Toronto Academic Health Sciences Network

Pandemic Influenza Planning Guidelines

May 31, 2006
Version 1.0

Preface

The TAHSN Pandemic Planning Guidelines have been developed after a year of collaboration among the Toronto Teaching Hospitals. This is perhaps the first time these organizations have collaborated on an extensive plan to coordinate services during a pandemic. Our desire to work on this project stemmed in part from our experience during the 2003 Toronto SARS outbreak. Although influenza and SARS are very different organisms and require different responses, there are certain similarities. For example, SARS brought many human resources and communications issues to the forefront and we believe that what we learned during SARS will be readily applicable to a pandemic.

This is only the first phase of our collaboration. As hospitals use this guideline to develop their own internal plans, we envision on-going developments.

Acknowledgements

The TAHSN pandemic taskforce acknowledges the hard work and dedication of all those who provided their time and expertise to help develop the TAHSN Pandemic Influenza Planning Manual. We would particularly like to thank Ms. Leah Gitterman for her role in compiling and editing the document.

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CAMH: Centre for Addiction and Mental Health HBS: Hospital Business Services HSC: Hospital for Sick Children MOHLTC: Ministry of Health and Long Term Care MSH: Mount Sinai Hospital SMH: St. Michaels Hospital SHSC: Sunnybrook Health Sciences Centre	TEGH: Toronto East General TML: Toronto Medical Laboratories TPH: Toronto Public Health TRI: Toronto Rehabilitation Institute UHN: University Health Network UofT: University of Toronto WCH: Women's College Hospital

Updated: May 31, 2006

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Chapter 1:

Introduction and Objectives

The Toronto Academic Health Services Network (TAHSN) comprises the University of Toronto (its health faculties and schools) and nine fully affiliated teaching hospitals and their research units that were established to allow for collaboration in order to improve patient care, research and prepare future health care professionals, leaders and innovators. The roles of TAHSN include rationalizing clinical services; accelerate the consolidation of support services and strengthening the collective education of healthcare workers. Federal agencies and authorities will provide overall direction, guidance and coordination, while provincial and regional health authorities along with the medical care system will form the front-line response in terms of management of ill persons, administration of interventions, local communications and surveillance. An effective response requires planning, infrastructure and action at many levels and by many groups. TAHSN has established a committee to develop a coordinated pandemic flu response for all TAHSN hospitals. This manual will outline the goals, objectives and action plan of the TAHSN response to a pandemic and serve as a resource for healthcare organizations outside of the TAHSN network.

During the pandemic, health care facilities must be prepared to respond and provide services within the context of limited availability of external resources and support. Therefore, contingency planning is required to mitigate the impact of the influenza pandemic through consideration, planning and preparation efforts within all communities in collaboration with stakeholders. The overall goal of a pandemic response plan is to minimize serious illness and overall deaths and to minimize societal disruption.

The TAHSN pandemic manual is a dynamic document that will be reviewed, updated and revised regularly to ensure that assumptions, resources and priorities are consistent with existing infrastructure and current knowledge. It is assumed that components of this plan will change as additional information becomes available. It will be consistent with health and emergency management legislation, The Canadian Pandemic Influenza Plan and the Ontario Health Influenza Pandemic. Each hospital will develop a plan specific to their organization using this umbrella plan as a guideline.

When the TASHN pandemic planning taskforce was established in May 2005, the following assumptions were made from which the guidelines outlined in this manual are based:

1. The goal of activities is to protect and support staff so that patient access can be maintained.
2. Support and inform the Ministry of Health and Long Term Care pandemic influenza strategy.
3. Consistency between members in the areas of screening, HR policies and safety and support is crucial to avoid staff confusion.
4. Talent within member hospitals will likely be seconded enhancing the need for a coordinated response
5. The definitions of the phases of the pandemic and the teaching hospitals responses to those phases are established and must become familiar to our staff pre-pandemic.
6. Selected programs within member hospitals will be reduced/eliminated. There is a need to coordinate this reduction to maximize patient access.
7. It will be important to communicate the ethical framework, which has been used to support the development of triage protocols in such areas as Emergency, ICU, etc…
8. Staff must be prepared ahead of time for what to expect. We need to anticipate on how it will affect all healthcare workers within the system.
9. Directives/guidelines will be provided through other organizations. We can anticipate that interpretation and adherence to these will vary across the TAHSN hospitals in the absence of coordination.
10. The work done by this task force should be largely generalizable to other groups such as other hospitals, the MOHLTC, Long Term Facilities and the Federal Pandemic Plan.
11. Research challenges (ethics review, authorship, criteria etc…) need to be addressed in advance.
12. An Alternate Funding Plan will be created or an agreement reached between the MOHLTC and OMA regarding physician/surgeon compensation during a pandemic.
13. It is important that the work being done by the TAHSN group be transparent and accessible to all members and to institutions outside of TAHSN.

WHO Pandemic Phases

The cornerstone of pandemic planning is the World Health Organization (WHO) classification system, developed in 1999 and revised in 2005. In the new system, pandemic influenza response activities are outlined in terms of phases 0-6. The federal and provincial plans in Canada utilize this classification. This document pertains to only planning and response activities for phase 6 of the pandemic and the immediate post-pandemic period.

Pandemic Phase	Overarching Public Health Goals
Interpandemic Period	
Phase 1 No new influenza virus subtypes have been detected in humans. An influenza virus that has caused human infection may be present in animals. If present in animals, risk of human infection or disease is considered to be low	Strengthen influenza pandemic preparedness at the global, national, provincial and regional levels.
Phase 2 No new virus subtypes have been detected in humans. However, a circulating animal influenza virus subtype poses a substantial risk of human disease	Minimize the risk of transmission to humans, and report such transmissions rapidly if it occurs
Pandemic Alert Period	
Phase 3 Human infection(s) with a new subtype, but no human-to-human spread, or at most rare instances of spread to a close contact	Ensure rapid characterization of the new virus subtype and early detection, notification and response to additional cases
Phase 4 Small cluster(s) with limited human-to-human transmission but spread is highly localized suggesting the virus is not well adapted to humans	Contain the new virus within limited foci or delay spread to gain time to implement preparedness measures, including vaccine development
Phase 5 Larger cluster(s), but human-to-human spread still localized, suggesting that the virus is becoming increasingly better adapted to humans, but may not yet be fully transmissible (substantial pandemic risk)	Implement pandemic response measures
Pandemic Period	
Phase 6 Pandemic: increased and sustained transmission in the general population	Minimize impact of the pandemic
Post Pandemic Period Return to Interpandemic Period	

Chapter 2:

Action Plan for Pandemic Influenza

This action plan serves as a quick reference guide to assist facilities in initiating planning by highlighting the key issues relevant pandemic planning. It summarizes the assumptions and planning directions. For further details see the chapters enclosed in this document.

The following steps can be taken by any health care facility in planning for a pandemic:

1. Establish a pandemic influenza committee that has wide representation including, but not limited to the following individuals and areas: physicians, nurses, infectious disease experts, occupational health and safety, allied health, pharmacy, purchasing, public affairs, information technology, human resources, operations and ethics.
2. Ethical framework
    - Develop or adopt an ethical framework to provide support for and improve accountability for decision-making.
3. Assess capacity including the number of beds, ventilators and staff (clinical, research, students, administrative and laboratory). Some issues to consider include:
    - How many active and non-active beds are in the hospital?
    - How many of these beds are monitored and ventilated?
    - How many ventilators does the hospital have?
    - Work with the human resources department to develop a list with the total number of all employees including full time, part time, casual, students and co-op. This list should be further broken down by department and job description in order to have a better understanding of the numbers of staff and their skill sets.
    - Ascertain the number of physicians, nurses, allied health, medical students and residents.
    - Ascertain how many volunteers work in the hospital.
4. There are myriad human resource issues in regards to pandemic preparedness. As a starting point, consider the following:
    - What proportion of staff will work?
    - What role will students play?
    - What role will volunteers play (i.e. will they be included or excluded in the human resource planning strategy)
    - Work with human resources to develop a plan for reallocating staff. Issues to consider include: Liability, labour relations, compensation, temporary licensing. This will involve defining the extent of care that health care workers can perform according to union agreements.
    - Develop a staffing model and policy that can be implemented at the start of the pandemic. Staff should be informed of this policy in advance. The model should address staff resiliency, absenteeism, skill shortages, and employee relations.
    - Staffing model may include: Details on the reallocation of staff from non-clinical areas and from clinics/programs that may be temporarily closed during the pandemic.
    - The required number and type of staff for complete coverage of all entrances and patient triage sites

- Policy regarding the use of volunteers
- Communicate your pandemic plan with your staff in advance and have a copy of the plan available on your hospital website.

5. Plan for 50% capacity from influenza patients (however some hospitals may be above or below this number. It is recommended that each facility run FluSurge (Center for Disease Control) to get hospital specific estimates). This will involve
    - Consider a tiered approach to increasing capacity i.e. Phase 1: single case/family, Phase 2: small numbers of cases (containment), Phase 3: Large numbers of cases (capacity, mitigation).
    - Develop a plan for scaling back certain hospital services based on patient need for urgent care (e.g. life/limb threatening) in order to increase capacity for influenza patients. Clinics should evaluate their patient population and determine what proportion of patients would require care during the pandemic and at what frequency and allocate resources accordingly.
    - Develop a plan for flu and non-influenza assessment areas
    - Develop a plan for flu and non-influenza wards. Assume that as the pandemic progresses and the number of influenza patients increase, the ability to maintain separate ward for influenza patients is unrealistic.
6. Patient Assessment/Management
    - A substantial amount of triage may occur outside of the emergency department otherwise it will be overwhelmed. Triage will involve assessing patients to determine whether or not they need hospital care or can be sent home. This must be coordinated with local planners in advance
    - Develop or adopt primary and secondary patient assessment forms (see attached in Chapter 4 of this manual)
    - Develop or adopt signage, in multiple languages, for patient triage area, visitors and outpatient clinics.
    - Develop or adopt criteria for patient discharge and transfer to another site (for facilities such as rehabilitation or mental health facilities that do not have the capacity to take care of critically ill patients a plan needs to be developed with hospitals in order to transfer these patients when necessary).
    - Develop a visitation policy. This should balance the competing consequences of open visitation versus restriction of visitation to protect patients, volunteers, staff and the public.
7. Plan for surveillance during the pandemic, which will be required to determine the extent and severity of the pandemic and ongoing capacity assessment (what information will be collected and how). This will require linkages with local and provincial plans.

8. Communications/Education. Develop a communications strategy for patients, staff and the media and preparing educational materials and information. This material should be tailored to various audiences (staff, patients, media) and translated into other languages where possible. Timely and consistent communication will be essential during the pandemic. The communications strategy should include the following:
    - Choose a central media room and designate a single spokesperson (that can rotate over time) to relay information to the media on behalf of the hospital
    - Develop a communication cycle (see Ministry of Health guidelines)
    - Develop both pre-pandemic and pandemic information (see attached list of information to be covered)
    - Information can take the form of posters, newsletters, brochures
    - Develop a website or link to a site from your hospital website that is specific to pandemic flu. This should be updated regularly to keep patients and staff informed on the pandemic, resources and what measures the hospital is taking
    - Develop information materials and communicate issues related to self-care childcare and eldercare with staff.

    The educational information should include the following:
    - An explanation that pandemic influenza is a novel strain of influenza and what a pandemic is
    - The facility-specific pandemic plan
    - Information regarding triage settings, self care and the possibility of temporary care facilities
    - The difference between an upper respiratory infection and influenza
    - The mode of transmission of influenza
    - Criteria for determining influenza-like-illness (ILI) and influenza
    - The risk of infection and complications in high-risk groups
    - The message that strict adherence to hand washing/antisepsis is the cornerstone of infection prevention and may be the only preventative measure available during early phases of the pandemic
    - Information about the importance of hygienic measures and routine practices to minimize transmission of influenza
    - Information regarding the use of personal protective equipment: during the very early phase it may be feasible to wear masks when face to face with coughing individuals, but NOT practical or helpful when transmission has entered the community. Masks may be worn to prevent transmission of other organisms from patients with undiagnosed cough.
    - Information about priority groups for immunization (when the vaccine is available) and antiviral prophylaxis, and the importance and safety of these measures.
    - Information about the possibility of scaling back certain hospital services, the re-allocation of staff and the rationale for doing so.

9. Equipment and supply list
    - Assess current supply of surgical masks, gloves, gowns, goggles, hand hygiene supplies, antibiotics and other patient care supplies. For complete list see the list attached provided by the Ministry of Health
    - Ensure that an adequate number of supplies are stockpiled in advance. During the pandemic access to supplies will be limited. Specifically the MOH recommends access to a 4 week stockpile of supplies.
10. Develop a plan regarding the use of antivirals and vaccines including establishing priority groups and strategies for delivery.
    - Ensure security of the supply of vaccine and antivirals

    If prophylaxis is being used:
    - Determine priority groups for prophylaxis and the number of people in each group
    - Determine the length of time you want to deliver prophylaxis and the associated cost. The amount that can be stockpiled will depend on your specific hospital budget
    - Develop a strategy for delivering prophylactic antivirals and mass vaccination. This may include: Directly Observed Therapy, supplying each staff member with a 7 day supply of pills that needs to be re-filled once/week or supplying staff with a 60 day supply of pills. The plan should be logistically and ethically sound and ensure compliance as much as possible.
    - Consider logistical and ethical issues in regards to the above-mentioned strategies for delivery.
11. Develop a plan for the handling and disposal of the deceased
    - Local public health units have the responsibility of assisting in the handling and disposal of mass fatalities, therefore communicate with local planners to ensure a coordinated plan.
    - Estimate regular capacity and predict the need for additional space and resources in temporary morgues.
    - Develop a list of current capacity at hospitals and funeral homes
    - List requirements for temporary morgues.
    - Establish contact with funeral businesses whose services may be needed during the pandemic (speak with public health officials to determine what their role is in this).
    - Technical considerations include: autopsies, death registration, Infection Prevention and Control, transportation and supply management.
12. Policies and Procedures
    - Develop a common template to be used for all policies.
    - Ensure policies are up to date and in place for infection prevention and control routine practices, additional precautions, disinfection/sterilization and the physical plant/environment.

13. Strongly consider adopting the Incident Management System for your facility (See Chapter 8 for IMS structure). The Ministry of Health and Long Term and Care have adapted IMS in their planning guidelines. IMS includes, but is not limited to the following:
    - Identify key decision makers
    - Pre-determine roles and develop job action sheets for these roles
    - Develop phone lists
    - Develop a hospital fan-out and test the process during the pre-pandemic period
14. Consult existing plans to ensure consistency. Liaise with your local public health unit to ensure coordination and an integrated response.
15. Develop and execute a Tabletop exercise to test the effectiveness of the plan.
16. Outline a decision-making process and means of communicating during the pandemic that specifically outlines who will form the decision group: senior members of the organization, clinical expertise, ethicists.
17. Prepare a timeline for steps to be taken in the immediate pre-pandemic period in order to prepare your facility for triage and patient management.
18. Develop a recovery strategy for both the inter-wave and post-pandemic periods. This will involve de-activating pandemic response activities, reviewing their impact and using the lessons learned to guide future planning activities for the potential second wave of the pandemic. This recovery strategy will be essential not only to re-introduce hospital services but also to support and acknowledge staff for their contribution.

Chapter 3:

Ethical Framework [1]

[1] Sources: Pandemic Influenza Planning Working Group, Stand on guard for thee: ethical considerations for preparedness planning for pandemic influenza [White Paper], University of Toronto Joint Centre for Bioethics, November 2005; Thompson AK, Faith K, Gibson JL, & Upshur REG. Pandemic influenza preparedness: an ethical framework to guide decision-making *BMC Medical Ethics* (under review).

Introduction

Hospital-based decision-makers will be faced with making difficult ethical decisions during a pandemic influenza crisis. The ethical framework is intended to guide reflection, provide support for decision-making, and improve accountability for decision-making. It is a living framework, which may require revision as feedback and circumstances require. Three key ethical issues are: health care workers' duty to provide care; priority setting of limited resources; and restricting liberty in the interest of Infection Prevention and Control. Based on the ethical framework, recommendations for addressing these issues are specified.

Ethical Framework

Decision–making during a pandemic influenza ought to be: A) *guided* by ethical decision-making processes and B) *informed* by ethical values.

Table 1: Ethical processes[2]

Value	Description
Accountability	There should be mechanisms in place to ensure that ethical decision-making is sustained throughout the crisis.
Inclusiveness	Decisions should be made explicitly with stakeholder views in mind and there should be opportunities for stakeholders to be engaged in the decision-making process. For example, decision-making related to staff deployment should include the input of affected staff.
Openness & Transparency	Decisions should be publicly defensible. This means that the process by which decisions were made must be open to scrutiny and the basis upon which decisions are made should be publicly accessible to affected stakeholders. For example, there should be a communication plan developed in advance to ensure that information can be effectively disseminated to affected stakeholders and that stakeholders know where to go for needed information.
Reasonableness	Decisions should be based on reasons (i.e., evidence, principles, values) that stakeholders can agree are relevant to meeting health needs in a pandemic influenza crisis and they should be made by people who are credible and accountable. For example, decision-makers should provide a rationale for prioritizing particular groups for anti-viral medication and for limiting access to elective surgeries and other services.
Responsiveness	There should be opportunities to revisit and revise decisions as new information emerges throughout the crisis as well as mechanisms to address disputes and complaints. For example, if elective surgeries are cancelled or postponed, there should a formal mechanism for stakeholders to voice any concerns they may have with the decision.

[2] Thompson, Faith, Gibson, & Upshur. (under review). Adapted from Daniels N; Sabin JE. *Setting Limits Fairly: Can We Learn to Share Medical Resources?* Oxford University Press, 2002.

Table 2: Ethical values to guide decision-making[3]

Value	Description	Example
Duty to Provide Care	The duty to provide care and to respond to suffering is inherent to all health care professionals' codes of ethics. In an influenza pandemic, demands on health care providers and the institutions in which they work will overwhelm resources. Health care providers will have to weigh demands from their professional role with other competing obligations to their own health, to family and friends. Health care workers will face significant challenges related to resource allocation, scope of practice, professional liability, and workplace conditions. *Decision makers should:* ▪ Work collaboratively with stakeholders and professional colleges in advance of an influenza pandemic to establish practice guidelines ▪ Work collaboratively to develop fair and accountable processes to resolve disputes ▪ Provide supports to ease this moral burden of those with the duty to care ▪ Develop means through which institutions will handle appeals or complaints, especially with regards to work exemptions, or the vaccination/prophylaxis of staff	Health care workers who are at increased risk because they are caring for patients with influenza must weigh familial obligations, and obligations to self with their professional duty to care. In addition, they may also have to comply with vaccination or antiviral regimens for prophylaxis which may conflict with their individual liberty.
Equity	The principle of equity holds that, all things being equal, all patients have an equal claim to receive needed health care. During influenza pandemic, however, tough decisions will need to be made about which health services to maintain and which to defer because of extraordinary circumstances. Measures taken to contain the spread of a deadly disease will inevitably cause considerable collateral damage. In an influenza pandemic, this will extend beyond the cessation of elective surgeries and may limit the provision of emergent or necessary services. *Decision-makers should strive to:* • Preserve as much equity as possible between the interests of patients [afflicted with the influenza] and those who need urgent treatment for other diseases • Ensure procedural fairness in decision-making	In allocating scarce resources, the value of equity could guide in developing criteria for fair allocation while consideration is given also to compensation for those who will not meet inclusion criteria yet are entitled to receive care.

[3] Thompson, Faith, Gibson, & Upshur. (under review).

Value	Description	Example
Individual Liberty	Individual liberty is a value enshrined in health care practice under the principle of respect for autonomy. Under usual circumstances, health care providers balance respect for individual autonomy with a duty to protect individual patients from harm. In a public health crisis, however, restrictions to individual liberty may be necessary to protect the public from serious harm. Patients, staff, and members of the public may all be affected by such restrictions. *When making decisions to restrict individual liberty, decision-makers should ensure that restrictions:* ▪ Are proportional to the risk of public harm ▪ Are necessary and relevant to protecting the public good ▪ Employ the least restrictive means necessary to achieve public health goals ▪ Apply without discrimination	Social distancing strategies that employ visitor restrictions in hospitals must be necessary for the protection of the public and must be proportionate to the threat being allayed.
Privacy	Individuals have a right to privacy in health care. In a public health crisis, it may be necessary to override this right to protect the public from serious harm. A proportionate response to the need for private information requires that it be released only if there are no less intrusive means to protect public health. *Decision makers should:* ▪ Disclose only private information that is relevant to achieve legitimate and necessary public health goals ▪ Release private information only if there are no less intrusive means to protect public health ▪ Determine whether the good that is intended is significant enough to justify the potential harm that can come from suspending privacy rights, (e.g. the harm from stigmatization of individuals or particular communities) ▪ Provide public education to correct misconceptions about disease transmission and to offset misattribution of blame to particular communities	The need to conduct contact tracing of possibly infected people might require that particular groups or even individuals are identified publicly. The need to do so must be weighed against the potential harm of exposing communities and individuals to stigmatization.

