- communications equipment available on-site (if these cannot be available already at the site, they will have to be planned for in supplies)
- land-line capability
- Cellular, radio, satellite communications
- audio-visual equipment if needed for pre-recorded briefings.

3. Protocols

Activities should be protocol-driven to the greatest possible extent in order to ensure maximum efficiency and consistency. It should be noted that the province has adopted and is rolling out the Incident Management System (IMS) as its emergency response protocol. The system is simple in nature and can be applied to any organization, standardizing contact information across organizations, making communication and

Tips for Best Practice

- **Have binders/folders for all staff positions available on-site at the clinics with clinic protocols, staff position job action sheets, information and fact sheets, etc. Assign a clear responsibility for replacing updated protocols and information within these binders.**
- **Protocols can be crafted specifically to address whether the prophylaxis being administered is a vaccine or other drug that might require a longer course or more detailed pharmacological information/dispensing advice.**

cooperation among the groups easier, and enhancing interoperability between organizations and levels. Local public health units should adopt this structure for their own coordinating committees or other central authority charged with planning and running their emergency mass vaccination/prophylaxis campaign.

Examples of specific protocols which should be developed at the local level for clinics include:

- Clinic set-up, including basic floor plans and station-to-station patient flow options. These can be adapted to reflect local situations, but optimally all clinics in a community should share the same basic layout to ensure interoperability of staff and briefing materials.
- Staff roles and functions.
- Dispute resolution mechanisms and policies.
- Responding to and reporting adverse reactions.

Some of these protocols are addressed in more detail in the Clinic Operations Section

4. Support Services

Necessary support services will include food preparation for staff and the public, toilet facilities for both staff and public, potentially child-care, custodial services, and sharps disposal. Toilet facilities must also be considered for the public outside of the clinic perimeter. Measures to ensure security and traffic control will also be required.

Tips for Best Practice

- **Food and other support services that will be available to the public should be communicated when publicizing the clinics so that people can plan accordingly.**

5. Transportation

Distribution has already been discussed, but other kinds of transportation are also a vital part of clinic functioning:

- If transportation is a challenge in a local community, clinics are operating off-hours when public transit is not available, or there are populations that are not eligible for a "Push" approach but may have difficulty accessing centres, arrangements may have to be made for mass transportation such as buses or shuttles.
- Transportation of staff as well as supplies to the clinic site will have to be planned, particularly for off-hour clinics.
- Transportation protocols and routes to health care facilities in the event of serious adverse reactions or patients presenting with serious illness should be established.

6. Serious Illness and Adverse Events

A proportion of adverse events are inevitable in any vaccination/ prophylaxis campaign, despite screening measures. In addition, initial screening may identify individuals presenting who are already seriously ill, whether due to the event or from an unrelated illness. In order to respond to these quickly and effectively, plans should include:

- Clear case definitions and protocols for initial screening out of seriously ill recipients, based on case definitions and medical directives provided by the province.
- A post-vaccination waiting area, where people can wait for 15 minutes to ensure that there are no acute adverse reactions.
- Trained staff able to monitor recipients in the waiting area for, and respond to, acute adverse reactions.

- Emergency kits including supplies such as epinephrine and other emergency medical supplies.
- Arrangements with acute care facilities to accept cases, transportation protocols for people who require transportation to an emergency department, and communication protocols to inform acute care facilities when cases are en route.

While some adverse events will be acute and immediate and will be recorded and treated at the clinic site, protocols for monitoring for and responding to not only acute but delayed adverse reactions must also be established, as well as public communication plans for information about adverse events.

This is essential for patient safety and evaluation of the campaign, and to maintain public trust. Large-scale campaigns can potentially lead to a public perception of increased risk of adverse events, due to the large number of people receiving the medications and the greater visibility of the usual proportion of adverse events. A good monitoring system allows accurate up-to-date information to be shared with the public to counter rumours or perceived threats.

For vaccines, the federal government maintains the Canadian Adverse Events Following Immunization (CAEFI) surveillance system, and acute flaccid paralysis is monitored by the Canadian Paediatric Surveillance Program. In Ontario vaccine associated adverse events are reportable under the HPPA, and systems are in place to monitor adverse events following immunization, but for an emergency mass vaccination/prophylaxis situation rapid reporting mechanisms and channels must be put in place.

For medications such as antivirals, the monitoring system is not yet well-developed, and no legislative requirements exist regarding reporting. A national working group is currently looking at this issue, and this plan will be updated as discussions proceed.

Factors to consider/include:

- Case definitions.
- Rapid reporting channels.
- For delayed adverse events following immunization (AEFI) – what and how to report.
- Estimate expected rates of AE; use as baseline for actual comparison of actual rates.

