

18. Paediatric Services

Even before the epidemic ended, New York City Health Commissioner Royal Copeland estimated that twenty-one thousand children in the city had been made orphans by the epidemic. He had no estimate of the number of children who lost only one parent.

The Great Influenza, John M. Barry

Health care providers and organizations caring for children during an influenza pandemic will face unique issues and challenges. This chapter looks specifically at the needs of children and the health care settings that care for them.

18.1 Objectives

- To highlight issues for health care settings caring for children during an influenza pandemic.
- To identify possible strategies to meet the needs of children.

18.2 Factors Affecting Paediatric Care during a Pandemic

Children are at greater risk of infection from influenza, and of spreading the virus

Children in school or daycare are more likely to become ill with influenza. Healthy children who are younger than 5 years of age are known to have excess rates of hospitalizations due to influenza illness. Among these children, those less than 2 years of age are at the highest risk. Rates of hospitalizations and morbidity due to influenza complications are known to be even greater among children with underlying chronic medical conditions (e.g., asthma, malignancies).

Because children shed the greatest amount of virus for the longest period of time, require more “hands-on” contact, and are less able to comply with infection control practices (e.g., handwashing, covering their

cough), they are more likely to spread the virus.

Social, public health and other concerns may have an impact on services for children

During a pandemic, the risk of spread among children may be exacerbated by the fact that some children may remain unimmunized even after an effective vaccine becomes available. Some parents refuse to have their child vaccinated because they do not understand the need for the vaccine, or may be concerned about its safety and/or efficacy. Their decision could have an impact on community health and on the types of public health measures required to contain the spread of the virus.

Because children are more likely to spread the virus, public health authorities may consider measures such as closing schools and daycare (i.e., social distancing) as a way to reduce transmission (see chapter 6, Public Health Measures). These measures, if used, will disrupt children’s education and put more pressure on families.

Influenza manifests differently in children, and will require different treatment

Respiratory illness caused by influenza is nonspecific in children and can be difficult to distinguish from illness caused by other respiratory pathogens based on symptoms alone. Although influenza in children is similar to the disease in adults, there are some age-related differences in toddlers and infants associated with uncomplicated influenza. For example, children under age 5 usually present with sudden onset of fever

and cough. Infants are less likely to cough and will frequently have only nonspecific signs such as poor feeding, apnea high fever or very low body temperature.

Caring for children with influenza will be complicated because:

- young children (particularly infants) can progress to severe illness rapidly
- current antiviral agents are not approved for use with children under age 1
- resistance to oseltamivir appears to occur more frequently in children when treating seasonal influenza
- children may require different treatment than adults for complications such as pneumonia.

Influenza will be a particular risk for newborns, particularly if the mother has influenza or contact with someone with influenza.

Parents and other adults play a key role in caring for children at home and in paediatric settings. During a pandemic, parents and other caregivers may be too ill to provide care for their children. That will affect not only the individual child's care but the surge capacity in paediatric care settings, which must plan to accommodate parents who can stay with their child as well as the extra health care providers required if parents are too ill to help with care.

Parents' reliance on family physicians for paediatric care.

Adults may accept influenza advice from public health units, Telehealth, and other general sources. Many parents, however, will want to speak to their family physician about their children's health. Family physicians may require support to manage requests for care of children during a pandemic.

18.3 Strategies to Meet the Needs of Children, Youth and Families

To protect children's health and meet children's needs as well as the needs of their family during an influenza pandemic, the health system must:

- communicate effectively with all families using a variety of media (e.g., television, radio, newspaper, Internet)
- provide age-appropriate information for children and youth
- implement infection control measures and consider public health measures to reduce the spread of influenza among children
- consider the need for child care services, particularly for the children of workers critical to societal infrastructure
- provide appropriate care for children with influenza, including care providers, equipment, supplies and laboratory support
- provide psychosocial support for families.

Communication and education activities, infection control and public health measures, the need for child care services, and the health human resources issues associated with caring for children have been incorporated into the relevant sections of OHPIP (see Chapters 7, 8, 11, 12). In addition, the ethical framework for decision-making in a pandemic has been revised to include values specific to caring for children and youth, including family-centred care and respect for young people's emerging autonomy (see Chapter 2).

This chapter deals specifically with the paediatric services required to provide care for children with influenza and other health care needs, and to support families during a

pandemic.