Value	Description	Example
Proportionality	Proportionality requires that restrictions to individual liberty and measures taken to protect the public from harm should not exceed what is necessary to address the actual level of risk to, or critical need of, the community. *Decision makers should:* ▪ Use least restrictive or coercive measures in limiting or restricting liberties or entitlements ▪ Use more coercive measures only in circumstances where less restrictive measures have failed to achieve appropriate public health ends.	The decision to close an emergency room must consider if the potential harm in keeping the emergency room open is significant enough to warrant its closure.
Protection of the Public from Harm	A foundational principle of public health ethics is the obligation to protect the public from serious harm. This principle requires that citizens comply with imposed restrictions in order to ensure public wellbeing or safety. To protect the public from harm, hospitals may be required to restrict public access to service areas (e.g. restricted visiting hours), to limit availability of some services (e.g. elective surgeries), or to impose infectious control practices (e.g. masks or quarantine). *When making decisions designed to protect the public from harm, decision makers should:* ▪ Weigh the medical and moral imperative for compliance ▪ Ensure stakeholders are made aware of the medical and moral reasons for public health measures ▪ Ensure stakeholders are aware of the benefits of compliance & the consequences of non-compliance ▪ Establish mechanisms to review these decisions as the public health situation changes and to address stakeholders concerns or complaints	When making the decision to quarantine individuals, protection of the public from harm must be weighed against individual liberty. Note that while the ethical value of individual liberty is often in tension with the protection of the public from harm, it is also in individuals' interests to minimize harm to others.

Value	Description	Example
Reciprocity	Reciprocity requires that society supports those who face a disproportionate burden in protecting the public good and takes steps to minimise their impact as far as possible. In an influenza pandemic, measures to protect the public good are likely to impose a disproportionate burden on health care workers, patients, and their families. Health care workers may face expanded duties, increased workplace risks, physical and emotional stress, isolation from peers and family, and in some cases, infection leading to hospitalization or even death. Similarly, quarantined individuals or families of ill patients may experience significant social, economic, and emotional burdens. *Decision-makers and institutions are responsible for:* ▪ Easing the burdens of health care workers, patients, and patient's families in their hospitals and in coordination with other health care organizations ▪ Ensuring the safety of their workers, especially when redeploying staff in areas beyond the usual scope of practice.	The provision of antiviral medication and/or vaccination to hospital staff for prophylaxis is one way hospitals can ensure the safety of their workers who may be exposed to greater than usual risks in discharging their duty to care.
Solidarity	SARS heightened the global awareness of the interdependence of health systems and the need for solidarity across systemic and institutional boundaries in stemming a serious contagious disease. An influenza pandemic will not only require global solidarity, it will require a vision of solidarity within and between health care institutions. *Decision-makers can contribute to solidarity by:* ▪ Ensuring open and honest communication ▪ Encouraging collaboration within and between health care institutions and among staff ▪ Sharing public health information with staff and community members ▪ Coordinating health care delivery, transfer of patients, and deployment of human and material resources	Territoriality between hospital departments and between health care institutions needs to be overcome with good communication and sense of common purpose in order to provide equitable care across jurisdictions.

Value	Description	Example
Stewardship	In our society, both institutions and individuals will be entrusted with governance over scarce resources, such as vaccines, antivirals, ventilators, hospital beds and even health care workers. During a pandemic influenza outbreak, difficult decisions about how to allocate material and human resources will have to be made, and there will be collateral damage as a result of these allocation decisions. Those entrusted with governance roles should be guided by the notion of stewardship. Inherent in stewardship are the notions of trust, ethical behaviour, and good decision-making. *Decision makers should:* ▪ Avoid and/or reduce collateral damage that may result from resource allocation decisions ▪ Protect and develop resources where possible ▪ Seek a balance between good outcomes (i.e. benefits to the public good) and equity (i.e., fair distribution of benefits & burdens)	A hospital's decision to stock-pile antiviral medication must consider whether this is an effective way of protecting staff from infection, where the money for stockpiling will come from, and whether that money could be put to better use elsewhere.
Trust	Trust is an essential component in the relationships between clinician and patient, between staff and the organization, between the public and health care providers, and between organizations within a health system. In a public health crisis, stakeholders may perceive public health measures as a betrayal of trust (e.g. when access to needed care is denied) or as abandonment at a time of greatest need. Decision-makers will be confronted with the challenge of maintaining stakeholders' trust while at the same time stemming an influenza pandemic through various control measures. It takes time to build trust. *Decision-makers should:* ▪ Take steps to build trust with stakeholders before the crisis hits not while it is in full swing ▪ Ensure decision making processes are ethical and transparent to those affected stakeholders	Early engagement with stakeholders may go some distance to justify stakeholder confidence in decision-makers' trustworthiness. In part, the value of trust is respected and promoted by following the ethical *processes* outlined above.

Key Ethical Issues:[4]

Issue 1

Health care workers' duty to provide care during a communicable disease outbreak

1. Governments and the health care sector should ensure that:
    a. care providers' safety is protected at all times, and providers are able to discharge duties and receive sufficient support throughout a period of extraordinary demands; and
    b. should ensure there are provisions in place to provide support to staff and families adversely affected while performing their duties. [**Reciprocity**]
2. Governments, hospitals and health regions should develop human resource strategies for communicable disease outbreaks that cover the diverse occupational roles, that are **transparent** in how individuals are assigned to roles in the management of an outbreak, and that are **equitable** with respect to the distribution of risk among individuals and occupational categories.

Issue 2

Restricting liberty in the interest of Infection Prevention and Control

1. Hospitals should ensure that pandemic influenza response plans include a comprehensive and **transparent** protocol for the implementation of restrictive measures. The protocol should be founded upon the values of **proportionality** and least restrictive means, should balance **individual liberties** with protection of public from harm and should build in safeguards such as the right of appeal.
2. Hospitals should ensure that their internal and external communities are aware of:
    a. the rationale for restrictive measures; **[Reasonableness]**
    b. the benefits of compliance; and
    c. the consequences of non-compliance. **[Transparency]**
3. Hospitals should include measures in their pandemic influenza preparedness plans to protect against stigmatization and to safeguard the **privacy** of individuals and/or communities affected by quarantine or other restrictive measures.
4. Hospitals should institute measures and processes to guarantee provisions and support services to individuals and/or communities affected by restrictive measures, such as quarantine orders, implemented during a pandemic influenza emergency. Plans should state in advance what backup support will be available to help those who are quarantined (e.g., who will do their shopping, pay the bills and provide financial support in lieu of lost income). Hospitals need to maintain communication with public health regarding policies that restrict usually taken for granted access to hospitals. [**Solidarity, reciprocity, transparency, stewardship.**]

[4] Adapted from Pandemic Influenza Planning Working Group, November 2005.

Issue 3

Priority setting, including the allocation of scarce resources, such as vaccines and antiviral medicines

1. Hospitals should publicize internally a clear rationale (consistent with government guidelines) for giving priority access to health care services, including antivirals and vaccines, to particular groups, such as front line health workers and those in emergency services. The decision makers should initiate and facilitate constructive internal discussion about these choices in order to promote **transparency**.
2. Hospitals should engage stakeholders (including health care workers, patients) in determining what criteria should be used to make resource allocation decisions (e.g., access to ventilators during the crisis, and access to health services for other illnesses) [**Inclusiveness]** and should ensure that clear rationales for allocation decisions are **transparent** and communicated in a timely fashion and should provide a justification for any deviation from the pre-determined criteria. **[Reasonableness]**
3. Hospitals should ensure that there are formal mechanisms in place for stakeholders to bring forward new information, to appeal or raise concerns about particular allocation decisions and to resolve disputes. There may already be mechanisms in place that should be identified prior to a pandemic influenza outbreak, and stakeholders should be made aware of how to access these mechanisms for review. **[Responsiveness]**

Chapter 4:

Communication / Education

Role of Communications and Education

Issue:

Timely, transparent and accurate communication is critical to the success of any organization's pandemic response. Communication plays a major role in demonstrating the organization's leadership and due diligence in contingency planning; disseminating sensitive and complex information to various audiences to ensure an understanding of the government and the organization's pandemic response; identifying and managing issues; dispelling any speculation and incorrect facts that may lead to anxiety and/or operational confusion; and reassuring staff, patients and the public.

Recommendations:

Staged Communications Approach

TAHSN recommends that hospitals consider staging their communications and education activities into three distinct phases based on the World Health Organization's pandemic phases. These stages are: 1) **pandemic alert period (Phases 3-5)** where there is no or localized human-to-human spread; 2) **pandemic period (Phase 6**) where there is sustained and increased transmission in the general population; and 3) **inter-pandemic period** where we return to the inter-pandemic period where no new influenza virus subtypes have been detected in humans.

1) Pandemic Alert Period

During the pandemic alert period, TAHSN recommends that hospitals initiate an internal communications program to promote general awareness about the threat of an influenza pandemic and to communicate the organization's pandemic plan. Proactive communication will ensure staff have a "baseline" understanding of an influenza pandemic's characteristics, clinical protocols, and the organization's response, thereby countering any misconceptions or speculations.

Hospitals should consider using a range of communications tactics (e.g. face-to-face staff forums, articles in the staff newsletter, pandemic section on the intranet or external website, etc) to disseminate key messages and to reach various audiences. Given the complexity of a pandemic, hospitals should include two-way communication vehicles (e.g. staff forum, email question box, etc) into their plan so staff can ask questions and share feedback.

Issue:

Profiling Leadership

Recommendation:

During this period, hospitals should consider establishing a "profile" of the organization's pandemic leadership (such as the Director of Infection Prevention and Control or hospital's Pandemic Task Force). By raising awareness of the leadership team/individual, staff will know who they can turn to ask questions and share their concerns/perspectives. This also helps to build credibility with staff.

This individual may also serve as your organization's media spokesperson on pandemic-related matters. Given the possibility that hospital experts (such as the Director of Infection) may be seconded to the province during the pandemic, we recommend appointing a back-up media spokesperson and provide the necessary media training and support.

Issue:

Creating Synergies

Recommendation:

TAHSN recommends that hospital communicators are members of the organization's pandemic planning committee. With lots of competing, speculative and inaccurate sources of information on pandemic and its impact on the health care system, we can expect staff and the public to feel overwhelmed and confused when hearing about the organization's pandemic approach. With communication as part of the planning committee, we can ensure a coordinated and responsible approach to disseminating key messages and information to staff and other audiences.

TAHSN also recommends that hospitals establish a communication link with neighbouring hospitals and other health partners to share emerging issues and approaches, the organization's pandemic plan, and identify potential communication gaps and linkages.

Issue:

Developing a Communication Inventory

Creating an inventory of the organization's communication tools is useful for developing a communication plan.

Recommendation:

Hospital communicators should create an inventory of all internal and external communication tools and identify which tools are most effective at reaching particular audiences given their roles (e.g. clinical, administrative) in the organization. There may be a need to create new tools specific to the pandemic.

For easy and timely access to information, hospitals should consider centralizing relevant information (such as directives from the Ministry and Public Health) and other communication tools (such as staff questions and answers, revised human resources policies) on a dedicated and secure intranet that can be accessible by staff (onsite and remotely).

Issue:

Communicating the Pandemic Plan

Recommendation:

Once the organization's pandemic plan is complete, TAHSN recommends that hospitals proactively communicate the plan's impact on staff, patients, the public and other audiences. Communication should include an explanation of how decisions were made (e.g. using an ethical framework), human resource policy changes (e.g. staffing redeployment, absenteeism, compensation), changes to hospital programs and services, workplace safety, triage management, recovery, etc. There should be a method for two-way staff feedback (such as staff forums, etc) to invite feedback and to answer questions directly.

Given the enormous amount of detail and complexity in the pandemic plan, hospitals should consider communicating aspects of the plan over a period of time. Given Toronto's recent experience with SARS, we must be careful not to overwhelm staff. As part of their internal communication plan, hospitals should offer many opportunities for staff to learn about the plan with handouts and other tools summarizing key aspects.

Hospitals should make their pandemic plans available to the public (e.g. post on the website) and proactively communicate what the public can expect in terms of changes to hospital services/programs, where to seek care, etc.

Educational Recommendations, Pandemic Alert Period:

- Ensure target groups have up to date knowledge of plans, risks and responsibilities related to the prevention of spread of infection and protection from infection.
- Assess learning/training needs related to changes in situational requirements or target group needs/expectations on an ongoing basis, to determine content, target groups and timing for required training.
- Create a training team of those who are skilled in training/education to augment those who are in a formal education role. Quickly develop standardized teaching material for protocol changes. Utilize a train-the-trainer model to train key staff in each area, who in turn train others in their areas.
- Educate target groups regarding suitable/appropriate changes in protective practices that may occur as new evidence becomes available e.g. 'social distance', personal protective equipment etc.
- Provide regular training and/or up to date reference materials covering information related to the pandemic. Repeat at frequent intervals to reach all staff and volunteers, during all shifts. Focus on reinforcing personal practices such as: influenza immunization, hand hygiene, not coming to work when ill, and basic infection prevention and control practices.

2) Pandemic Period

During the pandemic period, hospital communicators will play a major role in "activating" the organization's pandemic plan to communicate services/programs (cancellations or scale-back) changes and what it will mean to staff, patients, public and other audiences. As part of the plan, communication should explain to staff how operational decisions will be made during a pandemic (e.g. through a Command Centre, using an ethical framework).

We can expect lots of information coming from the media, government and other stakeholders during a pandemic. Hospitals should consider providing a daily staff bulletin from their CEO or pandemic lead that provides all of the necessary information. The bulletin should communicate, among other things, operational decisions, new directives and clinical protocols from the government, supports for staff and patients, and a recognition of staff commitment. Information should be posted on the intranet site for easy access.

Communication will play a role in disseminating directives and other material from the Ministry of Health and Long-Term Care and the local Public Health. It is critical that directives are disseminated to the appropriate staff to ensure compliance and the necessary adjustment to the organization's pandemic response.

Issue:

Role of Spokesperson

As the public "face" of the organization, the spokesperson(s) is responsible for communicating the organization's pandemic response, demonstrating responsiveness and leadership, and providing expert medical advice. To ensure accurate and timely messages and information, it is critical that the spokesperson(s) work closely with the hospital communication team.

Recommendation:

To manage the high volume of media calls, hospitals should consider rotating media relations duties within the department to reduce staff burnout. If there isn't one already, hospitals should consider creating a dedicated media line. This will ensure timely triaging and resolution to all media calls.

Issue:

Information Cycle

Recommendation:

Hospital communicators should be in tune with the Ministry of Health's 24-hour information cycle in order to anticipate new directives and updates, as well as anticipate the day's focus of media coverage. (Refer to Appendix 4-D)

Educational Recommendations, Pandemic Period:

- Ensure target groups have up to date knowledge of plans, risks and responsibilities related to the prevention of spread of infection and protection from infection. Instruct care providers about:
  - Provincial preparedness plan
  - Etiology of influenza
  - Assessment protocols for influenza-like symptoms
  - Infection Prevention and Control measures
  - Occupational health and safety measures
- Provide training as required and/or up to date reference materials covering information related to the pandemic. Repeat at frequent intervals to reach all staff and volunteers, during all shifts. Focus on reinforcing personal practices such as: hand hygiene, not coming to work when ill, appropriate cleaning and disinfection of equipment, appropriate use of PPE and basic infection prevention and control practices.
- Ensure communications desk staff and other front line staff are highly competent in communication with others (especially dealing with difficult people/situations) customer service skills, and language skills to deal with incoming calls from families, staff, and others.
- Develop job aids and/or scripts to assist front line staff in dealing with common challenging situations related to pandemic communication
- Ensure adequate numbers of staff or volunteers are identified and trained to provide support and/basic care for clients as required.
- Ensure staff/volunteers maintain current and accurate knowledge regarding containment strategies
- Ensure staff and volunteers are aware of the importance of anti viral prophylaxis and immunization, including side effects and benefits.
- Cross-train staff who may be redeployed, at least annually or more frequently if threat of pandemic is imminent. eg. Administrative or service staff, volunteers, private companions etc. in preparation for possible redeployment to care or service areas (eg. Eating assistance, mobility, activities of daily living, food preparation and delivery, housekeeping etc)
- Collaborate with Public Affairs to provide staff/volunteers with up to date knowledge about national/provincial/local recommendations regarding containment strategies.
- Disseminate information via technical means (emails, telephone, videoconference) to maximize access and minimize need for personal contact.
- Augment services provided by external EAP provider in addressing staff/caregiver stress management to maintain resiliency

3) Inter-Pandemic Period

During the inter-pandemic period, communication will support staff, patients and the public in recovering from the pandemic. This will include communication efforts to explain the rationale behind the organization's pandemic response (e.g. cancellation of elective surgeries, staff redeployment, priority groups for anti-virals), recognition of the contributions made by staff/volunteers/students, and the organization's resumption of services and programs.

During this phase, hospitals should consider evaluating their communication strategy to evaluate its success and weaknesses, as well as identify any "lessons learned" to guide communication plans for future emergencies. This is an opportunity to invite feedback from staff, patients and other audiences about how the organization responded to the pandemic and kept audiences informed of the changes.

Appendix 4-A: Audiences

Internal

- Senior Management Team
- Board of Trustees
- Management
- All staff (including researchers, support staff, etc)
- Medical/Clinical/Other students
- Volunteers
- Patients
- Families
- Volunteers

External

- Ministry of Health – Area Team Rep
- LHIN(s) – Rep
- Toronto Public Health
- Politicians
- TASHN
- Other agencies and health providers in the community
- Donors
- Community
- General Public
- Media

Appendix 4-B: Communications Tactics Checklist (may include others)

- ✓ Internal staff newsletter
- ✓ All users email
- ✓ Intranet – dedicated and secure pandemic site for staff, accessible remotely and internally
- ✓ External website
- ✓ News release
- ✓ Webcast
- ✓ Town Halls/staff forums
- ✓ News release
- ✓ External publications
- ✓ Phone broadcast
- ✓ Dedicated media request line
- ✓ Posters
- ✓ Brochures

APPENDIX 4-C: Key Differences between Annual Influenza and Pandemic Influenza

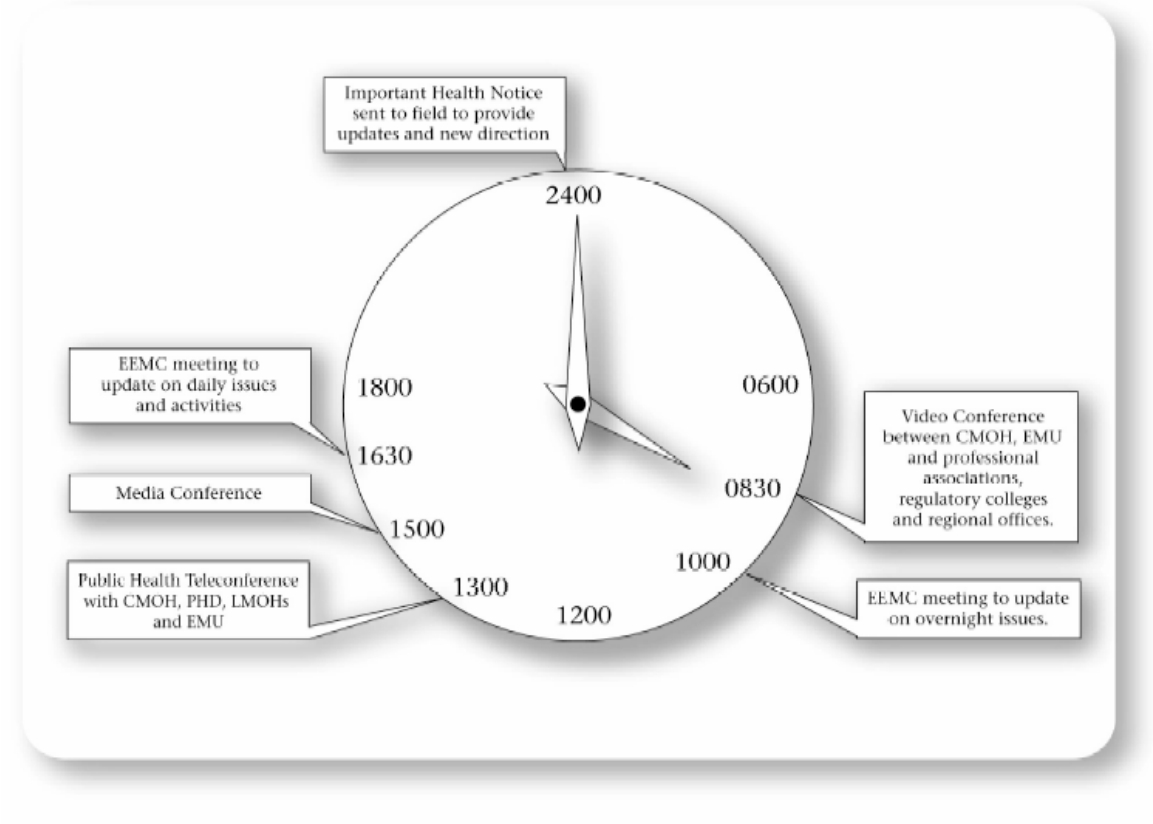
Key Differences Between Annual Flu and Pandemic Flu

Annual Flu	Pandemic Flu
Occurs every year during the winter months.	Occurs three to four times a century and can take place in any season.
Affects 5-20 percent of the U.S. population.	Experts predict an infection rate of 15-50 percent of the population, depending on the virulence of the virus strain.
Globally, kills 500,000–1 million people each year, 36,000–40,000 in the U.S.	The worst pandemic of the last century—the "Spanish Flu" of 1918—killed 500,000 in the U.S. and 50 million worldwide.
Most people recover within a week or two.	Usually associated with a higher severity of illness and, consequently, a higher risk of death.
Deaths generally confined to "at risk" groups, such as the elderly (over 65 years of age); the young (children aged 6-23 months); those with existing medical conditions like lung diseases, diabetes, cancer, kidney, or heart problems; and people with compromised immune systems.	All age groups may be at risk for infection, not just "at risk" groups. Otherwise fit adults could be high risk, based on the 1918 pandemic. Then, adults under age 40 (a key segment of the workforce and of the fertile population) were disproportionately killed due to the cytokine storm.
Vaccination is effective because the virus strain in circulation each winter can be fairly reliably predicted.	A vaccine against pandemic flu will not be available at the start of a pandemic. New strains of virus must be accurately identified, and producing an effective vaccine could take six months.
Antiviral drugs are available for those who become seriously ill.	Antiviral drugs will be in limited supply, and their effectiveness will only be known definitively once the pandemic is underway.