IX. Documentation

> ***Tips for Best Practice***
>
> - **Wherever possible forms should be in check-box format, pre-populated, or populated using expedited measures (e.g. stickers for vaccine lot numbers) in order to save time on paperwork.**

A variety of documentation needs must be considered. The lists below attempt to be comprehensive: not all documents may be necessary for all campaigns. If computer resources are available, data should be entered on each vaccine recipient in "real time" during registration and at appropriate points throughout the vaccination process. In the ideal scenario, all personal electronic health record documents will be printed on-site for each vaccine recipient. However, paper copies of all documents must be available in sufficient quantities so that clinic operations can continue if the computer system fails. Whether during the clinic or later, electronic entry of critical data will be necessary.

For pandemic influenza, the province is currently developing consent form guidelines for vaccination, guidelines for antiviral management and handling including procedures for dispensing and limiting wastage, and antiviral/vaccine monitoring and tracking forms. IT support for

documentation during an influenza pandemic is being discussed at the provincial level.

1. Documentation: Individual Recipient:

Document	Information Collected	Function
For Health Unit		
Screening Tool	**Medical Contraindications** **Epidemiological Risk Status** **Priority Grouping**	**Used as preliminary screening tool; persons with potential risk routed for in-depth health screening or priority vaccination**
Registration/Clinic Form	**Name, Address, Age/DOB, M/F, any priority group, unique identifier, vaccine given, lot number and dose, vaccination site, drug distributed, dose, amount, date** **Consent: Verbal Yes/No:** **Have you read?** **Do you understand?**	**Official clinic medical record**
Adverse Events Report	**Name, Address, M/F, date, lot number, reaction, follow -up**	**Documentation of adverse events for Adverse Events Following Immunization (AEFI) notification**
For Recipient		
Information on a card or sheet of paper: • Vaccine/Medication Information Statement • Vaccination/dispensary Card	**Name, address, age/DOB, M/F, lot number, date, list of contra-indications, list of symptoms** **Clinic staff signature/ stamp**	**Information entered on card; recipient receives/keeps card to verify receipt**
• Instructions on post-clinic responsibilities, e.g. Care of the Vaccination Site, refill follow-up , where necessary Recipient Diary	**Who/where to call if reaction**	**Recipients take home, record (where relevant) course of medication, monitor for predetermined length of time for any symptoms they may have**

2. Documentation: Clinic Activities and Operations:

Document	Type of Information	Function
Daily Vaccine/Medication Tracking Record	• Beginning Inventory • Doses received • Doses Administered/dispensed • Ending Inventory • Doses Wasted • Disposition of Ending Inventory • Signature of clinic official	**Documents where, when and how vaccine was used** **A roll-up of this information should be provided by each public health unit to the MOHLTC Emergency Management Unit by 2000 hrs each day**
Staffing Assignment Sheet	• Date of Clinic • Clinic Roles • Individuals Assigned	**Records staffing assignments**
Job Action Sheets	• Responsibilities of Staff Function	**Defines roles**

X. Training

1. Staff Training

As with any emergency response plan, staff training is Key to the successful implementation of the plan. The province is developing some materials which will support staff training, such as a vaccination manual. Other issues that must be addressed in training staff are:

- Staff must be trained regarding the appropriate infection control guidelines, including appropriate PPE.
- Pre-event training for staff should address how to ensure safe dispensing/sterile technique/injection safety in the fast and high-volume context of an emergency mass campaign.
- Staff must be well-versed in the command structure and staff roles, particularly if use of 'borrowed" staff is anticipated.
- Training must address the rapid set-up of the clinic in potential locations.
- Staff must be trained to recognise and respond to adverse events.
- A process must be developed for rapid orientation of staff when the plan is activated, including review of relevant medical directives, infection control guidelines, informed consent, reconstitution techniques and dosage issues.

2. Exercising the Plan

Regular exercising of the plan enhances staff understanding of their roles, and facilitates identification of weaknesses and the evolution of the plan itself. Drills and exercises must be conducted often enough for various players to be familiar with their roles and for the plan to be kept up to date in the current planning context. An evaluation component must be built into any exercise so that lessons learned during drills and during actual activation can be incorporated.

XI. Clinic Operations

1. Occupational Health and Safety

Legislation such as the *Occupational Health and Safety Act* (OHSA) and the *Workers Safety and Insurance Act* (WSIA) establish general obligations of employers to protect their employees from harm. Ontario Regulation 67/93 (Health Care and Residential Facilities) under the OHSA establishes a range of employer obligations in regards to some health care employees. These include the establishment of procedures for the control of infection, handling of sharp objects and waste, and expectations regarding any PPE which staff are required to wear.