18.4 Providing Influenza Care for Children

Children who develop influenza will be expected to access the health care system in the same way as adults (see Chapter 11). Parents/caregivers will be encouraged to call Telehealth for advice and direction to the most appropriate setting for care for their child, to consult their primary care practitioner or – in a severe pandemic – to go to an alternative source of care, such as a flu centre.

To ensure children receive timely care and reduce strain on hospital and emergency capacity, primary care providers, their staff (e.g., receptionists, nurses), parents and caregivers will need tools, information and timely access to advice from community paediatricians. To play that consulting/ leadership role with public health units and family physicians, community paediatricians will also need supports.

To help health care providers care for children with influenza, the following tools have been developed (see Chapter 18A):

Decision-Making Tools to Distribute to Families/Caregivers

- *Diagnosing and Managing Paediatric Influenza* – a **fact sheet** highlighting signs, symptoms and management of paediatric influenza during a pandemic
- *When to seek medical care for an infant or young child (up to 6 years old) with influenza-like illness and When to seek medical care for an older child (to 6-16 years old) with influenza-like illness* – **decision-making tools for parents/caregivers.**

Decision-Making Tools for Providers

- *Paediatric Pandemic Influenza Office Assessment Form* – an **assessment form** for use in the physician's office or flu

Case definition for probable influenza-like illness in children

The following general clinical case definition for influenza-like illness in children has been developed to help identify probable cases. This definition applies mainly to the clinical presentation of inter-pandemic influenza and may need to be modified in the event of a pandemic.

When influenza is circulating in the community the definition for children is as follows:

Sudden onset of high fever (>38° C) and cough, along with other symptoms such as sore throat, hoarse voice, nasal congestion and/or rhinorrhea, conjunctivitis, difficulty breathing, lethargy, myalgia.

Some children (particularly under the age of 3) may present with a predominance of gastrointestinal symptoms including nausea, vomiting, abdominal pain, and/or diarrhea.

Children under the age of 1 year may present with only sudden onset of high fever (>38° C) or low body temperature (<36° C) and nonspecific signs such as poor feeding, excessive irritability.

centre to document the patient assessment and potential plan of care or follow-up. The form outlines assessment criteria and possible antiviral agents that may be prescribed for paediatric patients.

- *Referral of Paediatric Patients with Influenza-like illness* – a **decision-making tool for health care providers**, to help determine the type of care required and the appropriate care setting (e.g., home, doctor's office, flu centre, hospital), which can be printed and posted in the office for reference.

Levels of Paediatric Care Required

Providing care at home. If the child is assessed by a primary care provider and deemed well enough to return home, parents should be directed to use the appropriate decision-making tools for parents/caregivers described above. These tools will help them care for their child at home and determine when to return for

reassessment. In these circumstances, primary care practitioners should consider the ability of the caregiver to adequately provide for the child (e.g., is the caregiver also ill?). Caregivers who are unable to care for their child may need help accessing an alternative care provider.

Hospitalization. Children who are not well enough to return home may need to be admitted to hospital. Each hospital will determine its own capacity for managing paediatric patients during a pandemic. Community and other academic hospitals should develop guidelines and admission criteria for management of children (with or without influenza), taking into account the level of care and resources required and whether the care could be provided at home or in an alternate setting.

Admission to hospital should be based on immediate need and in accordance with the sample admission criteria outlined below.

Sample Paediatric Admission Guidelines
<ul style="list-style-type: none">▪ Unstable vital signs (e.g. tachypnea, tachycardia, hypotension etc)▪ Oxygen saturations <92%▪ Change in neurologic status (i.e. signs of encephalopathy/ encephalitis; seizures)▪ hydration deemed inadequate (i.e. decreased urine output, weight loss, tachycardia) or child is unable to tolerate oral fluids▪ secondary infection that fails to respond to oral antibiotics or if oral antibiotics are felt to be ineffective (e.g. vomiting)▪ invasive infection such as sepsis or meningitis

Hospitals that are less familiar with managing paediatric inpatients may need to develop a mechanism for supporting local physicians or nurse practitioners, which could be developed in advance of a pandemic (e.g., telephone consultation, provider tools/ algorithms, outreach

education).