Sources: Trust for America's Health, BMO Nesbitt Burns

APPENDIX 4-D: Ministry of Health's Information Cycle

Figure 11: MOHLTC Information Cycle in a Public Health Emergency



APPENDIX 4-E: Useful Links

- It's Your Health: Avian Influenza (Bird Flu) Health Canada
- Ontario Health Plan for an Influenza Pandemic Ministry of Health and Long Term Care
- Canadian Pandemic Influenza Plan Public Health Agency of Canada
- Fact Sheet: Pandemic Influenza Plan
- Toronto Pandemic Influenza Plan (TPIP) Toronto Public Health
- WHO Global Influenza Programme World Health Organization
- Ten things you need to know about pandemic influenza
- Avian influenza ("bird flu") - Fact Sheet

The educational documents are still in development at this stage. They will be incorporated once they become available. The material will include:

- Patient information pamphlets: influenza-like-illness, symptoms, self-care, where to go if not admitted to hospital, community assessment centres and alternate care facilities, what to do if symptoms worsen
- Visitor/Family brochure about the pandemic situation, self screening, additional precautions and the visitation policy
- Consistent screening signage to post at entrances
- Development of an e-learning module on influenza and pandemic influenza
- Pandemic information for non-professional staff
- Self-care for staff with/without symptoms

APPENDIX 4-F: Frequently Asked Questions and Answers About Pandemic

General

Q: What is a pandemic influenza?

A: A pandemic influenza is a worldwide outbreak of a new influenza virus that spreads rapidly around the world. Influenza pandemic occurs when **all** three of the following occur:

1. A new influenza virus appears against which people have little or no immunity.
2. Human to human transmission happens easily.
3. The new virus causes serious clinical illness and death.

Q: When was the last influenza pandemic?

A: The world experienced influenza pandemics in 1918 (Spanish flu), 1957 (Asian flu) and 1968 (Hong Kong flu). The most deadly, the Spanish Flu of 1918-19, killed an estimated 20 million people worldwide. There were high rates of morbidity and mortality for both high risk and normal children and adults.

Q: Should we be expecting a pandemic in Canada?

A: Infectious disease experts have warned that a global influenza pandemic is overdue. Historically, influenza pandemics have occurred about every 30-40 years. Experts and scientists from the World Health Organization (WHO) are monitoring influenza activity around the world so they can identify and determine circulation of virus strains.

Q: Why do pandemics occur?

A: Influenza viruses often make "mistakes" when the replicate. While most of these mistakes result in ineffective viruses, once in a while a mistake occurs that changes the way the virus looks to your immune system. This happens on a small scale every year which is why we have to get a flu shot every fall. A pandemic virus arises when existing viruses change into a new, more deadly strain.

Influenza

Q: What are the symptoms of influenza?

A: Symptoms from pandemic influenza will look similar to the influenza we deal with every winter, however pandemic influenza is more likely to cause serious illness and death. Symptoms include fever, muscle pain and weakness, headache, tiredness, dry cough, and sore throat.

Q: How is the influenza virus spread?

A: The virus spreads easily from person to person, mainly through large respiratory droplets and to a lesser extent through direct contact with contaminated surfaces and items. Frequently washing your hands has been shown to be an effective way of preventing yourself from becoming sick.

Q: Do we have an influenza vaccine against pandemic influenza?

A: In the event of an influenza pandemic, a completely new virus strain will develop before a vaccine can be made. It will take several months to develop, test, manufacture and distribute a new vaccine containing the pandemic strain.

Q: Does a flu shot protect me from an influenza pandemic?

A: The influenza vaccine or “flu shot” is effective against this year’s known circulating strains of influenza virus. You need a new flu shot every year because the virus is always changing slightly.

A flu shot is a good way to increase your overall immunity against this year's known flu strains. In fact, the more flu shots you've received over time, the greater the protection against different viruses, some of which may have some similarities with an eventual pandemic strain. Getting a flu shot and practicing Infection Prevention and Control should be part of everybody's daily practice - especially if you work in a hospital where you are more exposed to infectious diseases.

Q: What's the difference between vaccines and antivirals?

A: **Vaccines** are the primary means to prevent illness and death from regular seasonal influenza. An actual vaccine against a pandemic will not be available at the start of a pandemic. It can take four to five months for a vaccine to be developed against a new flu virus.

Antiviral drugs may be used to help lessen the impact of the pandemic and may be effective in very early treatment. If taken shortly after getting sick (within 48 hours), they can reduce influenza symptoms, shorten the length of illness and reduce the serious complications of influenza.

Both the federal and provincial government are creating antiviral stockpiles that will be directed at treating those at high risks of complications or death due to influenza who present with influenza-like illness within 48 hours of onset of symptoms. Ontario will be adopting priority groups set nationally. These priority groups may change based on age and risk groups most affected by the pandemic; its severity; and other factors.

Impact

Q: What will a pandemic mean for the Greater Toronto Area?

A: A pandemic strain will appear in Toronto within one to three months of it being detected elsewhere in the world. It has the potential to infect up to 35 per cent of the population, causing a large number of individuals to require some level of health services.

Estimated direct health impact of a pandemic on the City of Toronto:

Clinically ill	392,000 – 914,000 individuals
Require outpatient care	175,000 – 431,000 individuals
Require hospitalization	2,900 – 12,000 individuals
Deaths	910 – 5,000 individuals

Absenteeism, as a result of influenza, is expected to be 30-35 per cent or higher. There will be a tremendous strain on the healthcare system, business community and city services.

Q: Are health care workers at risk?

A: Influenza is a community-spread organism and is highly contagious. Healthcare workers will be affected equally with the general population.

Q: What can we expect to happen when the pandemic strain is identified?

A: When the pandemic strain arrives in the GTA, self-sufficiency will be required as the situation will be global. We can expect the first wave to last six to eight weeks and be followed several months later by one or two more waves, possibly of stronger severity. Vaccine will not be available for the first wave. Antiviral agents may not be in adequate supply. Large numbers of patients will require triage and current hospital beds and ventilator capacity will be overwhelmed.

Q: What type of Infection Prevention and Control precautions will be used during a pandemic?

A: Pandemic influenza will not be treated any differently from regular influenza. Flu patients will be placed in droplet precautions until they are no longer symptomatic i.e., health care workers will be required to wear surgical masks and don eye protection when within one metre of influenza patients. Gowns and gloves may be required if your clothing is likely to be soiled. N95 masks, PAPR hoods and other equipment that we used during SARS will not be used at the present time.

Q: What is the city doing to prepare for the possibility of influenza pandemic?

A: Toronto Public Health is the lead agency for the City of Toronto pandemic preparedness and response. Professionals from hospitals, government agencies, emergency services and community organizations have been working together to develop a local pandemic plan. These stakeholders are building relationships, defining responsibilities and coordinating communication between agencies at the national, provincial and local levels.

The Toronto Influenza Planning Steering Committee has been working with community partners to identify key issues and to provide an opportunity for input from all stakeholders. The committee meets regularly and has established a process to focus on specific areas such as health services and emergency measures. Through this consultation, Toronto Public Health will produce a comprehensive influenza pandemic plan that will be widely distributed and promoted throughout the community.

Q: What are hospitals doing to prepare for the possibility of influenza pandemic?

A: Infectious disease experts agree that a pandemic influenza outbreak is just a matter of time. Hospitals are taking this threat seriously. Toronto teaching hospitals are working together to plan by sharing expertise, experience and resources. We are addressing complex operational issues such as staff protecting and safety, impact to services, ethics, and human resources.

We will keep staff informed as we move forward with these complex issues.

Q: How can I protect my family and myself from infection?

A: When a pandemic is declared, pay attention to public health messages about who is at risk. In the meantime:

- Get a flu shot every year
- Wash your hands or use alcohol based hand antiseptic frequently
- Cover your nose and mouth when you cough or sneeze
- If you are sick with flu-like symptoms, don't go to work or to school
- In the community, try to maintain at least one metre distance from people who are coughing or sneezing
- At work consistently use appropriate personal protective equipment as indicated by infection prevention and control when caring for people with respiratory infections.

Q: Where do I get more information?

A: Pandemic Related Web Sites:

www.health.gov.on.ca

http://www.phac-aspc.gc.ca/publicat/info/panplan_e.html

http://www.hc-sc.gc.ca/english/media/releases/2003/2003.87bk2.htm

http://www.who.int/csr/disease/influenza/WHO_CDS_2005_29.en/

Anti-viral Questions and Answers

Q: What are anti-viral drugs?

A: Anti-viral drugs (such as Tamiflu or Relenza) are used for the prevention or treatment of some viral infections. In the event of an influenza pandemic, anti-virals will be helpful for both treatment and prevention (called prophylaxis), particularly during the period where there is no vaccine available (it will take time to analyze the pandemic flu strain so they can develop a vaccine).

Anti-virals destroy a virus or interfere with its ability to grow and reproduce. When used for prevention, people must take the medication for as long as they are exposed to the virus. When used for treatment, infected people receive the drug to reduce symptoms, shorten the length of illness and minimize serious complications. Anti-virals must be taken within 48 hours of the first symptoms of influenza to be effective.

Q: Why are Toronto teaching hospitals ordering anti-virals for all staff?

A: Studies have shown that using anti-virals for prophylaxis is highly effective. The Ministry of Health and Long-Term Care will have a supply of anti-virals that will be used to prophylax and treat defined priority groups (such as front-line health care workers and key decision makers). It's unclear when hospitals will receive antivirals during the pandemic and who is included under these priority groups.

After much thoughtful discussion, UHN and other TAHSN hospitals have placed an order for a supply of anti-virals so we can protect all of our staff from getting sick in the first place, and infecting patients and others. Further, by prophylaxing staff we can keep hospitals running during the pandemic so we can care for patients.

Prophylaxis is key; however, the use of this supply of anti-virals may change from our original plans if a pandemic hits and we have new information about its epidemiology. For example, should it turn out that the pandemic predominantly affects young children (which is what happened in 1977), we may be asked to share our stockpile with facilities treating children.

Q: Why will every hospital staff member receive anti-virals as preventive treatment? I'm not involved in direct patient care.

A: To keep the health care system running, we need to ensure that we provide as much protection to staff to lessen chances they become ill. This includes not just direct patient care team members, but also support service staff and others we can draw upon as resources. The goal is to keep hospitals running. We can't do this without staff to administer medications, prepare food for patients or sterilize surgical equipment.

Q: Do I have a greater chance of getting pandemic influenza if I work in a hospital.

A: Influenza - whether a regular strain or a pandemic strain - is a community-acquired illness and it will be "everywhere." The difficulty with influenza is that you are contagious about 48 hours before any symptoms appear so techniques like social distancing, isolation, and/or gowning and masking are not effective because there is no way of knowing who may be incubating the illness. In addition, the influenza virus is very good at living for long periods of time on all surfaces, which means that you are just as likely to pick up the virus on your way to work as you are at the hospital Which is why good handwashing technique remains a prime method of preventing influenza.

Q: How can I protect myself and my family from a flu pandemic?

A: The Ministry of Health and Long-Term Care offers useful practical tips for reducing your risk – in the event of an influenza pandemic. These actions are the same things you do to protect yourself and your family from ordinary flu:

- Get your flu shot every year – the flu shot will not protect you from a pandemic flu virus, but it will protect you from getting ordinary flu, which could weaken your immune system or resistance to the pandemic flu.
- Wash your hands with soap thoroughly and often – good hand hygiene is the best way to prevent the spread of all flu viruses.
- Keep an alcohol-based sanitizer (gel or wipes) handy at work, home and in the car.
- Cover your mouth and nose with a tissue when you cough or sneeze
- Stay home when you are sick
- Avoid large crowds of people where viruses can spread easily
- Reduce non-essential travel
- Follow any instructions given by public health officials.

For more information, visit the Ministry of Health's website at www.health.gov.on.ca

Chapter 5:

Capacity Assessment, Patient Triage and Patient Management

In regards to triage, capacity assessment and patient management, the TAHSN plan will include the following:

- Guidelines for estimating healthcare personnel and hospital capacity.
- Recommendations for patient triage, assessment and outpatient services.
- Guidelines for treatment.

Planning Assumptions:

- Attack rate of 35% over 8 weeks.
- A minimum of 50% of a hospital's capacity will be required for influenza patients.
- There will be an increased demand for Intensive Care Unite (ICU) beds from both influenza and non-influenza patients.
- Medical criteria used for decision-making around the allocation of resources will be dynamic and based on real time data. It will be supplemented with ethical criteria to assist in deciding the distribution of scarce resources.
- The creation of an ICU admission/palliation/discharge committee may be required to make decisions regarding the allocation of scarce resources.

A. Assessment of Capacity

Issue:

To coordinate the allocation of resources in order to ensure equitable delivery of care in a pandemic situation.

Recommendations:

Pre-Pandemic Period

- Determine the location for distinct triage and patient assessment areas in order to separate influenza from non-influenza patients.
- Conduct an inventory of hospital beds including: total number current and maximum, as well as the number of ventilated and monitored beds.
- Determine which inpatient areas will be dedicated to influenza versus non-influenza patients.
- Identify if any non-clinical areas of the facility can be converted to increase patient capacity.
- Assess the total number of ventilators in use and total available including their locations in the hospital.
- Assess the total number of staff including: physicians, nurses, all full/part-time staff, casual staff and students (clinical and non-clinical). These numbers will aid in human resource re-deployment strategies. (See Chapter 6 on Human Resources for specific guidelines)
- Determine the number of staff and supplies needed for each level of patient assessment.
- Assess information technology support and software and their ability to expand and respond to increased patient data entries.

Pandemic Period

- Periodic assessment of overall capacity (beds, ICU beds, staffing, supplies, ventilators, deaths), frequency to be determined.
- Coordinate patient transport and tracking/managing of beds.

B. Prioritization of Health Services

Issue:

To assess current services, review related logistical, practical and ethical issues in regards to their operation and outline a triage strategy for canceling and/or postponing services.

Recommendations:

The following options should be considered to reduce the strain on acute care hospitals include:

- Cancel non-urgent admissions.
- Cancel non-urgent and elective surgery.
- Modify the current usage of beds.
- Develop a triage guideline that outlines potential priority groups for canceling services. (see prioritization strategy below)

Hospital Service Triage

Issue:

This is based on: uniqueness of the service, urgency of care, relative number of beds and staff that would be made available by shutting down certain services. It is assumed that few hospital services will be closed altogether, rather each service will be scaled back based on patient need for urgent care (e.g. maintain the ability to treat limb or life threatening disease).

Recommendation:

Each service should evaluate its patient population and stratify patients based on urgency of care (i.e. determine what proportion of patients would require care during a pandemic and at what frequency). Services can be scaled back such that only those who need urgent care are seen. This evaluation will help determine to what extent the service will be scaled back and further aid in the allocation of resources accordingly.

This exercise should be done in consultation with other area hospitals to ensure appropriate system coverage to maintain some degree of continuity of care.

C. Patient Screening, Triage and Assessment

Issue:

To develop a strategy that will reduce the burden on hospital emergency departments and in-patient units by limiting the flow of patients into the hospital, efficient patient flow once in the system, and timely discharge of those who require admission. It is assumed that many people will go straight to hospital if they are ill with influenza-like symptoms rather than calling TeleHealth Ontario or visiting their family physician, although the actual numbers are not known. Therefore, hospitals need to be prepared for triaging, assessing and managing a large number of people.

Recommendations:

The following should be considered when developing a triage and assessment strategy:

- Formulate a case definition consistent with provincial and federal guidelines.
- Develop a multi-step process for patient screening, triage and assessment. These processes should support efficient patient flow while minimizing influenza transmission in a resource-scarce environment.
- Determine the type of staff and minimum requisite skill set needed at each level of assessment.
- Develop generic assessment forms for screening, triage, primary assessment and secondary assessment. ERs may choose to use their own forms for this purpose.
- Develop pre-printed influenza admission forms.

Influenza Clinical Case Definition

This definition may change as the pandemic progresses and will likely be defined by the Ministry of Health and Long Term Care (MOHLTC). At the current time, this will be defined as: fever and/or acute onset or worsening of respiratory symptoms (e.g. cough, shortness of breath, etc.).

Note that young children (less than 3-6 months of age) and the elderly (greater than 65 years of age) may not manifest these symptoms and a higher index of suspicion is warranted in these age groups.

When the pandemic is declared, consideration should be given to opening the following specified cohort areas/units within the hospital. Note that d and e, and particularly c may not be realistic or practical as the pandemic progresses, but creation of these units for management early in the pandemic may be useful:

a. Influenza assessment area
b. Non-influenza assessment area
c. Suspected/exposed to influenza inpatient units
d. Confirmed influenza in-patient units
e. Not exposed/Immune to influenza in-patient units

1. Patient Screening

Issue:

To rapidly identify and separate patients into those who have influenza-like symptoms and those who do not for Infection Prevention and Control and patient flow purposes. While there are many ways of achieving this, we propose the use of signage supported by individuals who can ask patients for the presence of fever and/or cough. Those with these symptoms would be directed to the influenza assessment area and those without these symptoms to the routine assessment area.

Recommendations:

The following elements should be considered for initial patient screening:

- Hospitals may wish to consider closing emergency departments (ERs) to direct visits from patients who would otherwise walk in from the street. ERs will remain open to patients brought in by Emergency Medical Services (EMS).
- Should ERs be closed to direct visits, hospitals should communicate this decision through the media and advise patients that unless medical attention is immediately warranted they should first call TeleHealth for advice since ERs will be overwhelmed.
- Patients will undergo screening and triage to ensure proper and timely assessment
- Determine where screening will take place. This could be done inside/just outside the doors of the hospital.
- Display international signage directing patients to influenza and non-influenza lines for those who do not speak English.
- Provide security personnel for patients waiting in line
- Minimize the exposure of unexposed individuals by rapidly screening patients and physically separating influenza and non-influenza areas for further triage and assessment.
- Individuals with non-clinical backgrounds can perform rapid screening for fever and/or cough.
- Send patients who need urgent medical assessment directly into the emergency department or other designated area for assessment and management.
- Implement Infection Prevention and Control protocols for both health care workers (at least droplet precautions – surgical mask, eye protection) and patients waiting in line (maintain >1m distance between individuals)
- Provide all patients with fever and/or cough a mask if not already directed to do so by the sign.
- Patients without fever or cough who are streamlined into the non-influenza assessment area do not require masks.
- Consider supplies that will be needed at this stage including but not limited to: masks, eye protection, alcohol hand wash, tissues and line dividers.
- Consider the need for additional tables, chairs, computer stations, hand hygiene stations and additional waste containers.
- Develop communication links with other nearby triage and assessment sites to prevent patients from hospital or doctor “shopping”.

2. Triage

Issues:

1. To classify patients according to the severity of their conditions in order to determine their time to assessment by medical staff.
2. To complete Infection Prevention and Control screening.

Recommendations:

The following elements should be considered for patient triage:

- Triage both influenza and non-influenza patients following screening.
- Designate separate areas for triage of influenza and non-influenza patients.
- Consider adopting The Canadian Triage and Acuity Scale (CTAS) to prioritize patients. This is a common and currently used tool with which many hospital emergency departments are familiar (Appendix 5-A).
- The CTAS can be easily learned and implemented in settings that do not currently employ the scale or do not have ERs, however, it may not be applicable for purely ambulatory and outpatient sites.
- Continue Infection Prevention and Control screening currently employed at the health care institution.
- Maintain or modify existing hospital triage and Infection Prevention and Control forms or adopt the generic triage and Infection Prevention and Control screening forms as provided (Appendix 5-Forms)
- Infection Prevention and Control screening in general or for influenza specific screening may change based upon MOHLTC recommendations at the time of the pandemic.
- Redirect patients mistakenly assigned to either influenza or non-influenza areas upon the results of Infection Prevention and Control screening. Ensure proper Infection Prevention and Control precautions for patients initially screened to the non-influenza area now being redirected to the influenza area (mask, maintain >1m distance between people).

3. Patient assessment: Primary and secondary assessments

Primary assessment

This includes a history, review of symptoms, vitals signs and a physical exam. This is applicable to both influenza and non-influenza patients.

Issue:

To identify those patients who require further assessment ("secondary assessment") from those who can be discharged at this stage of assessment. Primary assessment will occur in family physician offices, walk-in clinics, and alternate care settings in addition to emergency departments.