In addition to the standard measures taken by employers to fulfill these responsibilities, an emergency mass vaccination/prophylaxis campaign can pose a number of unique challenges to the provision of a healthy workplace, and planning must address this. Clinics should ensure that their staff wears the PPE necessary for the pathogen and the process in question. The province will provide appropriate guidance and direction for PPE selection, and where relevant and necessary, may also provide information regarding protective practices or changes in protective practices.

The volume and speed of the campaign will mean that staff fatigue and stress will be an issue, and maintaining safe practices in this context should be addressed in training. In large locations, noise may be an issue and add to staff stress and fatigue. In addition, clear protocols must be in place to address

incidents such as needle-stick and other injuries to staff, and to ensure adequate linkage to Worker's Safety and Insurance Board (WSIB).

The chapter on Occupational Health and Safety in the OHPIP addresses occupational health and infection prevention and control measures during an influenza pandemic in further detail, including recommendations for appropriate PPE. Annex F of the Canadian Pandemic Influenza Plan can be also consulted for additional detail.

2. Injection Clinic: Clinic Process

The following outlines the necessary functions that make up clinic operations for an emergency mass vaccination clinic. These functions will remain essentially the same across clinics, but depending on clinic size and staff resources, how these functions will be apportioned to staff positions may vary. As previously discussed, the approach to staffing Emergency Mass Vaccination/Prophylaxis Clinics during an influenza pandemic may vary from that of standard vaccination clinics, and involve a wider range of staff, concentrating nursing staff in those functions where their particular skills are most needed.

Step 1: Injection Clinic: Screening, Registration and Briefing

Upon arrival, recipients are routed by security personnel handling outside traffic flow and parking towards the screening and registration process.

In situations such as an influenza pandemic, where mixing the well and ill is discouraged, screening should be performed proactively, with staff actively performing activities such as febrile screening (or screening for other relevant symptoms) before the clinic entrance, including line-ups if line-ups are anticipated. In situations where mixing the well and ill is not an issue, screening can be performed as part of the registration process.

Persons exhibiting signs of illness should be triaged to a separate room for more in-depth evaluation with a medical professional (see step 1.5). The screening protocol for this will be based on case definitions, medical directives provided by the province, and standard medical practice. While communications materials should have included information about eligibility and symptoms, it is recommended that visible signage should also be posted identifying the symptoms which may result in ineligibility or require more in-depth evaluation.

At the clinic entrance, recipients will be met by greeters and directed to the registration stage. Registration staff will collect data, confirm eligibility, and provide the necessary paperwork and briefing information. Depending on clinic capacity, briefing can be completed individually or on a group basis, and can consist of written materials, briefing by staff or pre-recorded presentations on video if facilities are available. This may require translators and translated materials to reflect the local population. Issues to be addressed include:

- information about the vaccine risks and benefits
- contraindications
- what to expect during the administration process
- signs of complications and immediate reporting instructions
- any other important details (such as successful take in case of smallpox)
- information on completing the registration material and consent forms.

A number can be assigned to recipients for traffic control. Following the briefing, time is allowed for recipients to complete the required paperwork (including consent forms) and ask questions. Separate areas may be set aside for orientation, or orientation locations can also serve as holding locations.

Step 1.1: Injection Clinic: In-Depth Health Evaluation

If flagged during the screening process (or later during Step 2, the health assessment), recipients may be routed for more in-depth health evaluation of possible illness or contraindications to confirm eligibility or determine appropriate next steps. Depending on the emergency, recipients may be required to wear masks in this area and, if routed back for vaccination, throughout the vaccination process.

Following the health evaluation, patients may be routed:

- back into the vaccination process (with or without masks)
- to appropriate level of medical care, e.g. acute-care facility
- home.

Step 2: Injection Clinic: Health Assessment

After paperwork is completed, vaccine recipients are routed to the health assessment stage. At this point the staff performing this function will:

- discuss possible contraindications
- review common reactions to the vaccine with each vaccine recipient
- confirm that no current illness requiring more in-depth medical evaluation is present
- ensure consent form is signed.

After this assessment, recipients may be routed either back for more in-depth medical evaluation (see Step 1.5), or forward to Step 3.

Step 3: Injection Clinic: Vaccination

After assessment, vaccine recipients with no medical contraindications are ready to receive vaccination.

Recipients are prepared for vaccination (their upper arm is exposed and cleansed if necessary). Then the vaccine is administered, the necessary follow-up information given (including a record of their vaccination and information regarding what complications to watch out for and who to contact, etc, if complications occur), and the necessary documentation is completed and collected. The collection of completed forms from the vaccination

Tips for Best Practice

The need for an appropriate level of security should influence which staff are operating as screeners/registration staff; for instance fire-fighters or others in uniform may be placed at these stations to help reinforce the authority of screeners.