Chronic conditions. Although rates of hospitalizations and morbidity due to influenza complications are greater among children with chronic conditions, “early admission” is not a recommended strategy to prevent a more severe clinical course. Such a practice is unlikely to be effective, may further expose the child to infection, and would place an unnecessary burden on health care system capacity during a pandemic. Families of children with chronic illness should be educated, in advance, about effective prevention strategies for their child and given the appropriate tools as well as resources that tell them when to seek medical care. These families may consider “self-quarantine” as a preventative strategy rather than hospitalization.

Critical care. If a child’s condition deteriorates and the level of care and resources required outstrips capacity, health care providers will arrange a consultation and referral to a higher level of care in another centre, while recognizing that complex acute and critical care centres will need to triage the patient based on their resource and surge capacity at that time in the pandemic.

Implications for Infection Prevention and Control.

For newborns. Since influenza will be a particular risk for newborns, caregivers should take steps to reduce the risk of being exposed to or transmitting influenza to their infant including:

- not sneezing or coughing on the baby
- washing hands frequently – particularly after coughing or wiping their nose (hand hygiene)
- thoroughly cleaning surfaces in the home when someone is ill with influenza

- avoiding activities where large numbers of people gather in enclosed spaces.

(See Chapter 7: Occupational Health and Safety and Infection Prevention and Control Measures.)

Depending on the pandemic strain, breast milk of mothers with influenza may be unsuitable for feeding their babies. Until this information is confirmed by health officials, mothers should continue breastfeeding and take additional precautions such as wearing a surgical mask, and practicing good hand hygiene before each feeding or other close contact with their infants. They should only discontinue breastfeeding and use an alternative source to feed their baby under the advice of their doctor.

For children who are hospitalized.

Children most likely to present to hospitals are those who require a great deal of hands-on, complex care, which creates more opportunities for transmission and greater need for personal protective equipment (see Chapter 7).

Families will likely be present when a child is hospitalized during a pandemic, which will create the need for additional education and supplies, as well as possibly more opportunity to transmit infection.

Isolation precautions may be more prolonged for children because they shed virus for longer periods of time. This will have an impact on capacity and make it more challenging for health care providers and family members to adhere to precautions.

The environment where a child with influenza receives care is more likely to be contaminated and will require more frequent cleaning. Environmental cleaning can be challenging if there are toys, medical equipment, recreational equipment and other patient/ family belongings in the

child's environment.

For other paediatric inpatients. Other paediatric inpatients are more likely to be susceptible to influenza and have fewer treatment options if they do acquire influenza; therefore, it is important the hospitals identify cases promptly and initiate correct infection control and isolation practices immediately.

Screening Children for ILI

Screening can be more complex because of the difficulties associated with diagnosing influenza in children.

- use Paediatric specific active screening tools
- use Paediatric specific passive screening signage (see Chapter 18A).

Recommended Infection Prevention and Control Practices

In addition to the information in Chapter 7 (Occupational Health and Safety and Infection Prevention and Control Measures), health care providers caring for children should consider the following paediatric-specific infection prevention and control strategies:

Transmission-based Precautions

- Isolate for the duration of illness (consider the range of paediatric clinical manifestations when determining asymptomatic state).
- Do not cohort patients with atypical symptoms before laboratory confirmation (when possible).
- Use paediatric-sized masks for symptomatic children who cannot be kept at least 2 metres (6 feet) away from others in waiting areas and during transport to other facility locations.

Hand Hygiene

- Use developmentally appropriate products and programs to encourage

hand hygiene among children, such as hand sanitizing wipes and age appropriate signage (see Chapter 18A).

- Instruct family members and caregivers in proper hand hygiene.

Aerosol Generating Procedures

- Identify aerosol generating procedures that will likely be required in paediatric populations.
- Educate staff about how to perform these procedures safely (see *Preventing Febrile Respiratory Illnesses*: www.health.gov.on.ca/english/provider_s/program/infectious/diseases/best_prac/bp_fri_092805.pdf).

Environmental Management

- Provide point of care disinfectant wipes in patient care areas.
- Provide dedicated and/or disposable medical equipment for isolated patients.
- Provide washable toys and limit the sharing of age appropriate activity kits and toys from home.
- Provide storage for family belongings.