Recommendations:

The following elements should be considered for primary assessment:

- Primary assessment may occur outside the hospital setting.
- Primary assessment will be performed by an individual with clinical experience.
- ERs currently conduct triage and primary assessment and have forms and systems in place that capture the necessary information required in a primary influenza assessment.
- Maintain existing hospital assessment forms (usually called nursing assessment) for primary assessment or adopt generic patient assessment forms as provided (Appendix 5-Forms) For institutions with existing forms, these generic forms are intended to be used as a guideline and/or template to modify existing forms as necessary.
- Consider supplies needed, particularly to stock alternate assessment areas: medical supplies, computers.
- Consider staff needed: primary assessment nurses, physicians, data entry people, volunteers, security.
- In hospitals, if it is determined that the patient is well enough to be discharged without any further assessment, the patient must still be assessed by a physician prior to discharge. This is similarly advisable outside the hospital setting, although resources may not allow for this to occur. Direction from the MOHLTC on this issue is pending.
- Provide both influenza and non-influenza patients who are sent home with an information package that contains influenza facts, self-care and what to do/who to contact should influenza symptoms develop or worsen.

Secondary Assessment

Issue:

Following primary assessment, some patients may require further assessment such as a more thorough history and physical exam, bloodwork and other diagnostic tests. This is referred to as **secondary assessment**, and is applicable to both influenza and non-influenza patients.

Recommendations:

The following elements should be considered for secondary assessment:

- Consider maintaining existing hospital assessment forms for secondary assessment or adopt generic patient assessment forms as provided (Appendix 5-Forms).
- Under current non-pandemic conditions, secondary assessment of patients is performed by physicians. This may change during a pandemic according to MOHLTC recommendations.
- Investigations not routinely ordered by non-physicians (chest radiographs and nasopharyngeal swabs) may be allowed through medical directives put forth by the MOHLTC.
- Consider supplies needed, particularly to stock alternate assessment areas: medical supplies, computers.
- Consider staff needed: primary assessment nurses, physicians, data entry people, volunteers, security.

4. Disposition

Issue:

Following primary and in some cases secondary assessment, a physician must assess the patient for purposes of assigning a diagnosis and disposition.

Recommendations:

Discharge:

If the patient is deemed well enough to be discharged, all patients should be provided with influenza information (influenza symptoms, self-care and what to do/who to contact should influenza symptoms develop) regardless of whether the discharge diagnosis is influenza or unrelated to influenza.

Admission:

To limit influenza transmission early on in the pandemic, patient admission to the following areas should be considered:

1. Admission diagnosis: Influenza meeting MOHLTC case definition → admit to influenza unit
2. Admission diagnosis: Influenza does not meet MOHLTC case definition → admit to influenza unit
3. Admission diagnosis: Non-influenza → admit to non-influenza unit

- The intent of classifying patients into categories 1 and 2 is both for hospital case tracking and reporting to local public health units and/or the MOHLTC.
- As the pandemic progresses, separation of patients may be unnecessary and impractical.
- Hospitals may wish to create admission teams or designate an individual to be responsible for patient flow from assessment areas to the appropriate units.

The following elements should be considered for admission:

- If staffing levels and supplies permit, consider establishing alternate locations within the hospital for admitting patients (e.g. meeting rooms) if the in-patient units are full. This will reduce the number of patients waiting for beds in/around assessment areas or the emergency department.
- Develop pre-printed influenza admission orders (Appendix 5-Forms). These are meant to be used as a guideline/template for institutions.
- Develop a system for prioritizing admissions when beds are limited using both clinical and ethical support.

Patient Management

Issue:

To provide general clinical management guidelines for patients with suspected and confirmed cases of influenza. Much of this work awaits further direction from the MOHLTC. It is assumed that management will change depending on the type of illness that presents during the pandemic

Patient management will involve the following:

1. Ensure appropriate care is delivered.
2. Assessment will use the critical care assessment framework that determines probability of survival to early discharge.
3. Ensure timely discharge
4. Provide patients with self care/care at home guidelines upon discharge from hospital or after secondary assessment if hospitalization is not required.
5. Decisions around allocation of scarce resources. These decisions will be made within an ethical framework that is supported by clinical information. TAHSN will rely on direction from the MOHLTC on these issues.
6. The use of antivirals awaits direction from the MOHLTC. The goal will be to provide as many patients as possible with these agents under the guidance of the MOHLTC given supply and indication requirements.

Additional details regarding patient management as it pertains to critical care triage can be found in the final report of the Ontario Health Plan for an Influenza Pandemic Working Group on Critical Care Admission, Discharge and Triage Criteria. Updated versions or amendments to this report may be available at a later time. The OHPIP report can be found at: http://www.health.gov.on.ca/english/providers/program/emu/pan_flu/pan_flu_mn.html

Hospital outpatient services

Issue:

Due to expected limited resources during the pandemic, hospitals will have to scale back many of their current services.

Recommendations:

- In the pre-pandemic period, it is recommended that hospitals triage their services to determine which services should be closed or scaled back and which should be considered essential and thus must remain open during the pandemic phase.
- It is recommended that hospitals communicate with local area hospitals to coordinate closure such that similar services are not cut back or closed simultaneously. This will ensure some degree of continuity of care during the pandemic.
- TAHSN recommends and encourages outpatient clinics to perform primary screening and assessment of their patients as this is needed to institute effective Infection Prevention and Control precautions and has the potential to greatly assist hospital emergency rooms by decreasing patient flow.

Three Scenarios Exist for Outpatient Services

1. Patients will present to **closed** clinic with symptoms of influenza in addition to their baseline medical condition.
2. Patients will present to **scaled back** clinic with symptoms of influenza in addition to their baseline medical condition.
3. Patients will present to "**essential**" clinic with symptoms of influenza in addition to their baseline medical condition.

The following Communications Strategies are recommended:

Clinics that are closed:

- The hospital's general phone line with recorded message should inform patients that certain services have been closed or scaled back. Patients should contact their particular clinic for additional information.
- Consider other advertising strategies, e.g. hospital Internet homepage, newspaper advertising, etc. to alert the public of closed and/or scaled back services.
- Change clinic telephone recorded message stating that the clinic has been closed and instruct patients on where to seek alternate care, e.g., Family MD, ER, TeleHealth Ontario.
- Display signage at hospital and clinic entrances that list all closed clinics and re-direct to nearest facility or alternate site.
- Have security personnel at entrances to assist with communication and security.
- Limit the number of open entrances.

Clinics that are scaled back:

- The hospital's general phone line with recorded message should inform patients that certain services have been closed or scaled back. Patients should contact their particular clinic for additional information.
- Clinic to call patients 24 hours in advance of visit to confirm or cancel scheduled appointments. For confirmed appointments, the clinic should perform screening via telephone for influenza symptoms. For symptomatic patients, the clinic should inform patient that proper Infection Prevention and Control practices are required upon coming to clinic (e.g., hand hygiene upon entry, donning a mask).
- Change clinic telephone recorded message stating that the clinic has been scaled back, that patients should expect longer wait times, and that Infection Prevention and Control precautions must be taken if the clinic visit proceeds. For patients who will not be seen in clinic, information on where to seek alternate care should be provided e.g., family MD, TeleHealth Ontario, ER.

Clinics that are open:

- Clinic to call patients 24 hours in advance of visit to confirm scheduled appointments. Influenza symptom screening should be performed during the same call. For symptomatic patients, the clinic should inform patients that proper Infection Prevention and Control practices are required upon coming to clinic (e.g., hand hygiene upon entry, donning a mask).
- Change clinic telephone recorded message stating that the clinic is open but to expect longer wait times and that Infection Prevention and Control precautions must be taken upon clinic entry.

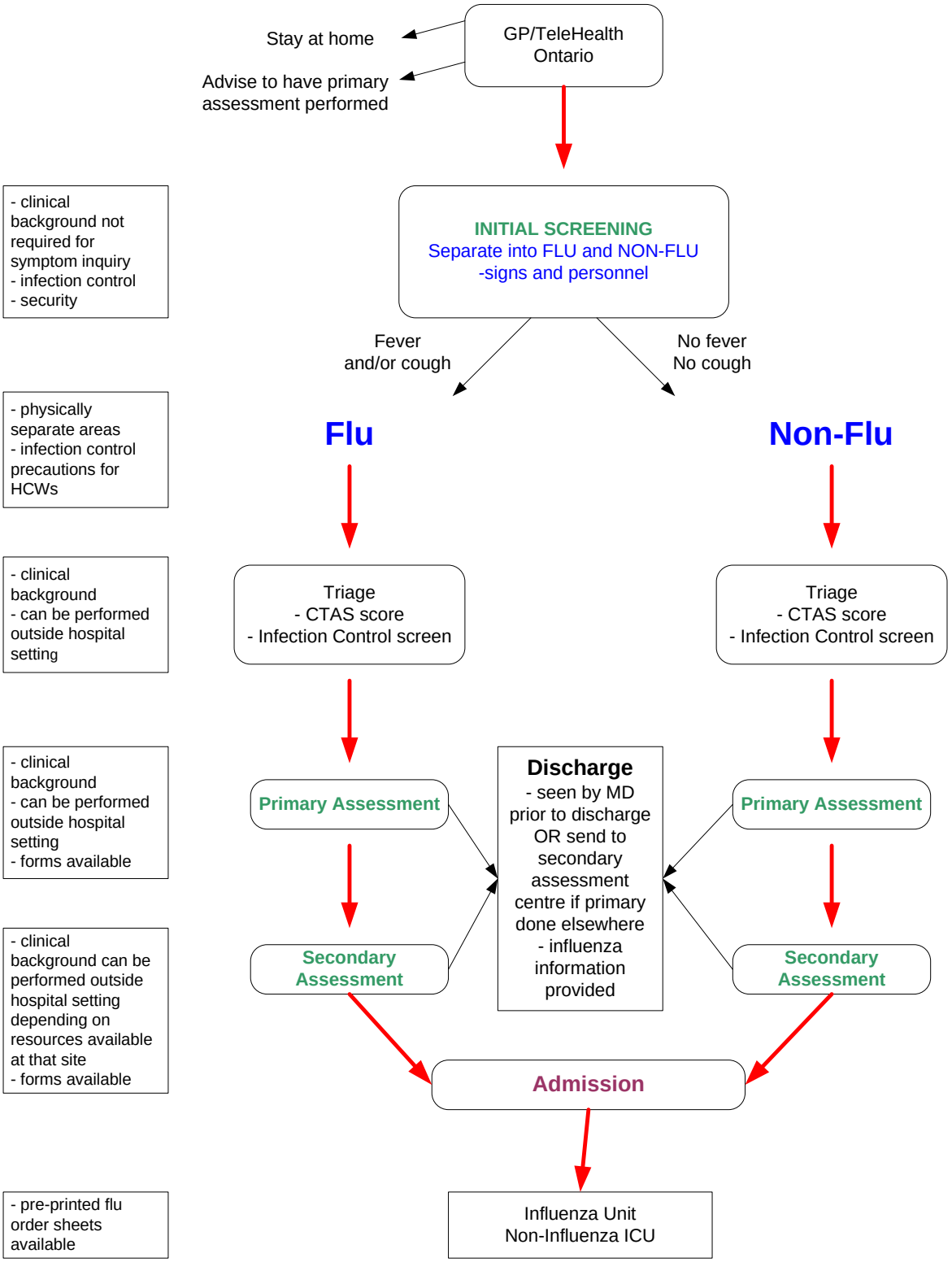
The Following Infection Prevention and Control Protocols are recommended (see Safety and Support Chapter):

- Perform Infection Prevention and Control screening at clinic entrance for presence of influenza symptoms.
- Instruct clinic workers to don droplet precautions (eye protection, surgical mask) when within 1 metre (3 feet) of patients.
- Instruct patients with influenza-like symptoms to perform hand hygiene and take droplet precautions (surgical mask) prior to clinic entry.
- If possible, separate patients with influenza-like symptoms from those with no symptoms (e.g. separate waiting area).
- Provide hand rinse, surgical masks, and tissues.

The Following Patient Flow Strategies are recommended:

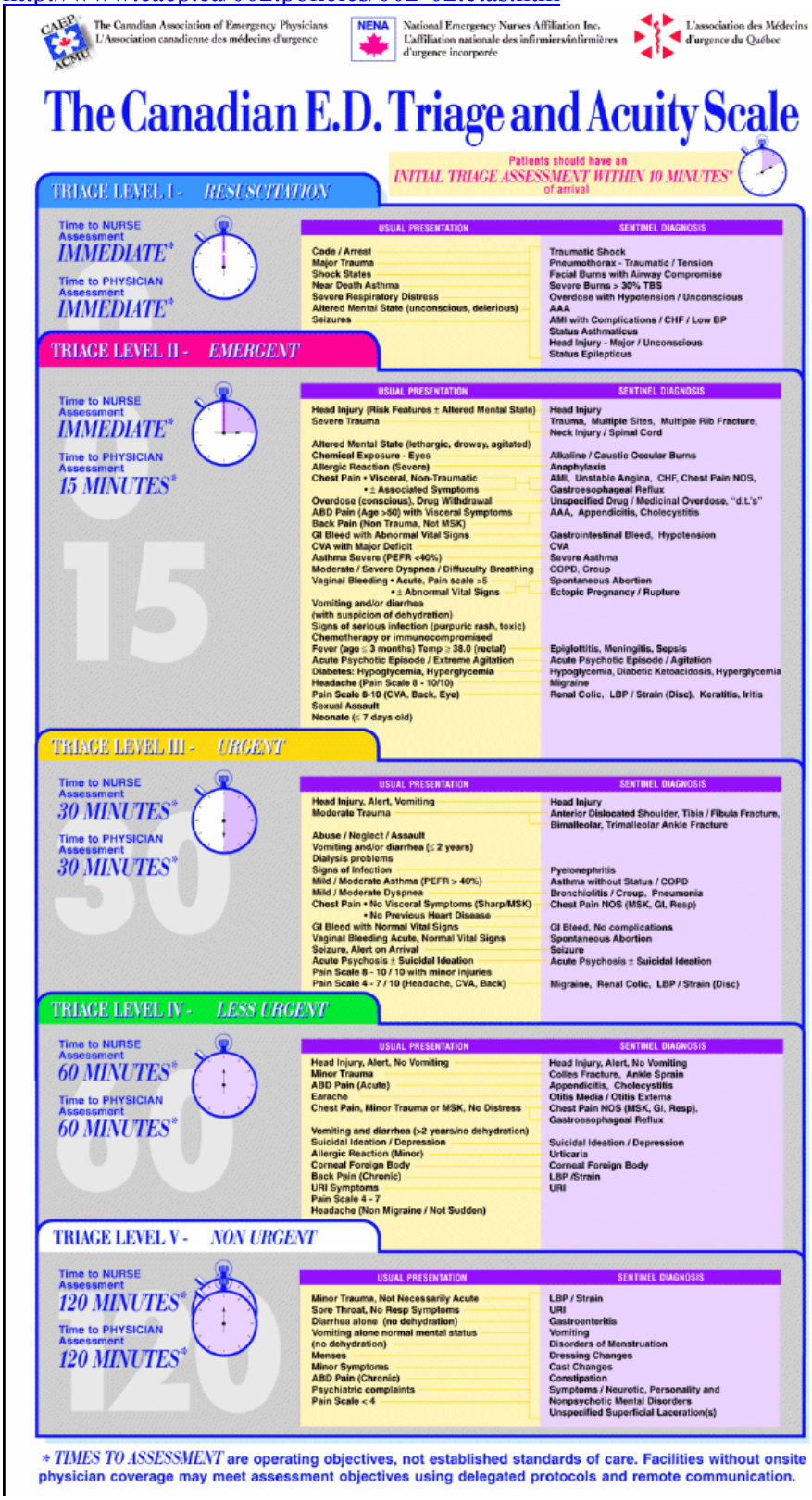
- Determine how patients can best enter the hospital for their clinic appointment re: consider separate entrance for patients coming to hospital for clinic appointments.
- To alleviate high patient numbers in the ER, primary assessment (forms provided) can be performed by clinic personnel. Hospitals and clinics should determine where to direct patients should secondary assessment be required. In most instances, this will likely be the ER.
- Develop a strategy such that patients requiring secondary assessment, additional care and/or admission to hospital can be sent to the ER without having to repeat primary screening.

Patient Screening/Triage/Assessment Flowchart



Appendix 5-A

http://www.caep.ca/002.policies/002-02.ctas.htm



APPENDIX 5-FORMS

Form 1: Primary Assessment - Adult

Allergies:

Primary Assessment, Initial Influenza-like Illness Assessment (≥12 years old)

Symptoms	**Tick all that apply**	**Date of onset (dd/mm/yyyy)**
Fever		
Chills		
Cough		
Sore throat		
Runny/stuffy nose		
Dyspnea		
Pleuritic chest pain		
Myalgia		
Prostration		
Arthralgia		
Vomiting		
Diarrhea		
Headache		
Confusion		
Other:		

Medications	**Name of drug(s)**	**Date started (dd/mm/yy)**
Antivirals		
Antibiotics		
Flu vaccine		
Others:		

The presence of one or more of the following findings on medical history or physical exam warrants secondary assessment (Form 2). Other findings based upon clinical judgment may also warrant further assessment.

High Risk Groups	Patient's History
Age<12, pregnancy, chronic cardiac disease, chronic pulmonary disease, chronic renal disease, diabetes, immunosuppression, malignancy, liver disease	

Physical Exam	Results that Suggest Secondary Assessment may be Required	Patient's Values	Tick abnormal values
Temperature	<35ºC or >39ºC		
Pulse	New arrhythmia (irregular pulse) > 100 bpm		
Blood Pressure	<100 systolic, dizziness on standing	/	
Respiratory Rate	>24/min (tachypnea)		
Skin Colour (lips, hands)	Cyanosis		
Chest signs and symptoms	Any abnormality on auscultation or chest pain		
Mental status	New confusion		
Function	New inability to function independently, persistent vomiting (>2-3x/24h)		
Oxygen saturation	<90% room air		
Other:			

Disposition:

☐ **Complete secondary assessment (Form 2), MD assessment**
- ☐ Suspected influenza (meets Ministry of Health and Long Term Care (MOHLTC) case definition)
- ☐ Suspected influenza (does not meet MOHLTC case definition)
- ☐ Non-influenza

☐ **No secondary assessment, MD assessment**
- ☐ Suspected influenza (meets MOHLTC case definition)
- ☐ Suspected influenza (does not meet MOHLTC case definition)
- ☐ Non-influenza

Has the Suspected Influenza Case been Lab Confirmed? ☐ Yes ☐ No

Completed by:_____ Date:_____ Time:_____
Signature:_____

Form 2: Secondary Assessment - Adult

Allergies:

Secondary Assessment Orders

Test	Results requiring consideration for admission
☒ CBC + differential	Hgb< 80g/L
	WBC <2,500 or >12,000
	Bands >15%
	Platelets <50,000/L
☒ Creatinine	Creatinine >150 mmol/L
☒ BUN	BUN>10.7 mmol/L
☐ Glucose (if diabetic)	<3mmol/L or >13.9 mmol/L
☐ CPK (if myalgias present)	total CK> 1,000 U/L
	CKMB>5%
☐ CXR (if productive cough or chest pain)	abnormal, pneumonia or congestive heart failure
☐ EKG (if chest pain)	evidence of ischemia, new arrhythmia
☐ red top for serology	
☐ NP swab or aspirate for respiratory virus panel	
☐ AST, ALT, ALP	

MD's Assessment

Diagnosis:

☐ Suspected influenza (meets MOHLTC case definition)
☐ Suspected influenza (does not meet MOHLTC case definition)
☐ Non-influenza

Disposition:

☐ Admission: ☐internal medicine ☐ICU contacted at _____:_____hrs
☐ Other

☐ Discharge to: _____ time: _____:_____hrs
☐ Oseltamivir* provided to patient
☐ Zanamivir** provided to patient
☐ Influenza information pamphlet, including follow-up instructions

Completed by:_____ M.D. Date:_____ Time:_____

Signature:_____

* Oseltamivir, 75mg po BID x 5 days, is recommended as first line treatment for all patients ≥ 13 years old unless CrCl<10ml/min, on dialysis, or if pregnant/breastfeeding.