To facilitate efficient traffic flow within the clinic:

- **Ensure that clear signage and direction is posted throughout the clinic, including large outdoor signage to direct ambulances or emergency vehicles if needed.**
- **Develop a system to signal when vaccination/dispensing stations can accept more recipients and when staff are away from their stations; flags or colour-coded cards may be used.**
- **Design your floor-plan to avoid areas where lines merge and cause backups and queues; where queues are inevitable/anticipated, make sure there is room to accommodate them.**
- **Make sure that your protocols for handling conflict resolution or individuals requiring special assistance include measures to remove these potential obstacles from the main flow of patients in order to minimize bottlenecks.**
- **Pre-designate any ways that station scripts and protocols can be shortened if bottlenecks start to occur and need to be cleared (e.g. portions of briefing that can be eliminated or provided in alternate ways).**

stations is a staff function that must be assigned.

Following vaccination, all individuals are required to stay at the vaccination clinic for 15 minutes, with personnel present to monitor for any complications that require immediate attention.

Step 4: Injection Clinic: Exit

After the 15 minute monitoring period is over, recipients will be informed that they are finished with the process and routed to the exit.

3. Oral Medication-Based Clinic: Clinic Process

The following outlines the necessary functions that make up clinic operations for an oral medication-based Emergency Mass Vaccination/Prophylaxis Clinic. Many of the phases and function in these clinics will be similar to an injection clinic, differing most significantly at the dispensing stage, but the process is laid out in its entirety here for ease of reference. The functions outlined here will remain essentially the same across clinics, but depending on clinic size and staff resources, how these functions will be apportioned to staff positions may vary.

As previously discussed, the approach to staffing Emergency Mass Vaccination/ Prophylaxis Clinics during an influenza pandemic may vary from that of standard vaccination/prophylaxis clinics, and involve a wider range of staff, concentrating nursing staff in those functions where their particular skills are most needed.

Step 1: Oral medication-Based Clinic: Screening, Registration and Briefing

Upon arrival, recipients are routed by security personnel handling outside traffic flow and parking towards the screening and registration process.

In situations where mixing the well and ill is discouraged, screening should be performed proactively, with staff actively performing activities such as febrile screening (or screening for other relevant symptoms) before the clinic entrance, including line-ups if line-ups are anticipated. In situations where mixing the well and ill is not an issue, screening can be performed as part of the registration process.

Persons exhibiting signs of illness should be triaged to a separate room for more in-depth evaluation with a medical professional (see step 1.5). The screening protocol for this will be based on case definitions, medical directives provided by the province, and standard medical practice. While communications materials should have included information about eligibility and symptoms, it is recommended that visible signage should also be posted identifying the symptoms which may result in ineligibility or require more in-depth evaluation.

At the clinic entrance, recipients will be met by greeters and directed to the registration stage. Registration staff will collect data, confirm eligibility, and provide the necessary paperwork and briefing information. Depending on clinic capacity, briefing can be completed individually or on a group basis, and can consist of written materials, briefing by staff or pre-recorded presentations on video if facilities are available. This may require translators and translated materials to reflect the local population. Issues to be addressed include:

- information about the prophylactic medication risks and benefits
- contraindications
- what to expect during the administration/dispensing process including, if necessary, refill information

- signs of complications and immediate reporting instructions
- any other important details
- information on completing the registration material and consent forms.

A number can be assigned to recipients for traffic control.

Following the briefing, time is allowed for recipients to complete the required paperwork (including consent forms) and ask questions. Separate areas may be set aside for orientation, or orientation locations can also serve as holding locations.

Step 1.5: Oral Medication-Based Clinic: In-Depth Health Evaluation

If flagged during the orientation and screening process or health assessment, recipients may be routed for more in-depth health evaluation in order to further assess eligibility, determine appropriate next steps, or to recommend an alternate medication or dosage than the standard one being dispensed. Depending on the emergency, recipients may be required to wear masks in this area and, if routed back for prophylaxis, throughout the dispensing process.

Following the health evaluation, patients may be routed:

- back into the dispensing process (with or without masks)
- to appropriate level of medical care, e.g. acute-care facility
- home.

In situations where alternate treatment or assessment sites are part of the response, these sites may also serve as destinations.

Step 2: Oral Medication-Based Clinic: Health Assessment

After paperwork is completed, medication recipients are routed to the medical assessment stage. At this point the staff performing this function will:

- discuss possible contraindications and whether alternate dosage/medication is indicated
- review common reactions to the medication with each recipient
- confirm that no current illness requiring more in-depth medical evaluation is present
- ensure consent form is signed if required.