Family and Visitors

- Limit the number of family members/visitors to two designated people (whenever possible).
- Limit sibling visitors to those who are asymptomatic and >10 years of age.
- Provide family members/visitors with gowns and other personal protective equipment (as appropriate), and instruct them how to use and dispose of them properly.
- Encourage proper hand hygiene practices.

Laboratory Testing

Chapter 14 provides guidelines for laboratory sampling and testing for influenza during a pandemic. Guidelines for

paediatric specimen collection are included in Chapter 14A.

Consent to Treatment

Settings will establish procedures to manage consent issues associated with providing care for children including:

- obtaining consent for treatment and discharge planning if caregivers of hospitalized children are themselves hospitalized or unable to provide care.
- naming substitute decision makers if parents or other family members are unavailable.

Other Care Issues

Access to Antivirals and Vaccine. The health risks to pre- and post-partum women, neonates and children will be taken into account in the province's antiviral and vaccine strategy.

Supports for Families. To ensure the best care for children and family members who are isolated/quarantined at home, the system must be able to provide critical services and supplies. This would include such things as food, water, shelter, medicines and medical consultations, mental health and psychological support services, other supportive services such as child care, schooling, and transportation to medical treatment, if required.

18.5 Maintaining Paediatric Care during a Pandemic

During an influenza pandemic, clinicians will use a variety of strategies to meet the medical needs of Ontario's children. Specifically, the system will have to create surge capacity for the delivery of paediatric acute and critical care (refer to OHPIP Chapter 17; Chapter 11 & 13 OHA Pandemic Toolkit for Small, Rural and Northern Hospitals).

Depending on the severity of the pandemic,

there may come a point when resources are scarce and surge strategies are no longer able to meet the needs of the children and youth requiring care. In these situations, providers will use decision-making processes to ensure effective use of scarce resources and interventions (e.g., ventilators, intensive care beds).

Ethical Decision Making during a Pandemic

To the extent possible, care settings should adhere to ethical standards and principles that guide decision-making for infants, children, and adolescents under non-pandemic conditions, throughout all stages of a pandemic (see Chapter 2 and *Canadian Paediatric Society Position Statement (B 2004-01)*, Paediatric Child Health Volume 9 No 2 February 2004). However, in a crisis situation this may not always be possible. Parents and guardians may not be available to act as substitute decision-makers, the comforting presence of family for the hospitalized child may not be available and facilities may not have enough life-saving interventions for all those who may benefit. Decision-making in this context will require a difficult balancing of interests, rights, responsibilities and duties. Providers will strive to choose the least harmful course of action and should consider the best available scientific evidence as the starting point of decision-making. This is a key value that underpins “paediatric triage”, ensuring that the decision-making processes are based on common, known and transparent parameters, and that allocation of scarce resources is based on best possible outcomes rather than criteria associated with social worth (i.e., social status, perception of social contribution, age, disability, ethnicity).

Defining Triage

During a non-pandemic situation, “routine” triage involves identifying patients who require medical attention and then

prioritizing the order in which they will receive care. Prioritization is based on the severity of symptoms and the threat to life associated with the underlying condition. Within this definition of triage, those who are the most sick and those whose life is the most threatened are attended to first, while others are attended to at a later time. In this instance, the degree and/or extent of care provided is only rarely, if ever, limited due to a lack of available resources.

During a pandemic situation, once surge capacity has been exhausted and health care resources are limited, this “routine” prioritization may no longer be sufficient and the concept of “TRUE Triage” or “Targeting Resources to achieve Ultimate Ends” needs to be considered (see Chapter 17). To date, this particular model has focused primarily on decision-making and allocation of scarce resources for adults requiring admission to critical care. “TRUE Triage” does not take into account the unique circumstances and vulnerabilities of children and youth. The following guiding principles are suggested as a foundation for decision-making for care of children and youth.

Guiding principles for children and youth

In addition to the core values of best scientific evidence and social justice, deliberations regarding the allocation of resources and provision of care to paediatric patients should consider the following:

Unique considerations of infants, children and youth

Infants and children are vulnerable and in need of protection. They are typically embedded in families who care for them and provide them with their ongoing needs. Their parents or guardians are their surrogate decision-makers for health care. Health care decisions are often challenging, as decision makers try to determine what is

in the child's best interests, usually without having direct access to the child's wishes. Medications and interventions may not have been studied in children, and clinical outcomes are often less certain.