**Zanamavir, 10mg (equivalent to 2 inhalations) BID x 5 days for all patients ≥ 7 years old
Recommended if CrCl<10ml/min, on dialysis or if pregnant/breastfeeding
A signed informed consent (attached) is required if pregnant/breastfeeding
WARNING: Zanamivir should be used with caution in patients with asthma or COPD

Form 3: Admission Orders – Adult

Allergies:

Pandemic Influenza Admission Orders – Adults (age≥ 12) Page 1 of 2

Date	Time	Orders
		Admit to: _____ under Dr. _____
		Admission Diagnosis: Suspected Influenza ☐ meets Ministry of Health and Long-term Care of Ontario (MOHLTC) case definition ☐ does NOT meet MOHLTC case definition
		Isolation: as per MOHLTC
		Diet: ☐ as tolerated ☐ other:_____
		Activity: ☐ as tolerated ☐ other:_____
		Vitals:_____
		☐ Oxygen to keep SaO_2 >92%
		IV fluids:_____
		☐ Blood cultures x 2 sets
		☐ Sputum for C+S
		CXR ☐ PA & lateral ☐ Portable
		☐ EKG
		☐ CBC & differential
		☐ Urea
		☐ Creatinine
		☐ Electrolytes
		☐ CPK
		☐ AST, ALT, ALP
		☐ acetaminophen 325-650mg po/pr q4-6h prn
		Name:
		Signature:

Form 3: Admission Orders – Adult

Allergies:

Pandemic Influenza Admission Orders – Adults

Date	Time	Orders
		Influenza Workup*: * **All tests may not be performed depending on available resources**; "respiratory virus panel" will include either all or a selection of: direct testing (DFA or mEIA), virus culture, nucleic acid/signal amplification testing, and influenza virus susceptibility testing **Pandemic Influenza Kit:** ☐ Nasopharyngeal swab or aspirate for respiratory virus panel ☐ Red top tube (no additives) or red tiger top (serum separator tube) x1 for influenza antibody levels ☐ Lavender top tube (EDTA) x1 for influenza virus nucleic acid/signal amplification testing **Additional Specimens:** ☐ Sputum for respiratory virus panel ☐ Stool specimen or swab for influenza virus testing ☐ Other specimen (specify _____) for influenza virus testing
		Influenza Antivirals: Did this patient's influenza symptoms start within the last 48 hours? ☐ Yes | ☐ No. ☐ oseltamivir 75mg po BID x 5 days (if CrCl >30 ml/min) ☐ oseltamivir 75mg po OD x 5 days (if CrCl 10-30 ml/min) - oseltamivir is recommended as first line treatment for all patients unless CrCl <10ml/min, on dialysis, or if pregnant/breastfeeding ☐ zanamivir 10 mg (equivalent to 2 inhalations) BID x 5 days - recommended if CrCl <10ml/min, on dialysis, or if pregnant/breastfeeding - a signed informed consent (attached) is required if pregnant/breastfeeding WARNING: zanamivir should be used with caution in patients with asthma or COPD
		Name:
		Signature:

APPENDIX 5-FORMS

Form 1: Primary Assessment - Pediatric

Allergies:

Pediatric Primary Assessment, Initial Influenza-like Illness Assessment (<12 years old)

Symptoms	**Tick all that apply**	**Date of onset (dd/mm/yyyy)**
Fever		
Chills		
Cough		
Sore throat		
Runny/stuffy nose		
Dyspnea		
Pleuritic chest pain		
Myalgia		
Prostration		
Arthralgia		
Vomiting		
Diarrhea		
Headache		
Confusion		
Other:		

Medications	**Name of drug(s)**	**Date started (dd/mm/yy)**
Antivirals		
Antibiotics		
Flu vaccine		
Others:		

APPENDIX 5-FORMS

High risk patients and/or the presence of one or more of the following clinical findings in a patient warrants secondary assessment. Other findings based upon clinical judgment may also warrant further assessment.

High Risk Groups	Patient's History
primary or secondary immunodeficiency, malignancy, chronic cardiac, pulmonary, neurologic, renal disease or liver disease, diabetes	

Physical Exam	Results requiring Secondary Assessment	Patient's Values	Tick abnormal values
Temperature	<35ºC or >39ºC		
Pulse	Neonate: >180 beats/minute 1-12 months: >160 beats/minute 1-4 years: >130 beats/minute 5-6 years: >120 beats/minute >6 years: >100 beats/minute		
Blood Pressure	Systolic BP <80 + 2x(age in years), dizziness on standing		
Respiratory Rate	<2 months: >60/min 2-12 months: >50/min >12 months to 5 years: >40/min >5 years: >30/min		
Skin Colour (lips, hands)	Cyanosis, sudden pallor, capillary refill > 2 seconds		
Chest signs and symptoms	Increased work of breathing, grunting, nasal flaring, intercostal indrawing, crackles, wheezes or dullness on auscultation, chest pain		
Mental status	Lethargic or unconscious, confused		
Function	Unable to breast feed or drink, persistent vomiting (>2-3x/24h)		
Oxygen saturation	<92% room air		
Other:			

Disposition:

☐ **Complete secondary assessment (Form 2), MD assessment**

- ☐ Suspected influenza (meets MOHLTC case definition)
- ☐ Susepcted influenza (does not meet MOHLTC case definition)
- ☐ Non-influenza

☐ **No secondary assessment, MD assessment**

- ☐ suspected influenza (clinical features only)
- ☐ lab confirmed influenza (attach lab report)
- ☐ non-influenza

Completed by:_____ Date:_____ Time:_____
Signature:_____

Form 2: Secondary Assessment - Pediatric

Allergies:

Pediatric Secondary Assessment (children <12 years of age)

Test	Results requiring consideration for admission
☒ CBC + differential	Hgb< 80g/L
	WBC <2,500 or >12,000
	Bands >15%
	Platelets <50,000/L
☒ Electrolytes	Na <134 mmol/L or >144 mmol/L K <3 mmol/L or >5.5 mmol/L
☒ Creatinine	Creatinine >80 mmol/L
☒ BUN	BUN>10.0 mmol/L
☐ Glucose (if diabetic)	<3mmol/L or >13.9 mmol/L
☐ CPK (if myalgias present)	total CK >1,000/L
	CKMB >5%
☐ CXR (if productive cough or chest pain)	Abnormal; pneumonia or congestive heart failure
☐ red top for serology	
☐ NP swab or aspirate for respiratory virus panel	
☐ AST, ALT, ALP	

MD's Assessment

Diagnosis:

☐ Suspected influenza (meets MOHLTC case definition)
☐ Suspected influenza (does not meet MOHLTC case definition)
☐ Non-influenza

Disposition:

☐ Admission: ☐General Pediatrics ☐ICU contacted at _____:_____hrs
☐ Other

☐ Discharge to: _____ time: _____:_____hrs
- ☐ Oseltamivir* Provided to Patient
- ☐ Zanamivir** Provided to Patient
- ☐ Influenza information pamphlet, including follow-up instructions

Completed by:_____ M.D. Date:_____ Time:_____
Signature:_____

* Oseltamivir, 2 mg/kg /dose (maximum 75 mg/dose) BID x 5 days, is recommended as first line treatment for children unless age < 12 months, CrCl<10ml/min, on dialysis, or if pregnant/breastfeeding.

**Zanamavir, 10mg (equivalent to 2 inhalations) BID x 5 days for all patients ≥ 7 years old
Recommended if CrCl<10ml/min, on dialysis or if pregnant/breastfeeding
A signed informed consent (attached) is required if pregnant/breastfeeding
WARNING: Zanamivir should be used with caution in patients with asthma or COPD

APPENDIX 5-FORMS

Form 3: Admission Orders – Pediatric

Allergies:

Pandemic Influenza Admission Orders – Children < 12 years of age (page 1 of 2)

Date	Time	Orders
		Admit to: _____ under Dr. _____
		Admission Diagnosis: Suspected Influenza ☐ meets Ministry of Health and Long-term Care of Ontario (MOHLTC) case definition ☐ does NOT meet MOHLTC case definition
		Isolation: as per MOHLTC
		Diet: ☐ as tolerated ☐ other:_____
		Activity: ☐ as tolerated ☐ other:_____
		Vitals:_____
		☐ Oxygen to keep SaO_2 >92%
		IV fluids:_____
		☐ Blood cultures x 2 sets
		☐ Sputum for C+S
		☐ CXR, PA & lateral; ☐ CXR, Portable
		☐ EKG
		☐ CBC & differential
		☐ Urea
		☐ Creatinine
		☐ Electrolytes
		☐ CPK
		☐ AST, ALT, ALP
		☐ acetaminophen _____mg q4-6h prn (10-15 mg/kg/dose)
		Name:
		Signature:

APPENDIX 5-FORMS

Form 3: Admission Orders – Pediatric

Allergies:

Pandemic Influenza Admission Orders – Children <12 years of age (page 2 of 2)

Date	Time	Orders
		Influenza Workup*: * **All tests may not be performed depending on available resources**; "respiratory virus panel" will include either all or a selection of: direct testing (DFA or mEIA), virus culture, nucleic acid/signal amplification testing, and influenza virus susceptibility testing **Pandemic Influenza Kit:** ☐ Nasopharyngeal swab or aspirate for respiratory virus panel ☐ Red top tube (no additives) or red tiger top (serum separator tube) x1 for influenza antibody levels ☐ Lavender top tube (EDTA) x1 for influenza virus nucleic acid/signal amplification testing **Additional Specimens:** ☐ Sputum for respiratory virus panel ☐ BAL for respiratory virus panel ☐ Stool specimen or swab for influenza virus testing ☐ Other specimen (specify _____) for influenza virus testing
		Influenza Antivirals: Did this patient's influenza symptoms start within the last 48 hours? ☐ Yes | ☐ No ☐ oseltamivir _____mg BID x 5 days (2 mg/kg/day, maximum 75 mg dose) - oseltamivir is recommended as first line treatment for all patients **unless,** age < 12 months, CrCl <10ml/min, on dialysis, or if pregnant/breastfeeding - Dose adjustments may be needed in moderate to severe renal failure ☐ zanamivir 10 mg (equivalent to 2 inhalations) BID x 5 days - zanamivir is recommended as first line for all patients ≥ 7 years old if CrCL <10ml/min, on dialysis, or if pregnant/breastfeeding - a signed informed consent (attached) is required if pregnant/breastfeeding WARNING: zanamivir should be used with caution in patients with asthma or COPD
		Name:
		Signature:

Chapter 6:

Human Resources

Planning Assumptions

The Human Resources Plan for a pandemic situation has been developed based on the following TAHSN planning assumptions:

- One out of every three health care worker could become ill and unable to provide services. This is in addition to the normal absenteeism the hospital experiences on a daily basis.
- The influenza pandemic event may have several waves; therefore, HR planning must recognize both a short-term and long-term strategies.

Primary Human Resources Issue

The primary Human Resources issue will be to maintain adequate staffing levels to manage the existing and additional workflow resulting from the pandemic event.

With the influx of new patients ill with the influenza, in addition to the regular work demands, adequate staffing will not be available and decisions will have to be made regarding work priorities.

Components of Human Resources Plan

1. Labour Relations - Union Expectations

Primary Issues

1. Greater expectation of union involvement/discussion of issues before/during and after a pandemic event.
2. Unions will have questions regarding health & safety issues.
3. Hospital may experience increases numbers of grievances and workload complaints.
4. Hospital may experience possible refusal to work and other safety related issues.

HR Recommendations:

- With your union executive, proactively discuss the hospital pandemic plans prior to the event.
- During the pandemic event, send unions regular verbal and written updates.
- Seek agreement with your individual unions prior to the pandemic event on how to effectively deal with grievances filed during the event that are related to the pandemic.
- Set up a mechanism to effectively batch and deal with workload complaints.

2. Organization Resiliency – Coping Mechanisms

Primary Issues:

1. To cope with several waves of the pandemic, organizational resiliency and staff morale will be a difficult problem.
2. Large number of employees will be ill; to the remaining staff, workload will seem overwhelming. It will be difficult to maintain staffing levels and positive employee morale.
3. Staff feeling unable to cope, may lead to increased absenteeism and perhaps staff resignation.
4. EAP usage will increase dramatically and drain resources. If EAP is providing coverage to numerous organizations, their resources will be limited.
5. Staff will be stressed due to their children, other family members, friends, and work colleagues all being ill.

HR Recommendations:

- Initiate discussions proactively with your individual Employee Assistance Program provider regarding your needs during a pandemic event and how they are proposing to meet those needs.
- If necessary, negotiate an arrangement with your Employee Assistance Program to ensure additional coverage during a pandemic event.
- It is recommended that Hospitals might consider seeking advice and counsel from their Crisis Management Program/Committee. (If this committee exists within your facility.)
- It is recommended that departments or services not fully engaged in pandemic activities could assist with setting up EAP sessions and other counselling initiatives and staff support.
- It is recommended that all hospitals have a list of resources available for staff, such as assistance with elder care, childcare and counselling services. The purpose of the assistance is to enable the hospital worker to come to work and provide much needed services.

3. Redeployment Centre

Primary Issues:

1. Ensuring names of <u>all</u> appropriate staff are submitted and redeployed.
2. Ensuring people working in Redeployment Centre understand the talent available and job requirements.
3. Ability to capture costs associated with redeployment. Having the timesheet processes in place to effectively pay staff not working in their usual department.
4. Ensuring redeployed staff receive orientation/training to new area so they can provide safe quality services.

HR Recommendations:

- It is recommended that Human Resources manage the day-to-day operations of the Redeployment Centre.
- It is recommended that where appropriate, hospitals develop a framework or structure and have the ability to set up a functional Redeployment Centre within days.
- It is recommended that in advance of a pandemic event, Redeployment Principles and Operational Guidelines for the Redeployment Centre should be developed.
- It is recommended that clinical experts assist in the redeployment of other clinical staff, paramedical expertise assist with the redeployment of other paramedical staff, etc. This will ensure appropriate skills and ability match the request for additional staffing.
- Ensure that Redeployment Centre must have the ability to capture, monitor and track all redeployment activities from the beginning of the assignment to the conclusion. Each hospital should develop a tracking system.
- It is recommended that each Human Resources Department are familiar with their organization's operational plan during a pandemic event, for it will determine your redeployment plan.
- It is recommended that staff not be allowed to volunteer their services for redeployment unless approved by their manager.
- It is recommended the hospital develop a cataloguing system to maintain accurate records on the requests for redeployment, details of actual redeployments and talent available. This can become problematic if you organization has different sites and have staff being redeployed between them.
- It is recommended you work with your IT and HRIS staff to ensure technology is used effectively.

4. Recruitment Plan

Primary Issues:

1. When the pandemic is confirmed, recruitment will be very competitive and therefore difficult within all industries.
2. External hires may demand increased rates for compensation and/or other benefit considerations.
3. New staff will require more orientation and training due to the complexity of the pandemic event in addition to the normal hospital work. With staffing shortages, orientation and training is time consuming and adds a greater burden to already overwhelmed managers and staff.

HR Recommendations:

- It is recommended that hospitals discuss with their casual and part-time staff the need for commitment to full-time hours during a pandemic event.
- Discuss with recent retirees the possibility of returning to work during a pandemic event. Depending on skills and other factors, they could return to their normal position, or work in redeployment centre, or is redeployed to other areas.
- It is recommended hospitals utilize existing students from all clinical and healthcare related programs, nursing schools, interns, residents, etc. and that this be discussed with their respective schools in advance.
- It is recommended you discuss in advance with agencies in use within your hospital, the possibility of using their services to recruit additional temporary staff. It is also recommended that wages be kept in line with your current Compensation Program.
- Recruit family members from staff (as per SARS) to assist with non-clinical work. (Even if it is only on the weekend, evenings, etc)
- Discuss with staff the possibility of cancelling scheduled vacations, leaves of absences during a pandemic event. Chances are they will not be keen on traveling if the vacation is out of the country.
- It is recommended that hospitals consider asking their staff to declare (a passport system) if they provide services to other health care facilities.

5. Determining Staff Who May Be Redeployed

Primary Issues:

1. The Human Resources Pandemic Plan enables the operational plan to become functional. Once the operational plan has been finalized, Human Resources can determine the type of positions (talent) in the hospital that may be available for redeployment.
2. The difficulty for hospitals is to determine which services will continue through the pandemic and which services will be diminished or halted so that resources can be transferred to manage the influx of pandemic influenza patients.

HR Recommendations:

- It is recommended that each organization ensure they have an effective methodology to identify talent, skills and ability during a pandemic and subsequently those staff who can be redeployed into other areas.
- It is recommended that each hospital use to the fullest capacity all students, residents and interns available to them.
- It is recommended for easy identification of different labour classes or different profession, that each be colour coded for easy recognition and use in the redeployment centre.

Paramedical Staff	Management Staff	Administration Staff/Office
Clinical Staff *	Volunteer Staff	Clerical Staff
Service/Support Staff	Technical Staff	Research Staff
	Students, Residents & Interns	

* Including Nurse, MD, Respiratory Therapist, Pharmacists, Physical Therapy, Occupational Therapy

6. Use of Volunteers

Primary Issues:

1. Hospitals must determine if volunteers will be used during a pandemic event. If volunteers are used it is recommended that they be treated as staff i.e. protection, antivirals
2. Hospital must determine the type of role or activity of value for the volunteer during a pandemic event.
3. If volunteers are elderly, they may feel more at risk in a hospital setting.
4. Hospital must determine if they will use volunteers to do the work of a bargaining unit person.

HR Recommendations:

- It is recommended each hospital determine how best to utilize their Volunteers.
- It is recommended that hospitals begin communications with their Volunteers to ensure full understanding of the hospital's operational plan and how they can contribute.
- In extreme staff shortages, if is recommended you consider if appropriate to your hospital, safely redeploying volunteers into work of the bargaining unit. Discuss with unions in advance; discuss payment, union fees, etc.

7. Compensation/Benefit Issues

Primary Issues:

1. Due to increased absenteeism, staffing shortages will in many hospitals require hiring additional staff, which may cease the opportunity to demand excessive compensation outside normal practices and /or other benefits.
2. Internal staff experiencing fatigue and difficulty managing the workplace stress may demand additional compensation and/or other benefits.
3. Staff not covered under the short term sick benefits may come to work ill or return to work when they are still highly contagious as to not lose pay, thus furthering outbreak situation.

HR Recommendations:

- Hospitals must follow their collective agreements and/or hospital policies and practices in relation to setting terms and conditions of compensation and benefits. (For both internal and external new hires.)
- Staff must not be paid additional compensation outside of existing collective agreements for working during the pandemic.

8. Vaccine & Antiviral Medication Compliance

Primary Issues:

1. There will probably be no orders for mandatory compliance with antivirals or vaccination of all primary caregivers.
2. Will the compliance language in current collective agreements be all that hospital has to deal with compliance?
3. Labour issues and other conflicts arising from the determination of who receives the vaccine and when.

HR Recommendations:

- It is recommended that hospital discuss with staff the order in which the vaccine will be distributed.
- It is recommended that hospital ensure staff understand your hospital's existing policy or language in respect to vaccine compliance.

9. Role of Joint Health and Safety Committee (JHSC) – Ministry of Labour (MOL)

Primary Issues:

1. JHSC and MOL will have expectations of greater involvement than existed during SARS.
2. Determining role of JHSC prior to pandemic so that decision marking during the emergency is not impeded due to committee involvement and time constraints.
3. MOL will be concerned regarding the health and wellness of staff.

HR Recommendations:

- It is recommended that prior to pandemic event the role of JHSC be discussed. Ensure appropriate communication avenues are determined to ensure committee is informed of hospital safety practices during pandemic.
- It is recommended that hospitals with Pandemic Disaster Control Committees determine and communicate with JHSC how decisions are made that affect staff safety during the pandemic.
- It is recommended that regular written updates be provided to the JHSC membership to keep them informed.
- It is recommended that corporate communications be given to staff in regards to Infection Prevention and Control procedures that will reduce spread of germs at home.

10. Staff Medical Concerns

Primary Issues:

1. Pregnant employees may request to be redeployed to non-clinical areas or request to be sent home.
2. Plans must be developed to manage staff with pre-existing illnesses that make them more susceptible to influenza and thus at a high risk for illness/death.

HR Recommendations:

- It is recommended hospitals discuss with unions, managers, OHS and others the need for redeployment of clinical pregnant employees to non-influenza patients, recognizing that this strategy will not provide absolute protection.
- It is recommended that individual decisions will be made through Occupational Health Services regarding other staff with pre-existing conditions that deem them to be a high risk.

11. Child Care/Elder Care Issues For Staff

Childcare and eldercare issues will be complicating factors in managing a pandemic event. These issues will increase staff stress and absenteeism.

Primary Issues:

1. Maintaining adequate staffing levels will be a severe challenge and in addition hospitals will experience absenteeism due to childcare and elder care issues.
2. The demand on hospital staff to work and manage additional stress at home with the illness of a child or parent will require the hospital to provide support and perhaps counseling of some sort.
3. Schools may be closed – childcare issues results.

HR Recommendation:

- It is recommended that hospitals discuss with their staff the importance of regular attendance throughout the pandemic event and the valued contributions of each and every employee. To ensure employees undertake steps to mitigate as much as possible the results of their personal child care or elder care issues on their attendance at work.
- It is recommended that hospitals research within their geographic area childcare, daycare resources to assist families during a pandemic event.
- It is recommended that hospitals research alternative childcare arrangements that do not involve daycares as daycares closures may occur.

12. Staff Identification

Primary Issues:

1. Identification may be required to access different site within each hospital.
2. Staff must consistently carry staff identification (name tags) with them.

HR Recommendations:

- It is recommended that all staff maintain appropriate staff identification. (Always helpful during an emergency situation)
- It is recommended that all new staff hired during the pandemic have an identifier on their name tags to ensure others understand they are new to the organization and might required additional assistance, training, etc. It should be understood that this will not be considered normal times, and new staff will face additional stress with their co-workers being off ill or stress providing services during this unusual work circumstances.

13. TAHSN Human Resources Information Network

Primary Issue:

- To ensure TAHSN Hospitals are coordinated and networking with each other throughout the pandemic event.

HR Recommendation:

- It is recommended the leaders of HR hold a teleconference weekly throughout the pandemic event to share questions, concerns and information.

14. Human Resources Communications

It is understood that hospitals will have a comprehensive communications plan for their staff in preparation for the pandemic event and during to ensure an understanding of hospital directions and activities.

Primary Issues:

1. As learned during SARS, Human Resources will be required to communicate "just in time" HR/Labour/Safety directions and instructions to managers and staff on a constant basis.
2. The communications from HR must be distinct and easy to comprehend and follow for managers and staff already experiencing high levels of stress.