After this assessment, recipients may be routed either back for more in-depth medical evaluation (see Step 1.5), or forward to Step 3.

Step 3: Oral Medication-Based Clinic: Dispensing

After assessment, prophylaxis recipients with no medical contraindications are ready to receive their medication. Those who are being given the standard dosage can be routed to an express dispensing station. Those who require alternate medication or adjusted doses can be routed to an assisted dispensing station.

At the appropriate station, the necessary follow-up information will be given, including a reiteration of the information regarding obtaining refills, and the necessary documentation completed and collected. The collection of completed forms from the vaccination stations is a staff function that must be assigned.

Step 4: Oral Medication-Based Clinic: Exit

Once the recipients have received their medication, they will be informed that they are finished with the process and routed to the exit.

4. Clinic Staff Structure

As discussed, the functions assigned to various staff may vary with the clinic size and setting. However, it is recommended that the Incident Management System (IMS) (see Chapter 2) be used for the clinic command structures as well as for each jurisdiction's coordinating committee. Job action sheets for all staff functions should be developed.

More detail regarding suggested staff functions, both at the management and coordination level and for patient interaction and clinic operation, is provided in Appendix A, including sample job actions sheets.

Appendix A: Staff Functions

The following is a summary of suggested staff roles and responsibilities, aligned with an IMS structure. As previously discussed, this may vary with clinic size and setting.

1. Operations

Coordinators:

- Clinical Leader: Oversees clinical aspects of clinic.
- Nurse Coordinator: Oversees nursing staff assigned to the clinic; assists site manager in making clinic assignments for nursing staff; assists on-duty nurses as needed.

Direct Service Staff

- Greeter-Screeners: Greet and enquire about the presence of current symptoms; route as appropriate to registration phase or in-depth medical evaluation.
- Registration Staff: Confirm eligibility; create patients record and provide clinic documents and informational materials.
- Educators: conduct orientation; provide basic information (verbally or with a video presentation) about the vaccine and the vaccination process; explain how to complete the documents and answers questions about completing documents.
- Health Screeners: Assess clients for contraindications or, with oral medications, need for adjusted dosage, alternate drug; review common reactions; answer medical questions; refer to more in-depth medical evaluation if needed. (Generally filled by a physician, nurse or paraprofessional with good interviewing skills and relevant knowledge.)
- Vaccination Assistants: Assist the vaccine administrator with all aspects of pre- and post- vaccination activities; ensure that vaccination station maintains adequate supplies; instruct recipients on location of vaccination; assist vaccine recipients in preparing the vaccination site (roll up sleeve, remove arm from shirt/blouse, etc.); instructs clients about site care.
- Dispensing Assistants: Work in dispensing area to package and label medications in preparation for administration to clients.
- Vaccine Administrators: Oversee the vaccination process; clean vaccination site; administer the vaccine; sign the clinic record; observe vaccine recipients for immediate reaction or complications.
- Dispensers: dispense medication; for patients needing assistance, determine alternate/adjusted dose; explain course of medication; sign the clinic record; observe recipients for immediate reaction or complications.
- Other Clinical/Nursing staff: May include nurse team leader to ensure clinic is running smoothly and trouble-shoot; nurse practitioners or physicians in medical evaluation area, for vaccination campaigns nurses dedicated to vaccine reconstitution/draw-up process; nurses to monitor people in post-vaccination area.
- Clinic Flow Controllers: Direct vaccine recipients through the clinic process

and monitor clinic flow; work with security staff to monitor bottlenecks, possible situations where security action needed.

- Emergency Medical Personnel: Respond to medical emergencies including reactions ranging from the minor to anaphylactic shock and serious medical emergencies that are incidental and unrelated to vaccination. For large operations, local public health units may wish to have a physician, nurse practitioner or emergency paramedic on-site at all times during clinic operations.

2. Planning

- Data Analyst: reviews information gathered through screening and registration process to determine uptake, support planning regarding clinics operations, and flag emerging issues.

3. Logistics

Logistics Coordinator

Works with Supply and Transportation Team to ensure that:

- all necessary clinic supplies are on site and are available in sufficient quantities during clinic operations;
- all necessary clinic staff are onsite
- an inventory of supplies is maintained; and distributed to/maintained at appropriate locations in the clinic;
- sufficient drug is available, and cold chain is maintained through proper handling and storage;
- medication is stored in a secure manner at the clinic site and that unused amounts are returned and accounted for.