As children develop they may become increasingly interested in their bodies and may wish to receive information and even be involved in decision-making. Respect for their developing autonomy supports practices that encourage children to participate in a developmentally appropriate way. At some point adolescents will become the primary decision-maker for their own care.

Those who care for children have a duty to advocate for them, as the children cannot speak for themselves. Presently there are regional inequalities with regards to resources for paediatrics (even more so than adult resource inequalities). Pandemic planning should include capacity enhancements that do not exist currently (i.e., pre-pandemic) in order to deal with these inequities.

Legal/ ethical obligation to care for children/ youth

From a legal and ethical standpoint, decisions made for children by others should be consistent with the child's best interests. Preserving life and minimizing undue suffering are primary considerations. When death seems inevitable or ongoing treatment poses a greater burden than benefit for the child, options such as providing comfort care and enhancing quality of life may be reasonable and even encouraged. Parents/guardians and health care professionals should collaborate in these decisions, involving the child as appropriate.

Dynamic pandemic environment

A pandemic is a dynamic environment where specific care decisions made for a

specific child must change over time as available resources change. Decisions should be based primarily on the physiological status of the child rather than just categories of disease, illness, or treatment. Decision-makers should review each patient on an individual basis, taking into account the patient's physiology, the presence of co-morbidities (and the relevant impact on prognosis with or without influenza), predicted response to influenza (or another presenting illness), and the demand for resources based on the patient's condition.

Ethically non-relevant considerations (i.e., what should not be a deciding factor or an "exclusion criterion"?)

"Best interest" decisions should focus on considerations that are ethically relevant. For example, the Canadian Paediatric Society suggests consideration of the following:

- chances of survival
- the harms and the benefits of treatment
- evidence regarding long- and short-term medical outcomes of the treatment
- long-term implications for the child or adolescent's suffering and quality of life.

It would be unjust, not ethically relevant, and inconsistent with the Canadian Charter of Rights and Freedoms to deny treatment solely on the basis of the child's age, gender, race, religion, socioeconomic status, geographical location (urban versus rural, north versus south, etc.) and/or the existence of a physical or mental disability.

Paediatric Triage Model and Draft Guidelines

Recognizing the need for critical decision-making and taking into account the guiding principles, OHPIP suggests the following "paediatric triage" model, which would only be applied after all other surge capacity

and resource allocation strategies have been exhausted. Under this definition, triage does not become a method of deciding which child **will** or **will not** receive care. Instead, “paediatric triage” presumes that every paediatric patient **will** receive care. However, as the pandemic evolves, the environment changes, and resources become limited, the system will develop processes and criteria to decide how, when, and what health resources can and will be allocated to each child.

As the pandemic evolves, paediatric triage will become a fluid and dynamic process very much dependent upon patient demands as well as the availability of resources. The purpose of the draft guidelines is to provide a framework for deciding about two levels of resource allocation that must be considered concurrently when making decisions: levels of resource intensity and levels of patient-specific triage (see **Table 1**).

Levels of Resource Intensity

This category focuses on resource utilization as the basis of allocation. As the availability of resources and the ability to provide rudimentary critical care become compromised, providers must consider limiting resource-intensive therapies for all patients, regardless of prognosis.

The second category – **Levels of Patient-Specific Triage** – prompts the provider to consider patient-specific predicted outcome as the basis for resource allocation. In this instance, the intention is to match the provision of critical care resources and interventions to those patients with the greatest potential for benefit (i.e., maximal survival, minimal morbidity).

While the issues of triage are clearly linked to capacity, this document does not make specific recommendations about interventions to increase, maintain or shift capacity within health care institutions or settings.

Guidelines for each level of resource allocation have been organized explicitly to reflect the step-wise shift from providing critical care to **all patients** to caring for **as many as possible** as the pandemic progresses. The levels of resource allocation for both categories are numbered based on the stage of the pandemic. In the early pandemic period, care settings will still have the ability to flex surge capacity, while in the late pandemic period, settings may experience resource shortages that will dictate who will receive critical care and which therapies will be provided.