HR Recommendations:

- It is recommended that HR design an easy to read format for their communications. There should be one look, format and style throughout the pandemic event.
- It is recommended a standardize style with three sections in different colours to denote content. This is easier for mangers to understand. See Appendix 6-A template for details.
- It is recommended that HR consider Webcasting appropriate HR information as a vehicle for distribution.

For example: See attached template – Appendix 6-A

APPENDIX 6-A

Suggested Human Resources Communications Format

HR communications should be very directive and simple. We recommend three sections:

Section #1: Short paragraph to describe the issue (IN BLUE)

Section #2: Step-by-Step instructions (IN RED)

Section #3: Q&A (try to anticipate the questions. Make them short and to the point, but questions and answers. (IN BLACK)

Human Resources Pandemic Influenza Communications

What is the issue?

_____

_____

_____

Instructions:

1. _____
2. _____
3. _____

Questions and Answers

1. _____?

Answer: _____

2. _____?

Answer: _____

APPENDIX 6-B

Recommended Framework for the Development of a Redeployment Centre (Labour Pool) - For Anticipated Staffing Shortages

Structural Design

1. It is recommended the Redeployment Centre be located in a central location to staff, preferably in the Human Resources Department.

2. The Redeployment Centre should have the following:

    - Dedicated phone lines
    - Several workspaces
    - Dedicated email address for redeployment requests
    - Computers, fax machine
    - Large bulletin board or wall to track all redeployment placements

3. **It is recommended you track on a large bulletin board or wall in two different colours, all placements for redeployment and another colour for request unfilled.**

4. It is recommended you prepare in advance appropriate signage to direct staff and managers to the location of the Redeployment Centre. It is further recommended that all desks in the redeployment centre have signage to indicate which desk is requests, which is placement, or which type of placement, clinical or service/support, etc. This will avoid staff be interrupted due to a confusion as to roles and responsibilities.

5. It is recommended Human Resources develop job descriptions outlining roles and responsibilities for each of the workers in the Redeployment Centre.

Communications

1. It is recommended Human Resources prepare in advance, communications related to the following:

    - Announcement of the opening of the Redeployment Centre, location, etc.
    - It is recommended that you prepared in advance a FAQ sheet for distribution to managers and staff.
    - Principles of Redeployment and Operational Guidelines for Redeployment Centre.

Operational Tactics

1. It is recommended that Redeployment Principles be developed and distributed to ensure staff and managers understand the objectives of the Centre and the principles in which staff will be redeployed.
    - Honouring collective agreements
    - Service/seniority
    - Shifts
    - Compensation
    - Safe placement (orientation & training)

2. It is recommended that Operational Guidelines be established and distributed to ensure staff and managers under the following:
    - Hours of operation
    - Process for requests for assistance due to staff shortages
    - Process for placement of workers
    - Process for tracking and paying redeployed workers

3. It is recommend that expertise in clinical work redeploys clinical staff, that expertise in service/support work redeploys service/support staff, etc. This will ensure appropriate match between the request for assistance and the skills and ability of the worker.

4. It is recommended that a system for identifying redeployable staff be developed in advance of the pandemic. Each hospital will develop this in relation to their Hospital Pandemic “operations” plan. Identifying in advance workers that can be redeployed to assist in pandemic driven areas of the hospital is necessary.

5. It is recommended that Occupational Health Services be involved if staff indicate they have to be redeployed or can’t be redeployed due to a health type issue. The matter should be referred to OHS for review and recommendation.

Tracking, Forms & Processing

1. It is recommended that a large bulletin board or wall be available in the Redeployment Centre and through colour coding, indicated the placements underway of redeployed staff and those requests not filled. This will enable you to know at a glance the names of staff redeployed.

   Each staff member should have a ticket that has his or her name, position, home unit, redeployed unit and length of redeployment assignment.

2. It is recommended you developed a tracking/payroll sheet for each employee that is redeployed. All hours worked should be tracked and signed off by the manager in the department in which they are working. How employees are paid will depend on each hospital’s system in place.

3. It is recommended that all costs associated with redeployment be captured in the event MOH wishes for an accounting of those charges after the pandemic.

Dispute Mechanism, Failed Placements

1. It is recommended that each hospital develop a dispute mechanism (honouring existing collective agreements and hospital policies) to deal with conflicts, redeployment refusals, health issues or concerns from union or non-union staff.

2. It is recommended that each hospital develop a system for review if either party (the redeployed staff person or the host department) have concerns about the appropriateness of the redeployment, the match of skills and ability, etc.

Orientation & Training

1. It is recommended that the hospital establish a minimum orientation requirement for redeployed staff. The department accepting the redeployed staff person should also have established an orientation program.

2. It is recommended that departments consider what would be required in terms of training, mentor/mentee system if staff were to be redeployed from other areas of the hospital.

Recommended Operational Guidelines for a Redeployment Centre

1. All staff will continue to be coded on their home department timesheets regardless of where they are working or what they are doing within the hospital.

2. All premium codes for overtime, shift differential, etc. are still to be coded as you normally would; there is no change to this practice. **However, in keeping with current practice, <u>your manager must approve all overtime requests</u>. Staff are not able to work their normal shift and then sign up for redeployment to collect overtime hours unless they have first discussed it with their manager and approval has been given.** It will be based on the need of the redeployment office.

3. The Redeployment Centre will redeploy staff based on priority of needs.

4. If staff normally work straight days, or some other shift combination, they may be required to work a different shift and/or location. Again, redeployment will be based on requirement and urgency of need. The redeployment office will be reasonable on this issue, but may have to enforce it.

5. To ensure no loss of wages, it is recommended that you first redeploy staff whose work has been curtailed or stopped due to the Pandemic situation

6. It is recommended that every effort be made to redeploy staff into areas that are related to their expertise or desire, but based on requirement and urgency, the Redeployment Office may assign and schedule as needed. Staff will not be put into unsafe practice situations.

7. Someone may be redeployed into an area where they may not have all the appropriate skills, but will be assigned various tasks they are competent to undertake.

8. If staff have a scheduled day off, we will make every effort for that to be honoured. The exception would be a critical situation in which no other staff can be found. The responsibility will be placed on the Redeployment Office to substantiate it has made every effort to find a replacement. We must respect the wellness of our staff.

APPENDIX 6-C
TAHSN Human Resources Redeployment Principles

During the pandemic event, it is imperative that we effectively manage the essential work of the hospital. It is a virtual certainty that the hospital will experience staffing shortages. Some estimates are that as many as 30-35% of hospital workers will get sick during this event. This figure does not take into account absenteeism that is not directly related to the pandemic event.

As a result, the following principles have been developed in order to assist the organization to best utilize the expertise of its entire staff, both clinical and non-clinical, in order that the best use of all staff in the position of being redeployed is accomplished. As a general rule redeployed staff will be assigned to the most critical work during this pandemic event.

Principles

1. Throughout the pandemic event staff will be treated as much as possible in a manner consistent with established Human Resources principles, which respect the core values of_____ *(name of hospital.)*

2. Staff in positions that are curtailed or halted due to closures, will be redeployed to assist in other areas that are experiencing staffing shortages.

3. Managers will be requested to make redeployment requests only through the Redeployment Office found in Human Resources. (This does not apply to urgent last-minute requests that must be filled when the Redeployment Centre is closed.)

4. The Redeployment Centre will be staffed with Human Resources staff and managers with clinical knowledge in order to assess staffing competencies required. It is strongly recommended that of those Human Resources staff that at least one has labour relations experience.

5. The Redeployment Centre will assess staffing requests for priority of need. Priority will be given to direct patient care requirements and then to Pandemic related specific administrative requirements.

6. The Redeployment Centre will endeavour to place staff equitably such that workload is shared to the extent it is possible.

7. The Redeployment Centre will require staff to be flexible and be redeployed based on need, at times this may require shift work or weekend work. Every attempt will be made to distribute shifts equitably and to cause as little disruption as is necessary to employee's normal schedules. As much as possible unionized staff should be redeployed within the context and parameters of the appropriate collective agreement although this will not always be possible.

8. The Hospital should invest in the value of providing orientation to new working units or positions resulting from the pandemic event. Every effort will be made to provide the most suitably qualified staff to the extent this is possible in an emergency situation.

9. Staff re-assigned to other units will identify any skill deficiencies they may have to an appropriate person in charge. If skill deficiency is verified, the staff member may still be required to provide services to that unit based on their skill level.

10. During the Pandemic event staff that are reassigned will continue to be charged to their home cost centre.

11. Staff will be expected to accept reassignment and continue to work. Utilizing all staff and their valuable talents will be crucially important to each hospital's ability to successfully manage the pandemic event.

12. The Redeployment Centre should work closely with Volunteer Services to identify any possible volunteers who are willing to be assigned appropriate work.

WORK OR REDEPLOYMENT REFUSALS

It is recommended that work refusals or redeployment refusals be managed in accordance with the existing hospital appeal or review processes in place, legislative guidelines, Human Resources Policies and Collective Agreements.

Chapter 7:

Health Care Workers & Patient Safety and Support (HCWPSS)

Surveillance: background

The collection of epidemiologic data regarding influenza-like illness (ILI) and influenza related hospitalizations and deaths is essential for determining the extent and severity of influenza epidemics and is particularly important during epidemics or pandemics associated with a newly recognized influenza variant. Epidemiologic data will help guide prevention and control strategies (e.g., the prioritization of limited vaccine supplies) within facilities

The **primary aim** of surveillance and screening in the health care setting is to minimize the risk of infection and/or spread of infection in the work place. It is recognized that surveillance and screening, in combination with adherence to communicable disease guidelines and Infection Prevention and Control practices can be effective measures to decrease the risk of infection to the health care workers, the patients and their visitors.

It should be noted that during the various phases of a pandemic influenza outbreak, surveillance and screening requirements will be reviewed and may change. When the outbreak is no longer able to be contained and has spread widely throughout the community the ability to stop the spread of infection will be minimized and staff may be allowed to come to work, even though they may have infectious symptoms considered to be minor in nature. At this time the hospitals will be faced with a staffing crisis, and all Health Care Workers that are able to work, will be required to provide or support the provision of patient care.

Patient Surveillance and Screening

Issue:

All patients and residents are actively screened throughout all pandemic influenza phases. Screening questions may change as the epidemiology of the pandemic evolves and surveillance requirements will come from the MOHLTC. These requirements are currently under development and will be incorporated in the TAHSN plan once available.

Recommendations:

- TAHSN facilities utilize tools such as Excel spreadsheets for data collection and recording that are consistent with the type and order of symptoms currently required for mandatory reporting of Respiratory Outbreaks to Public Health. Diarrhea and vomiting should be included as they are common in children with influenza.
- Keep tools flexible in order to incorporate any changes in symptoms that occur as the pandemic evolves, and as may be required to be reported to Toronto Public Health.

Staff Surveillance and Screening

Issue:

Currently, all Ontario hospitals are required to perform surveillance on staff for febrile respiratory illness. All staff members are responsible to report influenza like symptoms to Occupational Health. Symptoms of acute respiratory tract infection include cough, sore throat, runny nose, fatigue, muscle aches, headache and/or fever. Occupational Health will track symptoms experienced by all staff reporting illness and will advise staff of return to work criteria.

Recommendations:

During the pandemic:

- Occupational Health will continue to track HCWs who report symptoms of acute respiratory tract infection. Managers should advise Occupational Health if they observe clusters of illness in their staff. It is expected that reports of illness of staff members may be received from other sources (managers, colleagues etc.) These reports will be followed up through Occupational Health and Safety.
- Two types of active Health Care Worker surveillance will be initiated during Phase 6:
  - Symptom and illness tracking including Return to Work information (individual by department, by job classification).
  - Vaccine and prophylaxis tracking (individual, by dept, by job classification)
- Attention must be given to developing online tools for data to be shared across TAHSN and possibly other facilities as may be required.
- Occupational Health and Safety (OHS) should have tracking tools and ability to run reports for required data that is identified by PH, MOH, etc.
- Staff members who begin to experience signs and symptoms of influenza like illness when working should be assessed by OHS immediately who will then:
  - Consider laboratory testing for influenza
  - Initiate treatment with oseltamivir
  - Determine whether or not the staff member should be sent home

Issue:

Passive screening is required to ensure that staff members with acute illnesses or probable infection do not work and reduces the risk or perceived risk of spreading infection to others in the hospital setting. Occupational Health in collaboration with Infection Prevention and Control determines screening requirements.

Tracking may be required during this period of time to identify clusters of staff influenza illness and to determine fitness to work in different areas.

Recommendations:

During the pandemic

- Active screening should be done during Phases 5 and 6. The method of active screening will be determined by the individual facility and may include screening at the door, computerized reporting etc.
- TAHSN facilities should jointly explore electronic bar coding of HCWs (e.g., identification badges) for surveillance at entrance, ideally with linkage to a shared database for Human Resources and Medical Records internally, and with potential for inter-facility sharing, as required during pandemic.
- Confidentiality concerns should be addressed well in advance. HCW consent to sharing of data related to prophylaxis with other health care institutions might be obtained concurrently with consent to antiviral and/or vaccine. Ethical considerations to be communicated may include offering the most effective protection to staff and patients while benefiting public welfare. TAHSN should seek legal advice regarding this issue.
- Request TAHSN Patient Registry and Role of IT sub-committee look into developing an on-line Information Management/Decision Support tool which could link Infection Prevention and Control, Occupational Health, Human Resources, and other departments within and beyond each facility as may be required.

Antivirals and Vaccine

Antivirals

Disclaimer

The TAHSN recommendations provided in this chapter cover the use of antivirals, with a primary focus on oseltamivir (Tamiflu®) and zanamivir (Relenza™), solely for the purpose of mass chemoprophylaxis in predefined recipients during Phase 6 of influenza pandemic.

The TAHSN recommendations are based on the current, limited state of knowledge on the given matter, and are subject to continuous refinement. In view of the paucity of the scientific data, the TAHSN recommends that, during influenza pandemic, efforts be made to document the use and efficacy of mass chemoprophylaxis with oseltamivir, for subsequent data analysis, with a focus on emergence of viral resistance to oseltamivir.

Preamble

The TAHSN assumes that during the first wave of a pandemic, no vaccine will be available. In both the 1957 and 1968 pandemics, and especially so in pandemic of 1918, the relative increase in excess deaths was greater among young adults between the ages of 15 and 35 years. Thus, a large part of the healthcare work force would be at high risk of influenza complications. Without vaccine to offer protection, healthcare workers would be left to rely on antiviral agents and Infection Prevention and Control practices. However, even with excellent Infection Prevention and Control practices, alone, high influenza attack rates are likely to occur among healthcare workers in the absence of vaccine.

The TAHSN hospitals believe that antiviral prophylaxis of healthcare workers is an important strategy to keep hospital services functioning during a pandemic.

Recommendations:

- Stockpiling of oseltamivir as an antiviral agent of choice for chemoprophylaxis of predetermined recipients in the event of pandemic is endorsed.
- TAHSN recommends purchase of zanamivir, for use in persons who are unable to tolerate or not able to take oseltamivir. Each TAHSN member facility is responsible to identify appropriate quantities for stockpiling zanmivir.
- TAHSN recommends stockpiling Oseltamivir in the amounts sufficient to provide mass antiviral chemoprophylaxis of predetermined recipients for the duration of 8 weeks.
- Staff of TAHSN facilities involved in the provision of direct patient care during pandemic should ideally be on chemoprophylaxis as long as hospitals continue to experience influx of influenza patients. This may not be possible if the first pandemic wave is prolonged.
- TAHSN recommends an informed consent is obtained from all staff members or patients (or their substitute decision makers) prior to initiation of chemoprophylaxis

- If sufficient stocks of oseltamivir (or other neuraminidase inhibitors) are available while the virus is circulating, it is recommended to continue chemoprophylaxis to the predefined recipient groups for the period that they are building up immunity following immunization against pandemic influenza.
- In the event of pandemic, institutionalized populations will likely be at high risk of morbidity and mortality, which could be reduced by oseltamivir or zanamivir chemoprophylaxis. TAHSN hospitals may want to consider including institutionalized populations into the groups of predetermined recipients and placing them on chemoprophylaxis for the entire duration of the first wave.
- In light of the potential high risk of influenza in pregnant staff, and potentially high risk of influenza infection in healthcare facilities during pandemic, TAHSN acknowledges that there are several possible options in protecting this population
    1) pregnant staff may take oseltamivir
    2) pregnant staff may choose to take zanamivir in place of oseltamivir given its lower degree of systemic absorption.
    3) pregnant staff may choose to forgo antiviral prophylaxis. In this case, all efforts should be made to reassign them to a role that will lessen their exposure to influenza. It is recognized that this strategy may well not be successful in preventing them from becoming infected.

  The final decision as to which strategy to follow will be made upon discussion with and agreement of the staff member.
- TAHSN believes that in a pandemic situation, that the theoretical risks of oseltamivir (or zanamivir) to the fetus are outweighed by the benefit of taking oseltamivir prophylaxis. However, informed consent should be obtained prior to the beginning of chemoprophylaxis.
- TAHSN believes that the theoretical risk of oseltamivir prophylaxis in breast feeding women is outweighed by the potential benefit. Informed consent should be obtained prior to the beginning of chemoprophylaxis

- TAHSN recommends that the message about high risk of infection with pandemic influenza in pregnancy is clearly communicated to staff members as part of pandemic education campaign.

Methods of Mass Prophylaxis

A Medical Directive endorsed by Occupational Health physician (or substitute) can be used to prescribe antivirals and initiate mass prophylaxis within each TAHSN facility.

There are 3 ways of administering mass chemoprophylaxis:

I. Directly Observed Therapy (DOT)
II. Distribution of weekly/monthly supplies
III. Combination of I and II

Option I (DOT) ensures highest level of control over the uptake of antivirals, which translates into better compliance with chemoprophylaxis. It further removes the ethical challenge to staff who may wish to save their prophylactic doses for their family members.

Nonetheless, DOT is the most logistically challenging method and requires careful planning by each individual facility. Furthermore, staff may find the use of DOT offensive as it may be interpreted as a lack of trust in staff. If DOT is used, special attention should be given to the mode of administering chemoprophylaxis to staff on their days off, weekends, public holidays, etc. It is recognized that staff holidays will likely be restricted during a pandemic making DOT easier to deliver. Facilities choosing DOT should consider combining the administration of antivirals with the screening of staff for influenza symptoms at the entrance to facility.

Option II (distribution of weekly/monthly supplies) allows more flexibility in administration of mass chemoprophylaxis, and is less logistically challenging. However, it provides minimal or no control over antiviral uptake, therefore potentially contributing to lower compliance.

Option III represents a balance between control over antiviral uptake and logistical flexibility of administration. It allows the use of DOT in staff on regular work days and distribution of 1-2 days antiviral supplies over public holidays and weekends, when DOT is less feasible.

Recommendation:

- TAHSN recommends that healthcare facilities consider implementing Directly Observed Therapy as part of an overall mass chemoprophylaxis plan, recognizing that any strategy will need to be flexible in order to address the logistical challenges mentioned above. Further work is being done in this area to consider all available options. Information will be provided as it becomes available.

Vaccines

Issue:

A suitable vaccine will not be available for at least four to five months after the pandemic strain is identified and will likely not be available for the first wave. It is not known how effective the vaccine (once developed) will be against the pandemic strain.

Toronto Public Health will direct the distribution and administration of vaccine once it becomes available. It is assumed that vaccine will be provided to hospitals by Public Health, but that it will be the responsibility of hospitals to vaccinate their own staff.

It is likely that the supply of vaccine will be limited during a pandemic and so its distribution will be controlled by the Ontario government. Recommendations for priority groups for vaccination (and antiviral medication) have been established in the Canadian Pandemic Plan and are further elaborated on in the Ontario Pandemic Plan. In the event of an influenza pandemic, changes to these groups may be made based on pandemic epidemiology.

Recommendation:

- Each Institution should develop a contingency plan for administration of vaccine which takes into account space, staffing, and other resource requirements.
- It is recommended that existing information management software used in hospital Occupational Health Units (e.g. Parklane, Medgate, spreadsheets) be used to track data including:
    - Vaccination status of workers
    - Medical contraindications
    - Adverse events

There is no clear guidance regarding the sharing of data regarding worker immunization status with other institutions or government agencies. It is possible that a system for centralized data collection may be considered in the future. This subcommittee recommends that worker permission be obtained prior to sharing nominal information. It may be most efficient to obtain this consent while obtaining consent for immunization.

Infection Prevention and Control Precautions:

Infection Prevention and Control is a requirement in all health care facilities in Canada. The main goal of any Infection Prevention and Control Program is to protect the patient, health care workers, and visitors for exposure to infection in the health care setting. The premise which underlies a comprehensive integrated program is that the transmission of infectious agents can be effectively controlled by utilizing good routine practices and additional precautions in any setting.

Issue:

Infection Prevention and Control practices both in the community and in health care settings will present challenges in the event of a pandemic. The substantial burden of disease, illness and absenteeism among health care workers, and the potential use of less highly trained personnel to address health care needs will all stress the ability to apply optimal Infection Prevention and Control. Planning will increase the likelihood that high quality Infection Prevention and Control can be effectively applied during a pandemic despite these stresses. Key strategies include prompt recognition, detection, isolation, and cohorting of confirmed and suspected cases, and implementation of droplet precautions.