Other Logistics Personnel:

- Inventory Clerk: oversees, replenishes within the clinics, and reorders supplies.
- Runners: bring supplies from vaccination reconstitution and draw-up/ medication packaging area to tables;
- Supply and transportation team: keep clinics stocked from central stores during day and make sure staff have transportation to clinic site;
- Support staff: address child care, food preparation and housekeeping and custodial services.
- Security Coordinator: Oversees personnel assigned to security activities at the clinic site; assists the site manager in making duty assignments of security personnel; determines appropriate number of security staff necessary according to clinic size and location; maintains a list of authorized clinic staff and their phone numbers; assigns and coordinates use of cell phones and pagers; establishes staff check-in and check-out procedures; ensures that all staff wear ID badges; maintains communication with local law enforcement officials.
- Security Staff: Ensure an orderly flow of traffic and parking at the clinic site; assist in maintaining orderly movement of vaccine recipients through the clinic process; provide necessary control if persons become unruly; assist supply officer in maintaining security of medications and other clinic supplies.

4. Administration and Finance

- Site Manager: Oversees administrative aspects of clinic.

- Volunteer Coordinator: Oversees volunteer activity at the clinic site. Assists the site manager in making duty assignments of volunteer staff; maintains roster of persons available for volunteer duty; and maintains a schedule of times that volunteers will be available to work.
- Forms Collectors/Clerks: Form collectors verify that forms are correctly completed; collect all necessary forms from vaccination/dispensing stations; clerks assist with clinic administrative paperwork (e.g., requisition forms).

Appendix B: Suggested Supply Lists for Pandemic Influenza

1. Suggested Supplies: Injection-Based Clinic

Medical Supplies	Emergency supplies
Appropriate syringes with needles-gauge & syringe size TBD	Blood pressure cuffs, adult
Alcohol swabs	Blood pressure cuffs, child
Medium Cotton Balls	Stethoscopes
Band-Aids	Epinephrine 1:1000 ampules
Latex gloves (powdered/non-powdered)	Syringes and needles to administer epinephrine
Non-latex gloves (powdered/non-powdered)	MOHLTC Epinephrine Medical Directive
Alcohol hand rinse and hand soap	Anaphylactic fact sheets on dosage, etc.
Masks*	Emergency supplies bag (1 per clinic)
Paper Gowns	Incident reports
Paper towels	Adverse reaction reporting sheets
Sterile gauze pads (7.6cm x 7.6cm)	Pens (red &blue)
Hypoallergenic Tape (2.5cm x 9.1m)	Cell phones
Sharps containers (large)	
Biohazard waste boxes & yellow bags (24 per box)	
Paper square absorbent table cover	Paper supplies
Garbage bins (15 per site)	Consents
Garbage bags (clear)	Immunization Slips
Promotion material for waiting & recovery areas	Sore arm slips
Tables	Pens
Chairs	Staplers
Vaccine supplies (based on 10 dose vials [actual 9 dose/vial])	English fact sheets
Vials of vaccine	Translated fact sheets (languages TBD)
Cooler Bags	Translated contra-indication cards
Ice Packs	Date stamp & stamp pads
Thermometers	Flip Chart and/or White Board

***The Ministry of Health and Long-Term Care is continuing to develop a provincial position on personal protective equipment (i.e., masks). In the absence of a provincial position, references to masks and/or respirators should be interpreted broadly (i.e., facial protection).**