Table 18.1: Levels of Resource Allocation for Paediatric Triage during a Pandemic

Resource Intensity Provision

Level 1: Early Pandemic Period

Continue to provide the full range of pediatric/neonatal ICU therapies by maximizing access to technological and human resources

Level 2: Mid Pandemic Period

Limit specific resource-intensive therapies which are only available in paediatric/neonatal ICUs

Examples of Resource-intensive Therapy:

- Continuous Renal Replacement Therapy (CCRT), Extracorporeal Membrane Oxygenation (ECMO), Nitric Oxide (NO)

Level 3: Late Pandemic Period

Limit resource-intensive therapies for conditions that require care beyond paediatric ICU or require prolonged NICU stay. In a full-blown pandemic, there may be interventions or programs that would be suspended. Provision of intensive care as a bridge to the interventions or programs that are suspended would not be a judicious use of resources as the burden of treatment would be experienced without any hope of benefit.

Examples of Resource-intensive Conditions:

- Organ transplantation, bone marrow transplantation, neonatal surgery for severe life-threatening complex congenital anomalies, extreme prematurity and extremely low birth weight

Operationalizing Triage

In planning for an influenza pandemic, settings that provide acute and critical paediatric services should consider the following:

- providers caring for children and youth, along with children’s parents/guardians, and when appropriate the children themselves, should make specific treatment decisions that allocate resources based on best possible outcomes.

Paediatric Patient-specific Triage

Level 1: Early Pandemic Period

Maximize capacity within units, within hospital (e.g., paediatric and adult ICU, ED, NICU), and within region to provide critical care to all patients.

Level 2: Mid Pandemic Period

Time-limited trials of ICU therapy (e.g., 24 hours) and accelerated decision-making processes to withhold/withdraw life support for patients not predicted to survive ICU-related diagnoses

Paediatric Examples:

- Post-cardiac arrest patients, severe sepsis with multi-organ failure, severe head trauma with Glasgow coma scale = 3 and refractory intracranial pressure, patients with greater than 30% third-degree burns, severe refractory acute respiratory distress syndrome

Neonatal Examples:

- Prolonged neonatal resuscitation, severe hypoxic-ischemic encephalopathy (Sarnat III or with multi-organ failure), severe intraventricular hemorrhage (bilateral grade III/IV), severe refractory persistent pulmonary hypertension of the newborn

Level 3: Late Pandemic Period

Limited access to ICU for patients with underlying chronic conditions associated with known or predicted severe morbidity, as well as those patients included in level 2

Paediatric Examples:

- Late-stage degenerative conditions requiring chronic life support measures, lethal chromosomal/genetic disorders, late-stage neurodegenerative disorders, persistent vegetative state with no chance of recovery

Neonatal Examples:

- Extreme prematurity and extremely low birth weight, lethal chromosomal/genetic disorders, severe life-threatening complex congenital anomalies

- advise families of the need to consider a plan for their children, including an alternative care provider/decision-maker, in the event that the parent became incapacitated.
- should a pandemic reach a stage where all surge capacity strategies are exhausted and life saving interventions and resources cannot be made available, specially trained decision-makers (i.e., triage officers) or teams may be asked to decide whether or not a specific patient

fits a pre-determined category to receive the scarce resources, and if not, what level of care will be provided.

- assemble a multidisciplinary triage team or appoint a triage lead to support the triage process, ensure consistency in the approach to decision-making, and enable an appropriate response to changing needs and information throughout the pandemic.
- establish a triage process that is open, transparent, reasonable and inclusive to help guide decision-making with respect to the level/type of care required and the setting in which care can be provided for patients with influenza (i.e., clinic, community hospital, tertiary hospital, home).
- to help health care providers in establishing a triage process, the following tool has been developed: *Decision Making Process for Neonatal Intensive Care – a tool for health care providers* to use in a neonatal Intensive Care setting. This tool can be adapted to other critical care and non-critical care settings (Refer to Chapter 18A).

18.6 Maintaining Obstetrical Care during a Pandemic

In addition to providing paediatric services during a pandemic, Ontario must maintain capacity to provide routine obstetrical services. Planning and preparation must be done to be able to respond to the needs of pregnant women, who are likely to experience complications associated with influenza. Women who contract influenza in the second and third trimester of pregnancy are more likely to experience stillbirths and are at higher risk of cardiorespiratory illness.

Primary care services must be able to assess and manage pregnant women who present

with symptoms of influenza.

For information specific to the medical management of obstetric patients during a pandemic, see Chapter 18A.