Recommendations:

TAHSN supports following the National and Ontario pandemic influenza plan recommendations for Infection Prevention and Control practices. Specifically:

- All Health Care Workers be fully knowledgeable in Health Canada's *"Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care"* 1999
- Routine practices are to be followed at all times.
- Hand washing/hand antisepsis practices as outlined in the CDN, Ontario plans are recommended
- Droplet precautions are to be followed for influenza patients. Specifically, wear surgical or procedure masks and eye protection to minimize the transmission of influenza when within 3 feet of any known or symptomatic individual.
- Gloves are not required for the routine care of patients suspected or confirmed to have influenza except as otherwise indicated as per Routine Practices.
- Equipment and surfaces contaminated with secretions from patients suspected or confirmed to have influenza should be cleaned before use with another patient.
- No special handling is required for linen from patients suspected of having or confirmed to have influenza.
- No special handling of garbage generated during the care of an individual with influenza.
- Separating well patients from those infected with or suspected to be infected with influenza whenever possible.
- TAHSN recommends that staff work restrictions be followed as prescribed by Occupational Health.
- A formal education/communication plan on influenza pandemic management be in place and provided according to a pre-established schedule.

Staff Distress Management

Recommendations for prevention of distress and response to distress in staff are divided chronologically into recommendations which should be implemented prior to the pandemic (WHO phase 6) and recommendations that pertain to the period itself. Preparatory work prior to the pandemic is critical to the effectiveness of interventions during the pandemic period regarding, for example, risk communication and emotional support of staff.

Pandemic alert period (prior to WHO pandemic phase 6)

There is a limited but unknown amount of time to prepare for a pandemic of unknown severity. The pre-pandemic period provides a crucial opportunity to bolster the resilience of staff; to develop effective modes of communication; and to develop the institutional and interpersonal relationships within the hospital and healthcare community upon which effective emotional support during the pandemic depends.

Issues:

- Uncertainty and misinformation are likely to cause anxiety in the pre-pandemic period.
- Healthcare workers who have been strongly affected by previous infectious outbreaks (e.g. SARS) are at higher risk of experiencing the new threat of infection as traumatic or choosing to avoid this by reducing clinical work or leaving healthcare.
- Emotional and attitudinal issues may serve as barriers to appropriate prevention (e.g. vaccination may be avoided due to an unrealistic minimization of infectious threat or by distrust of authorities encouraging vaccination).
- Effective risk communication in subsequent phases can be bolstered by developing effective and responsive modes of communication within institutions, and building institutional trust prior to the pandemic's arrival.
- Psychological support in the pandemic phase will be more effective if it is provided through trusted relationships that pre-exist the pandemic.

Recommendations:

Co-ordination and oversight

Preparation for the expected pandemic and implementation and revision of support strategies during the pandemic requires active leadership, thoughtful co-ordination and multidisciplinary collaboration.

- TAHSN recommends that in the pre-pandemic period each hospital establish a staff distress and resiliency committee with effective leadership, a clear reporting relationship within the administrative organizational structure and representation from key constituencies and areas of expertise, such as psychiatry, social work, chaplaincy, human resources, bioethics, occupational health, the provider of the employee assistance plan (EAP), frontline staff, senior administration, and communications.

Risk Communication and Assessment

Effective coping is promoted by accurate risk assessment and communication. Risk assessment is a complex cognitive and psychological task which depends on more than the provision of accurate information.

In addition to recommendations regarding communication during the pandemic the following recommendations are particularly relevant to developing and maintaining emotional resilience in staff.

Effective communication is interactive and responsive. The principals of interactivity and responsiveness can be accomplished through a variety of mechanisms of communication which include question-and-answer periods during information presentations, town hall meetings, and electronic question-and-answer communications (for example, staff members are invited to post questions and concerns confidentially to an intranet or email "question box", answers from the relevant experts are posted to all staff).

Effective communication is provided by trusted, respected and knowledgeable opinion leaders. Opinion leaders should be identified in the pre-pandemic period, and training provided, if necessary, to allow these opinion leaders to take on key roles in the pandemic communications strategy. Opinion leaders may be identified at many levels of communication ranging from experts in infectious disease or public health who may be the most effective communicators of emerging pandemic information in hospital-wide communications, to local opinion leaders within a clinical unit or working group.

It is important to recognize that "opinion leader" is usually an informal role that is designated by a working group, rather than a formal role granted by virtue of job type or formal qualifications (i.e. the most effective opinion leader on an inpatient unit could be an experienced and respected staff nurse, rather than the units nursing unit administrator). Once identified, opinion leaders should be included in local planning of the implementation pandemic responses.

It is also important that messages from opinion leaders are more effective when the content of the message relates to their personal experience and expertise. For example, information about viral risk or Infection Prevention and Control procedures will be more effectively communicated by an expert clinician with excellent communications skills than the same message delivered by a senior administrator.

- TAHSN recommends that communication tools and strategies be developed, implemented, and revised during the pre-pandemic period such that these can be rapidly implemented during the pandemic. These tools and strategies should emphasize interaction and responsivity to the concerns and questions of staff. Natural opinion leaders should be identified during the pre-pandemic period and included in pandemic planning.

Staff training

In addition to specific, technical recommendations regarding training, provided elsewhere in this manual, coping and resiliency will be enhanced by providing extra training to staff who are anticipated to be required to perform functions in a pandemic which are outside of their usual expertise or job description.

Training in unfamiliar tasks or training to work in unfamiliar settings requires a supportive teaching atmosphere, opportunities for practice and clear sources of supervision or back-up (e.g. buddies, supervisors). It should be clarified to staff that their preferences for task assignment will be taken into account where possible, but the needs of the organization will trump individual preferences.

- TAHSN recommends that to the extent possible based on available information, extraordinary duties that may be expected during the pandemic (e.g. clinical tasks performed by non-clinical staff) be identified and appropriate training provided during the pre-pandemic planning period.

Staff participation in pandemic planning

Effective coping is promoted by working in an environment in which staff members are respected, valued and feel heard within their institutions.

Acceptance of controversial or imperfect pandemic policies will be greater among staff that collaborate in policy development. Ideal solutions for certain of the issues of pandemic planning are not available because of limited resources. Any strategy will require trade-offs to be made. This applies in particular to (i) policies regarding staff with dependant children or adults at home, who may become ill, or whose usual sources of care may become unavailable during the pandemic; and (ii) policies regarding the prioritization and distribution of limited resources (e.g. antivirals and PPE) during the pandemic.

Thus, effective implementation of pandemic plans will be enhanced if all staff members (or their representatives) actively collaborate in the development of policies around key issues.

Several tactics may be used to accomplish effective collaboration.

- Encourage and facilitate open and regular communication between staff members serving on hospital pandemic planning committees and their colleagues.
- Invite feedback from staff at large on pandemic flu planning while planning is in progress.
- Involve staff representatives in a transparent, collaborative and openly communicated process to derive a pandemic plan for support of childcare and dependents, and for prioritization and distribution of limited or scarce resources.
- In general, develop (and reinforce existing) organizational structures that promote autonomy and self-regulation at the level of clinical team, clinical unit and individual.
- TAHSN recommends that staff members participate as fully as possible in the development of pandemic plans and policies.
- TAHSN recommends that a collaborative, transparent and openly communicated process be established in each hospital to determine policies regarding care of dependents and distribution of resources.

Attending to pre-existing distress

The staff of all TAHSN hospitals have been affected by their experience during the SARS outbreak of 2003. Although the hospital experience of pandemic influenza will differ from SARS experience in many respects, it is expected that residual tensions, distress and negative attitudes that result from the SARS experience will reduce resiliency among staff facing a second extraordinary infectious disease. The same concern applies to other sources of tension and distress that may be specific to some settings or clinical units.

Efforts to resolve or decrease such tensions and build morale during the pre-pandemic period should be promoted through several means.

- Institutional acknowledgment of previous sacrifices and contributions of staff
- Recognition of the range of stress responses that are experienced by normal people in extraordinary circumstances and may persist for extended periods afterwards.
- Opportunities for staff members to interact reflectively with peers about these issues. (Examples: rounds, on-line chat rooms).
- Realistic assurances that steps will be taken to care for staff if they become ill.

Building the relational infrastructure for pandemic support resources

In the pandemic, several resources are likely to be used to provide emotional support. These include resources within the hospital such as psychiatry, psychiatric nursing, psychology, social work, and chaplaincy. These may also include contracted external resources such as Employee Assistance Providers (EAP).

Emotional support during a crisis is more effective if it is provided through a previously established relationship which is valued and trusted. This principle applies to both relationships between individuals and to institutional relationships. Therefore, effective support during the pandemic can be facilitated by building familiarity and trust between potential providers of support and the hospital and staff at large during the pre-pandemic period.

Effective relationship building often occurs around work tasks that are considered pragmatic, necessary and valuable. Therefore, the following steps may help to build and reinforce key relationships.

- Facilitate individual support providers (e.g. psychiatrists, psychologists, social workers, chaplains) becoming more familiar to other staff through consultation and collaboration around patient care in the pre-pandemic period.
- Encourage shared academic interactions (rounds, teaching, and research) between support providers and other staff and departments (note: these interactions do not need to focus on pandemic planning to achieve the desired relationship building goals.)
- Develop administrative interactions (e.g. between psychiatrist-in-chief and other administrative heads).
- Ensure representation by mental health professionals on pandemic planning groups and committees.

Pandemic period

Issues:

There is likely to be a strong institutional pressure to act quickly to reduce the distress of staff, which may lead to ill-considered actions. For example, interventions such as critical incident debriefing are often suggested in spite of evidence that such procedures are generally ineffective and sometimes increase distress by the "re-traumatization" that occurs when describing traumatic events.

Special attention is required to periods of transition between pandemic stages. Such transitions may occur quite quickly. In general, transitions which necessitate the implementation of new policies regarding surveillance, PPE or other Infection Prevention and Control procedures will cause anxiety, especially if these changes are unanticipated.

It is likely that protective resources (antivirals, PPE) will be unequally distributed or unequally available. The fairness of policies determining availability will be criticized and may be a source of conflict or resentment.

HCWs with children or adult dependents will face the dilemma of choosing between caring for family members or fulfilling their professional duty to care by attending work, particularly when the usual care-givers for dependents (e.g. schools day-care centres) are unavailable, and when family members are ill.

Emotional resilience is weakened when fundamental sources of security are not met or appear to be at risk. These include adequate pay, a safe workplace, appropriate periods of rest, and access to friends and family. Further sources of resilience that are relevant to the pandemic are the ability to work at familiar tasks and to work in an area of competence or mastery, or when that is not possible the availability of peer and supervisory support and training for unfamiliar tasks.

Emotional resilience is strengthened by autonomy, self-regulation and power over one's workplace. Hierarchical decision-making necessary in the pandemic may undermine these organizational processes and, thus, foster burnout.

Acute distress in response to pandemic conditions is inevitable. Typical reactions to extraordinary stress include hyper-arousal (anxiety, agitation, irritability, poor sleep, hyper-vigilance to physical symptoms), avoidance, and intrusive thoughts (nightmares, worry, rumination), any of which may decrease effective work.

Responses:

In general, responses to the emotional challenges of the pandemic involve the implementation of strategies and policies developed in the pre-pandemic period through the effective use of established administrative and supportive relationships. In addition, however, an effective response to the emotional challenges of the pandemic will require flexibility and the creative use of resources as they are available within the hospital and within the community.

Communications

Modes of communication should be implemented which are inclusive, efficient, interactive, responsive and authoritative, as described in the pre-pandemic planning section above. Interactivity should include timely and honest responses to questions and concerns about procedures, policies and emerging information about the influenza.

Pandemic information should be provided at regular, frequent intervals (e.g. daily). The information should be consistent from all levels of government, and healthcare organizations. To the extent possible the timing of such communication should be coordinated and predictable.

Communications regarding the distribution of scarce resources and communications regarding the rationale for policies regarding care of dependants should include a description of the fair, transparent and collaborative process which was followed to arrive at the rationale.

Periods of transition and change in Infection Prevention and Control procedures should be anticipated to the extent that knowledge allows, and staff should be educated in advance regarding expected transitions.

Communications responding to concerns and policies should be tied into institutional values and principles wherever possible.

Psychological support and maintaining morale

- TAHSN recommends that emotional support services be made available from multiple sources and that staff be informed of these choices and allowed to choose the source which they prefer.

Staff should be informed of normal responses to extraordinary stress and warning signs of depression or anxiety disorders and provided information about coping self-care].

Professional psychological support should be available from a range of sources. Staff will make their own choices about which is most effective and desirable. These include but are not restricted to EAP**,** counselling services within the hospital (e.g. psychiatry, social work, chaplaincy), referral to professionals outside of the hospital, and peer support. Critical incident debriefing should be avoided.

Staff should be fully informed about the availability of professional supportive resources and how to access them. Access to supportive resources should be confidential.

Peer support can be facilitated by providing space and time for staff to meet. Peer groups facilitated by experienced group leaders who are familiar with normal stress responses are more effective than un-facilitated groups.

Experience from the SARS outbreak suggests that supportive resources are more effective when they are requested by staff, rather than provided on a “drop in” basis.

Family and care of dependents

In general, the policies implemented to respond to the need of healthcare workers to provide support to their families and dependants should be the policies determined through a collaborative and transparent process prior to the pandemic.

In addition, the following recommendations are made.

- Hospitals should acknowledge that staff experience a conflict between duties to their families and dependants & their work.
- To the extent that resources permit, provision of support should be facilitated.

Workplace safety and security

The pragmatic issues of safety and security dealt with elsewhere in the TAHSN recommendations are also critical to maintaining psychological security. This should be recognized in the communications strategy.

Enterprise Risk Management Framework

An risk assessment utilizing and Enterprise Wide Risk Assessment approach is recommended (See Appendix 7-C)

Infection Prevention and Control within a "Culture of Safety"

A Safety Gap Analysis utilizing the CCHSA Patient Safety Goals and Practice Requirements is recommended (See Appendix 7-D)

APPENDIX 7-A: Antivirals and Vaccine

Benefits of chemoprophylaxis

Treatment of influenza is not an effective stratagem for preventing transmission of influenza in close contact scenarios. There is clear evidence that control of an influenza outbreak (epidemic or pandemic) is not possible solely by treating ill cases as they develop. Rather a strategy involving prophylaxis is essential if virus transmission between individuals is to be interrupted and the outbreak curtailed and controlled.

Data from registration studies examining preventive efficacy of new-generation antiviral agents for influenza conclude that chemoprophylaxis in adults and in the frail elderly:

- Reduces the incidence of laboratory-confirmed clinical influenza by up to 92%
- Reduces the influence of influenza A and B virus infection.
- Reduces the proportion of subjects shedding influenza virus.
- Reduces the incidence of clinically diagnosed complications of influenza (e.g. bronchitis, sinusitis and pneumonia).
- Does not prevent the formation of a specific antibody response to influenza infection.
- Does not result in the development of resistance, compared to old-generation antiviral agents.

Selection of Antivirals

M2 inhibitors and neuraminidase inhibitors

Three antiviral drugs for influenza, two administered orally (amantadine and oseltamivir) and one by inhalation (zanamivir), are approved in Canada. These drugs have important differences with regard to their pharmacokinetics, their tolerance profiles and antiviral resistant patterns They are divided into 2 classes of antiviral agents for influenza: M2 inhibitors and neuraminidase inhibitors. M2 inhibitors are not recommended for pandemic influenza prophylaxis and treatment.

Zanamivir (Relenza ™)

Zanamivir must be administered topically by inhalation, or parenterally, to be effective; only the inhaled product is commercially available (Diskhaler, Glaxo Wellcome). The inhaler device hinders the ease of administration. It requires a cooperative, informed patient who is able to make an adequate inspiratory effort. Elderly hospitalized patients often have problems using the delivery system effectively and the current device is not appropriate for use in young children (below 5 years of age) or those with cognitive impairment or marked frailty.

Unlike oseltamivir, which is systemically absorbed, zanamivir is topically administered, with only fraction (approx. 4%-17%) of the inhaled dose absorbed systemically). Although there are no adequate and well-controlled studies of zanamivir in pregnant women, studies in rats and rabbits demonstrated that foetal blood concentrations of zanamivir were significantly lower than zanamivir concentrations in the maternal blood. In light of the fact that zanamivir is likely to be a safer option for pregnant women and nursing mothers.

For further information on chemoprophylaxis in pregnant women and nursing mothers, please see section 6.3 of this chapter.

Oseltamivir (Tamiflu ®)

Oseltamivir has been shown to be effective in the treatment and prevention of epidemic influenza in adults, adolescents and children (≥1 year) and is currently approved for use in Canada and 80 countries worldwide. Oseltamivir is indicated for the prophylaxis of influenza in adults aged ≥ 13 years.

Oseltamivir does *not* prevent the individual from being infected by the virus, and hence raising an immune response to it. Rather, the drug works by preventing productive viral replication and release of virus from infected cells, such that the infection remains, in almost all cases sub-clinical or associated with only minor symptoms .

Antiviral tests *in vitro* against the recently circulating strains of H5N1, which is the most likely candidate strain to trigger the next influenza pandemic, showed that this strain was sensitive to Oseltamivir. Two key messages deriving from dataset of oseltamivir studies that should be included in any pandemic guidance:

i. Control of the spread of influenza infection is not possible solely by the treatment of symptomatic cases as they emerge.
ii. Prophylaxis with oseltamivir in the immunocompetent individual will not prevent the development of an antibody response, which may in turn offer a measure of protection against antigenically cross reacting viruses of the same strain.

Duration of Chemoprophylaxis

Chemoprophylaxis with oseltamivir is considered to provide protection from influenza while the agent is being taken. The maximum duration of influenza chemoprophylaxis with oseltamivir (once-daily dosing at 75 mg per day), for which safety data are available, is 8 weeks.

For individuals who will be repeatedly exposed to infected patients, chemoprophylaxis may be required for the entire duration of the first wave of pandemic within the community. From this perspective, the TAHSN considers Health Care Workers (HCWs) providing direct patient care a number one priority group, whose antiviral protection is crucial to keep healthcare facilities functional during pandemic.

Following influenza vaccination, one may not be fully resistant to infection for several weeks, since it takes some time to build up immunity.

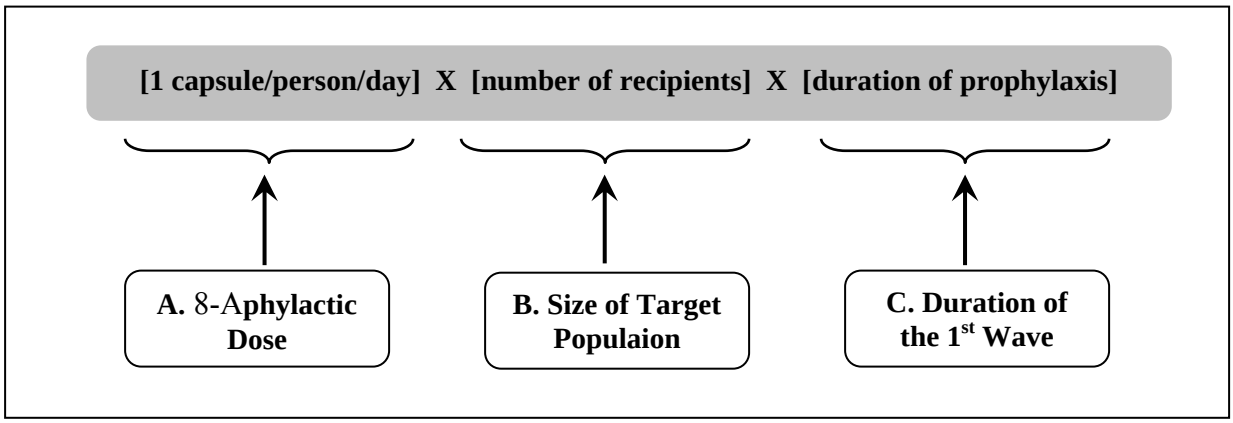
Unpublished data regarding prophylactic use of oseltamivir for up to 12 weeks are also available. As circumstances may differ somewhat in a pandemic situation, any data indicating the safety of more prolonged exposure (or higher dose) are pertinent and will need to be monitored by TAHSN member facilities.

Stockpiling: amounts of antivirals and their security

Calculation of amounts required

The amounts of antivirals required for mass chemoprophylaxis during the first wave of pandemic can be calculated as *one capsule per person per day given for the duration of the first wave (in days)*:

Figure 1.



A. One capsule per person per day represents prophylactic dose of oseltamivir.

B. Number of recipients represents the size of the target population during mass chemoprophylaxis. Due to limited availability of oseltamivir, the actual size of the target population is determined by each TAHSN member-facility individually.

C. Duration of chemoprophylaxis should be equal to the duration of the first wave of pandemic. Average duration of influenza outbreak in any given locality is approximately 8 weeks (34) – the length chosen by TAHSN as a maximum duration of chemoprophylaxis.

Fiscal considerations play important role in the decision about amounts of antivirals required. Currently planned TAHSN stockpile is based on oseltamivir price of $2.50 CDN per capsule, with 8 weeks of chemoprophylaxis translating into $140 CDN for every predefined recipient.

Storage conditions and security of stockpile

Store the capsules at 25 C (77 F); excursions permitted to 15 to 30 C (59 to 86 F).