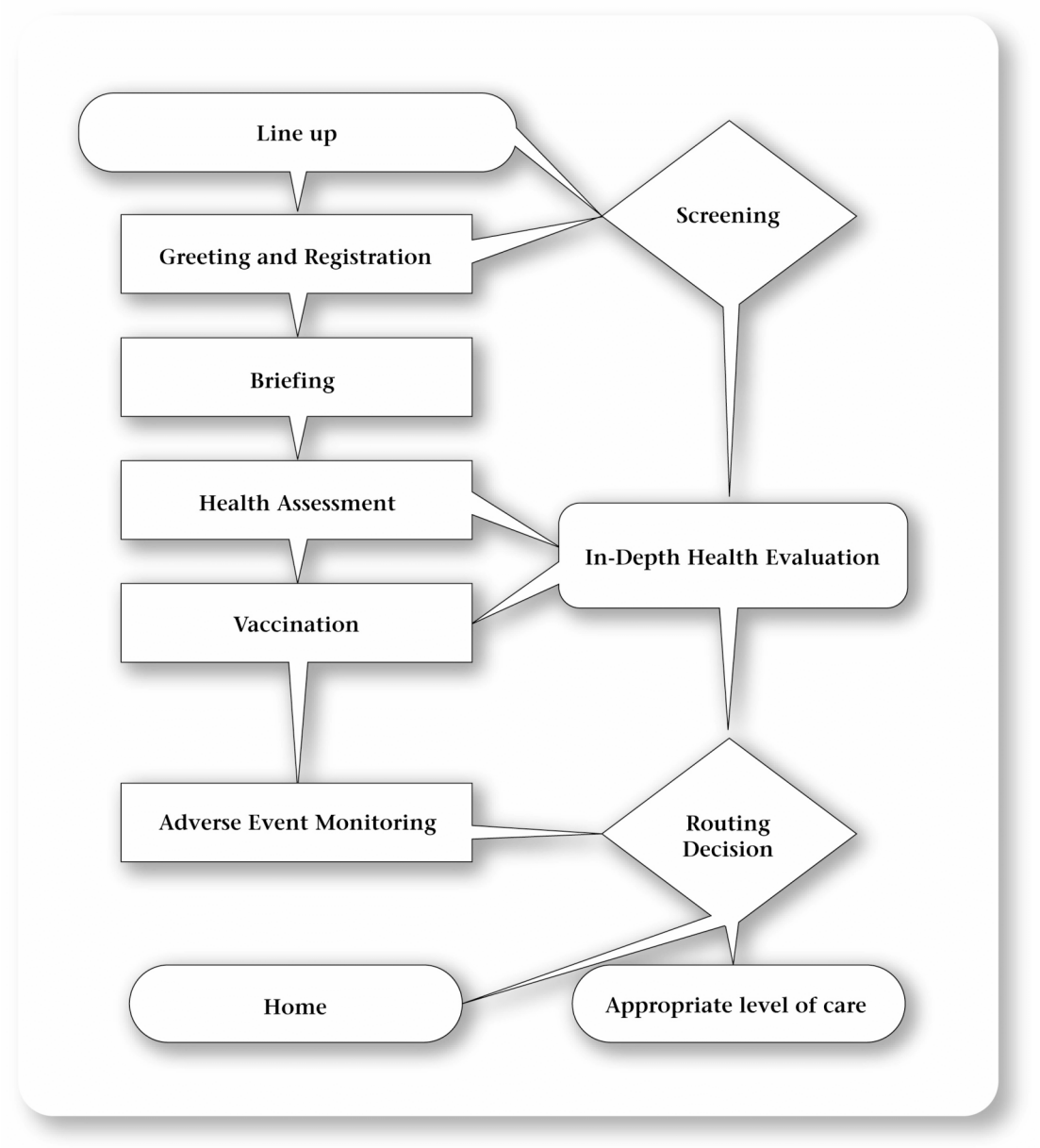
2. Suggested Supplies: Oral-Medication-Based Clinic

Medication distribution supplies	Emergency supplies
Antiviral medication doses	Blood pressure cuffs, adult
Envelopes/ containers for medication storage	Blood pressure cuffs, child
Medication labels	Stethoscopes
Paper supplies (based on 1 Vaccination centre)	Anaphylactic fact sheets on dosage, etc.
Consents	Emergency supplies bag (1 per clinic)
Pens	Incident reports
Staplers	Pens (red & blue)
English fact sheets	Cell phones
Translated fact sheets (languages TBD)	
Translated contra-indication cards	
Date stamp & stamp pads	
Flip Chart and/or White Board or poster	