18.7 Coordinate planning with other obstetric and critical paediatric services

An influenza pandemic will affect the entire community, and the demand for health care resources will be particularly high. All parts of the health care system must be involved in planning to respond to influenza-related needs and maintain other critical health services during a pandemic. Settings that provide obstetrical and critical paediatric services cannot plan in isolation; therefore, they should:

- develop an inventory of current and surge capacity, including physical as well as human resources (e.g., acute care beds, special needs beds, birthing suites, NICU, PICU, transport services, staffing levels, skill mix). See Chapters 8 and 17.
- assess the equipment, supplies and resources required to maintain obstetrical and paediatric services in each setting (e.g., home, clinic, doctor's office, community general hospital, rehabilitation and special needs agencies, tertiary paediatric hospital, transport).
- identify alternative feeding sources if breast milk of mothers with influenza is considered unsuitable.
- connect with other health organizations in the community, including local and/or regional obstetric and critical paediatric service providers, hospitals, community care access centres (CCACs), emergency medical services, and local public health units.
- share planning assumptions and pandemic plans and/or develop mutual

aid agreements between settings and/or regions to optimize hospital and non-hospital resources and management of paediatric, neonatal and obstetrical cases.

- develop strategies to help maximize physical capacity, clinical practices and the use of staff and providers in responding to care needs (See Chapter 17, as well as the *OHA Pandemic Toolkit for Small, Rural and Northern Hospitals*, Chapter 11 & 13).
- deploy and redeploy staff to ensure adequate coverage of obstetric and critical paediatric services using a competency based framework (see Chapter 8). This process will include assessing:
 - the type and level of service to be provided
 - the spectrum of competencies required to meet patient needs
 - the competencies that providers can supply
 - the gap in competencies
 - the strategies required to build staff and provider capacity.
- explore opportunities for collaboration, pooling and/or sharing of resources during a pandemic particularly in areas or regions where the number of specialized providers is limited.
- consider alternative sites to provide services that can be managed in a different way during a pandemic (e.g., pre- and post-natal visits, well baby visits in a community centre, or phone) to help preserve hospital capacity for more acute or critical levels of patient care.

Midwives

Midwives are an integral component of obstetrical services in Ontario and a key

resource to include in human resource and service delivery planning, particularly in areas or regions where the number of specialized providers is limited. Policies regarding hospital admitting privileges and/or credentialing for midwives should be examined in advance of a pandemic, and procedures should be put in place to facilitate midwives' full inclusion in the hospital setting. This will ensure hospitals have the maximum number of maternity care providers to help maintain obstetric service capacity during a pandemic.

Midwives' current provision of obstetrical care in alternative settings should be explored for its potential to help maintain community obstetric service capacity in a pandemic.

Identify alternate ways to deliver some services

- Advise patients and families to call the office or Telehealth, rather than coming to the hospital, clinic or office, providing them with as much care and advice by phone as possible.
- Give patients and families information about emergency planning and preparedness, how to protect themselves from flu and how to care for family members who become ill. Refer to the ministry fact sheets: (http://www.health.gov.on.ca/english/public/program/emu/pan_flu/pan_flu_materials.html#fs), as well as the self-care and self-assessment tools developed specifically for children, pre- and post-natal women (See Chapter 18A).
- Explore alternative models of care for antenatal, labour and delivery, and post partum care that would maximize safety, efficiency, and system capacity.
- Delegate some care and/ or components of service to other providers who have the required skills and competencies to

support the care (See Chapter 8 for competency based health human resources planning framework).

- Establish pre-natal and antenatal care protocols to ensure that there is a system in place to meet the needs of normal and high-risk pregnancies (e.g., earlier discharges for vaginal births, such as a six-hour length of stay following childbirth, which is consistent with current midwifery practice; telephone consults in lieu of hospital visits for healthy moms and healthy newborns).

To help health care providers establish care protocols, the following tools have been developed (see Chapter 18A):

- *Obstetric Medical Management for Pandemic Influenza – a **decision-making tool for health providers***, highlighting signs, symptoms and management of antepartum, intrapartum and postpartum women with influenza
- *Clinical Guidelines for Early Discharge Following Uncomplicated Vaginal Birth – a **checklist for health care providers*** to facilitate patient assessment and planning for early discharge (i.e. < 6 hours post partum) following an uncomplicated vaginal birth
- *Early Discharge Postpartum Follow-up Guidelines – a **checklist for health care providers*** highlighting maternal and newborn assessment parameters, teaching, interventions, and further follow-up if required.

Prior to a pandemic, advise patients and families how service delivery and care routines may change during a pandemic (see Chapter 18A) – *Pandemic Influenza and Pregnancy – a **fact sheet for women expecting a baby during a pandemic***, highlighting signs, symptoms and when to seek medical attention if pregnant or

beginning labour with influenza, as well as some self care and monitoring instructions.

Identify services that can be reduced or deferred during a pandemic

In an effort to enhance surge capacity during a pandemic, care settings should identify those obstetric and critical paediatric services that could be deferred for a period of time or that could be managed differently, as well as those services that cannot or should not be deferred. Table 2 provides examples of obstetric services in each of these three categories.

Further information suggesting alternate models of low risk, prenatal care is available in *Alternate Model of Prenatal Care – a **fact sheet for prenatal care providers during a pandemic*** (see Chapter 18A).

A similar approach was taken to develop the decision-making process tool for health care providers in the neonatal intensive care unit. The tool highlights examples of care provided in the neonatal intensive care unit that can/cannot be deferred or managed differently (see Chapter 18A). This tool, as well as the table below, could be adopted for use in both acute and critical care paediatric settings to help identify services that can and cannot be deferred.

Table 2: Examples of Obstetric Care Services that Can or Cannot be Deferred

	PRIORITY A	PRIORITY B	PRIORITY C
	Patients requiring care/ treatment that cannot / should not be deferred	Patients requiring care/ treatment that can be deferred for a defined period of time	Patients requiring care/ treatment that can be deferred or can be managed in an alternate way
Trimester I	Termination of significant fetal anomaly (TOFA) and first prenatal visit for patients with significant medical disorders requiring urgent medical attention	First prenatal visit could be extended to 14 weeks First Trimester Screening or Integrated Prenatal Screening could be extended to 16 -19 weeks	Chorionic Villi Sampling could be deferred with backup amniocentesis at 16 weeks First Trimester Screening and/ or Integrated prenatal Screening to be replaced with Maternal Serum Screening
Trimester II	Termination of significant fetal anomaly (TOFA), management of complex maternal or fetal condition, amniocentesis for conditions at significant risk, and anatomy ultrasound.	Amniocentesis (depending on the level of risk)	Routine prenatal visit
Trimester III	Management of complex maternal or fetal condition, ultrasound for pregnancies and fetuses at risk. Delivery cannot be deferred		Routine prenatal visit, glucose challenge test, CBC Routine 3 rd trimester ultrasound.
Post-natal	Management of postpartum hemorrhage, infection of the breast, uterus or wound		Routine postpartum visit could be deferred or managed in another setting (e.g., outpatient clinic, home visit, self-care)

18.6 Providing Psychosocial Support

During an influenza pandemic, parents and families may need psychosocial support to help them cope with fear, the illness of a child, frustration over the lack of treatment options (i.e., no vaccine), decision-making about a child’s care, the stress of having family members isolated, the competing demands of caring for ill family members and work, and multiple deaths among family and friends.

Local pandemic plans will:

- identify psychosocial services and resources available – including cultural and faith groups, teachers, school social

workers, psychologists, guidance counselors, hospital-based chaplains and other helping professionals – to help children, youth and caregivers cope

- develop strategies to facilitate death rites, funeral rituals, grief and bereavement in the context of a pandemic.

The issues of psychosocial support and grief and bereavement services will be covered in more depth in future iterations of OHPIP.

18.7 Maintaining Education

During a pandemic, every effort must be made to help children lead a normal life, including continuing school. The Ministry of Education and school boards need to plan

alternative education strategies for the ill or convalescing child and for all children in the case of school closures.

18.8 Next Steps

MOHLTC will continue to work with paediatric service providers to refine plans to provide care for children during a pandemic. The paediatric working group will be seeking input from key stakeholders on the guiding principles, ethical decision-making and draft guidelines for the triage of paediatric patients during a pandemic situation set out in this chapter.

In addition, the working group will continue to explore the issues of psychosocial support and grief and bereavement services.

MOHLTC will also work with the Ministry of Education to develop alternative education strategies during a pandemic.