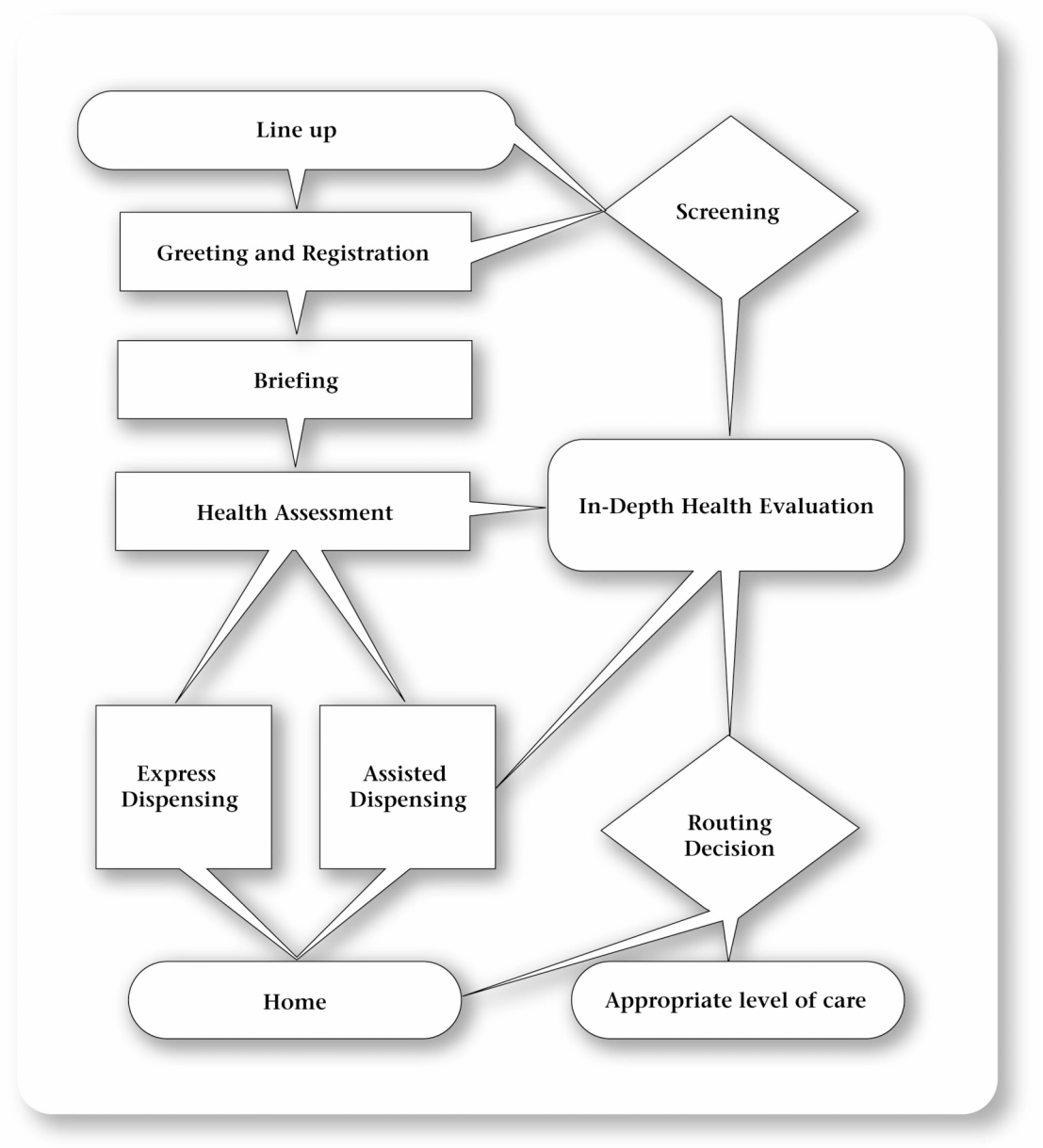
Appendix C: Local Public Health Units

District of Algoma Health Unit	705-759-5287
Brant County Health Unit	519-753-4937
Bruce-Grey Health Unit	519-376-9420
Chatham-Kent Health Unit	519-352-7270
Durham Regional Health Unit	905-723-8521
Eastern Ontario Health Unit	613-933-1375
Elgin-St. Thomas Health Unit	519-631-9900
Haldimand-Norfolk Health Unit	519-426-6170
Haliburton, Kawartha, Pine Ridge District Health Unit	905-885-9100
Halton Regional Health Unit	905-825-6060
City of Hamilton Social & Health Services Division	905-546-2424 x3542
Hastings and Prince Edward Counties Health Unit	613-966-5500
Huron County Health Unit	519-482-3416
Kingston, Frontenac and Lennox & Addington Health Unit	613-549-1232
Community Health Services Department (County of Lambton)	519-383-8331
Leeds, Grenville and Lanark District Health Unit	613-345-5685
Middlesex-London Health Unit	519-663-5317
Niagara Regional Area Health Unit	905-688-3762
North Bay Parry Sound District Health Unit	705-474-1400
Northwestern Health Unit	807-468-3147
Public Health and Long Term Care People Services, City of Ottawa	613-722-2328
Oxford County Health Unit	519-539-9800
Peel Regional Health Unit	905-791-7800
Perth District Health Unit	519-271-7600
Peterborough County-City Health Unit	705-743-1000
Porcupine Health Unit	705-267-1181
Renfrew County & District Health Unit	613-732-3629
Simcoe Muskoka District Health Unit	705-721-7330
Sudbury & District Health Unit	705-522-9200
Thunder Bay District Health Unit	807-625-5900
Timiskaming Health Unit	705-647-4305
Toronto Public Health Unit (Immunization Line)	416-392-1250
Waterloo Regional Health Unit	519-883-2000
Wellington-Dufferin-Guelph Health Unit	519-843-2460
Windsor-Essex County Health Unit	519-258-2146
York Regional Health Services Dept	905-895-4511

Appendix D: Clinic Process Flow Chart -- Injection-Based Clinic



Appendix D: Clinic Process Flow Chart – Oral Medication-Based



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