Proper security arrangements should be in place for the room with oseltamivir stockpile. Given limited supply and high commercial value of oseltamivir, especially in pandemic, it is reasonable to set a room with restricted access, reliable lock and security staff (in pandemic). At the same time, stockpile should be easily accessible for designated staff responsible for inventory control or distribution/administration of antivirals during pandemic.

To further reduce security concerns, the facility should communicate clearly to staff that it maintains only a small supply of antivirals on site.

Pregnant women and nursing mothers

There are insufficient data upon which to base an evaluation of risk of oseltamivir to the pregnant woman or developing fetus. Oseltamivir showed no evidence of foetal toxicity or teratogenicity in animal testing. Data from pregnancies reported during clinical trials and in subsequent post-marketing experience reveal no evidence that receipt of oseltamivir results in a significant risk of foetal abnormality. Nevertheless, in the absence of controlled data from pregnant women, oseltamivir should be used in pregnant women only if the benefit is considered to outweigh the potential risk to the unborn child.

It is not known whether oseltamivir and the active metabolite are excreted in the milk of nursing mothers. Oseltamivir should therefore be used only if the potential benefit for the lactating mother justifies the potential risk for the nursing infant.

Children under 1 year of age

Although oseltamivir has not been approved for prophylactic use in children, it has been shown to be effective. The effect of influenza in the neonate or very young child is associated with substantial morbidity. Excess rates of hospitalization have been consistently reported in young children. Rates of hospitalization during the influenza season are known to be highest in the very young.

There are no data from clinical studies in children under 1 year of age and oseltamivir is not approved for use in this group. Oseltamivir should be used in children under 1 year of age only if the benefit is considered to outweigh the potential risk.

Lost or missed doses

The first 1-2 days of chemoprophylaxis may be associated with vomiting, which is a common side effect of oseltamivir. The doses of oseltamivir lost to vomiting at the initiation of chemoprophylaxis should be replaced with another dose as soon as possible. Oseltamivir may be taken with or without food. When taken with food, tolerability may be enhanced in some patients.

Recipients should be instructed to take any missed doses as soon as they remember, except if it is near the next scheduled dose (within 2 hours), and then continue to take oseltamivir at the usual times.

Vaccine

Contraindications

The following contraindications to influenza vaccination are based on the annual influenza vaccination and may change depending on the components of the vaccine used during a pandemic.

- Influenza vaccine should not be given to people who have had an anaphylactic reaction (severe allergic reaction) to a previous dose or to people with a known anaphylactic allergic reaction to eggs. Anaphylactic reactions are manifested as hives, swelling of the mouth and throat, difficulty breathing, hypotension (low blood pressure) manifested as light-headedness or dizziness or shock.
- People who are ill with a fever usually should not be vaccinated until their symptoms have subsided.

Transportation and Storage of Vaccine

All vaccines are sensitive to heat and cold. The cumulative effect of leaving vaccines out of the refrigerator or cooler for short periods repeatedly can result in lost vaccine potency. Vaccine can be compared to milk: the more frequently you leave it out of the refrigerator – even for a few minutes at a time – the greater the chance it will spoil. The "cold chain" includes all of the materials, equipment and procedures used to maintain vaccines in the temperature range of +2°C to + 8°C from the time of manufacture to the time they are administered. For specific vaccine storage and handling information, please refer to the product monograph.

Transporting Vaccines

- Vaccines must be transported in insulated monitored containers so that they stay between +2°C to + 8°C.
- Use an insulated vaccine carry bag with ice packs and a thermometer to transport vaccines. Once at destination, put vaccines in the refrigerator right away. In the event that refrigerators are not available appropriate alternative system will be made available. Maintaining the correct temperature range for vaccines will apply to these systems also.

Storing Vaccines

- To be effective, most vaccines must be kept refrigerated between +2°C and + 8°C at all times.
- Check and record the refrigerator temperature twice daily to make sure that the vaccines have not been exposed to temperatures outside the +2°C to + 8°C range. This will also help in assessing "cold chain" failures. A digital thermometer is recommended for monitoring refrigerator temperatures for vaccine storage.
- A refrigerator that "feels cold" may range in temperature from -5°C to +15°C – a definite risk to vaccine potency.
- Always store vaccines on the middle shelves of the refrigerator – never in refrigerator door shelves. Vaccines kept in door shelves will be exposed to warm temperatures every time the refrigerator is opened.
- Don't store anything else (e.g., lunches, drinks, or specimens) in the refrigerator with vaccines. This will minimize the number of times the fridge door is opened,
- Leave space between the vaccines in the refrigerator to allow air to circulate.

Vaccine Administration

Ample space and staff will be required to effectively and safely run and manage vaccination clinics. It is recommended that a contingency plan be developed by each institution that considers these needs. In order to meet staffing requirement, alternate immunizers other than Occupational Health nurses may be required. Guidelines for administration of medication by intramuscular injection are provided to facilitate training of staff for hand hygiene. Additional guidelines are provided for preventing needlestick injuries and for handwashing.

Informed consent must be obtained before administration of vaccine. In order to obtain informed consent, workers must be made aware of and understand:

- The risks and benefits of vaccination
- That vaccination is not mandatory and they have a right to refuse vaccination, although this may impact their ability to work as well as their pay
- An Adrenalin Kit should be immediately accessible in the vaccine administration area, in case of anaphylactic reaction

Reporting Adverse Events

Under Ontario legislation (Health Protection and Promotion Act, RSO 1990, Section 38), a physician or person registered under Part IV (nursing) or IV (pharmacy) of the Health Disciplines Act, must report a significant adverse vaccine event or "reportable event" to the local medical officer of health, within seven days after the reportable event is recognized.

A "reportable event" includes:

- persistent crying or screaming in children, anaphylaxis (severe allergic reaction) or anaphylactic shock within 48 hours of being vaccinated
- shock-like collapse, high fever or convulsions within three days of being vaccinated
- inflammation of joints or painful joints within 42 days of being vaccinated
- generalized urticaria (hives), lasting seizure disorder, encephalopathy (brain dysfunction), encephalitis (inflammation of the brain) or any other significant occurrences which are unexpected or unusual in severity occurring within 15 days of being vaccinated
- death occurring at any time and following upon a symptom described above

APPENDIX 7-B: Occupational Health Management of Health Care Workers during an Influenza Pandemic

Regulatory Requirements

The Internal Responsibility System is the foundation of workplace health and safety across all jurisdictions in Canada. An effective internal responsibility system requires that all members of the workforce, at all levels of management, line supervisors, clinical and support staff, and health and safety committee membership, are involved in health and safety matters. The legislation requires:

- Everyone in the workplace to report hazardous situations;
- Supervisors to correct hazardous situations, and
- Management to ensure that all workers are protected, supervisors are competent and trained, and that hazards are eliminated or reduced

The General Duties to Establish Measures and Procedures are laid out under the Ontario Health & Safety Act 67/93 s. 5(4), **p. 530.** Under the Act management is accountable for developing, establishing, and implementing Infection Prevention and Control policies and procedures for the health and safety of worker in consultation with the joint health and safety committee. Specific responsibilities for use of personal protective equipment are laid out as follows:

"A worker who is required by his or her employer or by the Regulation to wear or use any protective clothing, equipment or device shall be instructed and trained in its care, use and limitations before wearing or using it for the first time and at regular intervals thereafter and the worker shall participate in such instruction and training" **10. (1)**

Personal Protective equipment that is to be provided, worn or used shall,

(a) be properly used and maintained;
(b) be a proper fit
(c) be inspected for damage or deterioration; and
(d) be stored in a convenient, clean and sanitary location when not in use. **10. (2)**

Work Restrictions

The phrases "fit for work", "unfit for work and "fit to work with restrictions" are used by Occupational Health to communicate a worker's ability to remain at or return to work depending upon their susceptibility to influenza, immunization status and agreement to use antivirals. During the early phases of a pandemic, vaccine and antiviral availability will be limited and will be provided to priority groups. Health Care Workers, and those trainees, volunteers, etc. who are recruited to perform the duties of a HCW, are to be one of the priority groups.

Fit for Work

Ideally, HCWs are fit to work when *one of the following conditions* apply:

- they have recovered from illness during earlier phases of the pandemic;
- they have been immunized against the pandemic strain of influenza as outlined in Annex D of the Canadian Pandemic Influenza Plan; or,
- they are on appropriate antivirals as outlined in Annex E of the Canadian Pandemic Influenza Plan. Such HCWs may work with all patients and may be selected to work in units where there are patients who, if infected with influenza, would be at high risk for complications.

Asymptomatic HCWs may work even if influenza vaccine and antivirals are unavailable.

Unfit for Work

Ideally, staff with ILI should be considered "unfit for work" and should not work; nonetheless, due to limited resources, these HCWs may be asked to work if they are well enough to do so.

Fit to Work with Restrictions

Ideally, symptomatic staff who are considered "fit to work with restrictions" should only work with patients with ILI. Health Care Workers who must work with non-exposed patients (non-influenza areas) should be required to wear a mask if they are coughing and must pay meticulous attention to hand hygiene.

Symptomatic HCWs who are well enough to work should not be redeployed to nurseries or units with severely immunocompromised patients, i.e., transplant recipients, haematology/oncology patients, patients with chronic heart or lung disease, or patients with HIV/AIDS and dialysis patients.

APPENDIX 7-C: Enterprise Risk Management Framework

Benefits of Enterprise Risk Management

We propose that in considering an integrated approach to responding to an Influenza Pandemic the TAHSN CEOs should adopt and enterprise-wide risk management (ERM) framework in setting its strategy and objectives, and in managing the process. ERM is the strategic process of planning, organizing, leading and controlling the activities of an organization, or group of organizations in order to minimize the effects of risk on the attainment of the overall strategic objectives[5]. The foundational premise is the belief that there is a direct interface between strategy and risk. All areas of risk need to be understood with regard to the risk involved , assessed with regard to the acceptable level of risk tolerance, and degree of return required, managed and monitored in order to effectively achieve the strategic goals For a large undertaking like a TAHSN Influenza Pandemic Strategy to be successful, the implementation of an effective and integrated risk management framework can stabilize human and financial resource management, maximize capacity utilization, promote safety, and inspire confidence in the work force, public , academic community, and government, and prevent avoidable dramatic or catastrophic losses.

An ERM system can identify risks sufficiently early on to turn the potential threats posed by the risks into opportunities which can be exploited to create value and sustainability following the pandemic. The protection of patient and healthcare worker safety in the form of avoiding financial and reputation loss is likely the most obvious benefit from risk management in this instance. However, beyond avoiding the negative effects of risk taking, ERM could also prepare the healthcare facilities within TAHSN to exploit operational management, and academic opportunities which may be inherent in successfully responding to such an event. Value would be created from the optimized balance between risk and return based on the established risk appetite.

Risk Appetite

Risk appetite is an expression of the level of risk an organization is willing to take as defined by the Board of Directors and senior management. Risk appetite is derived from an organization's capacity to bear risk, and reflects its willingness to take on risk. It should be communicated within the organization and be applied to guide risk decision-making across all major classes of risk (individually and in aggregate) in the form of risk limits or tolerances.

In the case of TAHSN, risk appetite in the event of an influenza pandemic will be reflected by the level of operational and resource capacity considered to exist over a certain period at a particular confidence level that at a minimum meets it's the strategic goals and regulatory requirements. The primary purpose for maintaining an appropriate level of capacity to respond to a pandemic is to protect the interests of all stakeholders and comply with all government and regulatory requirements. . This is achieved by ensuring that TAHSN has a sufficient cushion against unexpected losses and that incentives are in place for better management of risk and human resource usage by the healthcare facilities.

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[5] Carroll, Roberta, *Risk Management Handbook for Healthcare Organizations.* 4th Edition John Wiley & Sons 2004

We propose that TAHSN assesses risk based on a seven-point scale for impact and likelihood (see section below on Risk Assessment). In view of a maximum risk score of 49 (i.e. 7 by 7), we propose that a risk score below 9 (e.g. 3 by 3) represents an exposure at an acceptable level, a score of 25 (e.g. 5 by 5) represents an unacceptable level of risk, and that an exposure in between represents risk of a cautionary nature.

Risk Management Process

In addition to establishing an infrastructure for continuous and integrated risk management, TAHSN healthcare organizations needs to establish a disciplined approach to managing specific risks related to Pandemic Influenza management. We propose a risk management process that includes the following activities:

- Risk identification
- Risk assessment
- Risk response
- Risk measurement and monitoring
- Risk reporting

The following outlines these activities in more detail, specifically in relation to the TAHSN.

Risk Identification

An Influenza Pandemic exposes TAHSN Healthcare Facilities to various types of risk. Identifying all the significant risks is a critical risk management activity in order to minimize the negative effect associated with financial and reputation loss. This could be achieved through utilizing TAHSN's past experience with SARS, external benchmarking with best practice.

Risk Assessment

After identifying the key risks pertaining to the TAHSN Pandemic Plan, it is recommended that each TAHSN Healthcare Facility management determine the extent of exposure to these risks. Risk assessment helps to determine the specific risk exposure that exceeds established risk tolerance and in turn helps in prioritizing risk management effort. We propose that risk assessment on the TAHSN Influenza Pandemic be performed considering the following two factors:

- **Likelihood:** the probability of the risk occurring; and
- **Impact:** the degree of severity on TAHSN member's ability to achieve its strategies and business objectives, taking into consideration both financial and reputation impact. Net risk exposures that exceed pre-established risk appetite need to be managed carefully. A risk assessment tool is appended.

Based on our risk assessment, we believe that the top risk exposures are as follows:

1) Strategic Risks
2) Regulatory & Legal Risks
3) Marketplace Risks
4) Operational Risks
5) Reputation Risk

Risk Category	Specific Risk
Strategic Risk	• Ineffective strategy to achieve a cohesive response to an Influenza Pandemic within the GTA • Breakdown in Cross Hospital Cooperation and/or lack of well developed patient flow throughout the system • Inability to sustain a cohesive response • Failure to establish the necessary systems processes and resource development and allocation required
Regulatory and Legal Risk	• The risk of not being aware of, or understanding, the regulatory environment relating to Occupational Health and Safety Act, Statutes and Common Law related to duty to care and provide a safe workplace • The risk of not structuring the right legal arrangements for the strategy both related to above and Bill 36 (LHINS) • Failure to operate with the MOHLTC Accountability Agreement
Marketplace Risk	• The risk of a fragmented Information Management Infrastructure • The risk of a breakdown in Community Care, resulting in influx of patients beyond what the system capacity can manage
Operational Risk	• Ineffective Infection Prevention and Control Infrastructure to adequately educate all Healthcare Workers in a manner which will ensure they have the necessary knowledge and skill to function effectively during an Influenza Pandemic • Ineffective Staff Distress Management and HCW Support • Inability to retain key people, due to lack of trust in the system to address their emotional, financial, and safety interests • Risk of strikes/labour actions, work stoppages etc… • Inadequate integration of processes and systems
Reputation Risk	• Not managing stakeholders' expectations (e.g., safety, risk communications, etc...) • Loss of patient base (e.g., to other less affected facilities for reasons of accessibility, safety, etc.) • Loss of Human Resources / Intellectual Capital

It is also recommended that the above-mentioned risks need to be assessed for each Phase of a Pandemic as determined by the World Health Organization.

Risk Response

After determining risk exposure within each individual organization, TAHSN CEO's should first identify "risk response options and consider their effect on the impact and likelihood relating to the specific risk, in relation to risk tolerances and costs versus benefits across TAHSN. TAHSN Management should then design and implement response options[6]. Risk response options can generally be classified as follows:

- Accept – involves taking no action in relation to the risk
- Avoid – involves taking actions to exit the activities that gives rise to the risk
- Reduce – reduce the impact and/or likelihood of the risk, typically through implementing stronger internal controls and/or allocating more risk capital to cushion against unexpected losses
- Share – transfer all or part of the risk through activities such as insurance and hedging

[6] Enterprise Risk Management Framework, COSO: The Committee of Sponsoring Organizations of the Treadway Commission, draft- 2003

APPENDIX 7-D: Infection Prevention and Control within a "Culture of Safety"

In December 2005, the Canadian Council on Health Service Accreditation (CCHSA) issued five Safety Goals and Organizational Practice Requirements.

As of January 2006, all accredited hospitals in Canada are required to comply with the Canadian Council on Health Services Accreditation (CCHSA) Patient Safety Goals and Organizational Practice Requirements. One goal specifically addresses Infection Prevention and Control, and the remaining four goals have implications for both Workplace Safety and Patient Safety in the context of an Influenza Pandemic. The Sub Committee recommends that CCHSA Safety Goals and Practice Requirements can be used to leverage the safety requirements inherent in responding to an Influenza Pandemic.

The Safety Goals are as follows:

Patient Safety Area 1 – Culture

Goal 1: Create a culture of safety within the organization.

Culture: Required Organizational Practices

1. Adopt patient safety as a written, strategic priority/goal.
2. Provide quarterly reports to Board on patient safety, including changes/improvements following incident investigation and follow-up.
3. Establish a reporting system for actual and potential adverse events, including appropriate follow-up. This should be in compliance with any applicable legislation; and within any protection afforded by legislation.
4. Implement a formal (transparent) policy and process of disclosure of adverse events to patients/families, including support mechanisms for patients, family, and care/service providers.
5. Carry out one patient safety-related prospective analysis process per year (e.g. FMEA), and implement appropriate improvements/changes.

Patient Safety Area 2 – Communication

Goal 2: Improve the effectiveness and coordination of communication among care/service providers and with the recipients of care/service across the continuum.

Communication: Required Organizational Practices

1. Inform and educate patients/clients and/or family about their role in patient safety, using both written and verbal communication.
2. Employ effective mechanisms for transfer of information at interface points, including shift changes; discharge; and, patient/client movement between health care services and sectors, and implement improvements.
3. Implement verification processes and other checking systems for high risk care/service activities, including ordering and receiving the results of critical tests; administering surgical or other invasive procedures; diagnostic testing; medication use; and implement improvements.
4. Reconcile the patient's/client's medications upon admission to the organization, and with the involvement of the patient/client.
5. Reconcile medications with the patient/client at referral or transfer, and communicate the patient's/client's medications to the next provider of service at referral or transfer to another setting, service, service provider, or level of care within or outside the organization.

Patient Safety Area 3 – Medication Use

Goal 3: Ensure the safe use* of high risk medications

*Consider the medication management cycle of procuring, ordering, dispensing, administering, and monitoring.

Goal 4: Ensure the safe administration of parenteral medications.
Medication Use: *Required Organizational Practices*

1. Remove concentrated electrolytes (including, but not limited to, potassium chloride, potassium phosphate, sodium chloride >0.9%) from patient/client care units.
2. Standardize and limit the number of drug concentrations available in the organization.
3. Provide ongoing, effective training for service providers and users on all infusion pumps.

Patient Safety Area 4 – Worklife/Work Force

Goal 5: Create a work life and physical environment that supports the safe delivery of care/service.

Worklife/Work Force: Required Organizational Practices

1. Deliver at least annual education/training on patient safety to all staff, including targeted patient safety focus areas within the organization.
2. Develop and implement a plan and process to assess patient safety issues within the organization, and to carry out improvement activities.
3. Delineate clearly the roles, responsibilities and accountabilities of staff and other providers for patient/client care and safety.
4. Implement an effective preventive maintenance program for all medical devices, equipment, and technology.

Patient Safety Area 5: Infection Prevention and Control

Goal 6: Reduce the risk of health service organization-acquired infections, and their impact across the continuum of care/service.

Infection Prevention and Control: Required Organizational Practices

1. Adhere to federal and/or provincially-developed Infection Prevention and Control guidelines such as Health Canada's Infection Prevention and Control Guidelines: Hand Washing, Cleaning, Disinfection and Sterilization in Health Care.
2. Deliver education and training for staff, other providers and volunteers on hand washing/hygiene.
3. Monitor infection rates, and share this information throughout the organization.
4. Examine, and where indicated, improve processes for sterilization of equipment and facilities.

A Safety Gap Analysis utilizing the Canadian Council on Health Services Accreditation Patient Safety Goals and Practice Requirements is recommended.

Glossary of Terms

Antiseptic hand rub: A waterless, antiseptic hand rub product that is applied to all surfaces of the hands to reduce the number of microorganisms present.

Biomedical waste: Defined by the Canadian Standards Association as waste that is generated by human or animal health care facilities, medical or veterinary settings, health care teaching establishments, laboratories, and facilities involved in the production of vaccines.

Cleaning: The physical removal of foreign material, e.g., dust, soil, organic material such as blood, secretions, excretions and microorganisms. Cleaning physically removes rather than kills microorganisms. It is accomplished with water, detergents and mechanical action. In certain settings, (e.g., central service or dietetics), the terms decontamination and sanitation may be used for this process. Cleaning reduces or eliminates the reservoirs of potential pathogenic organisms. Cleaning agents are the most common chemicals used in housekeeping activity.

Cohort: Two or more patients exposed to, or infected with, the same organism who are separated physically (e.g., in a separate room or ward) from other patients who have not been exposed to, or infected with, that organism.

Cohort staffing: The practice of assigning specific personnel to care only for patients/residents known be exposed to, or infected with, the same organism. Such personnel would not participate in the care of patients/residents who have not been exposed to, or infected with, that organism.

Contact transmission: Includes direct contact, indirect contact and droplet transmission as described below.

> **Direct contact:** Occurs when the transfer of microorganisms results from direct physical contact between an infected or colonized individual and a susceptible host (body surface to body surface).
>
> **Indirect contact:** Involves the passive transfer of microorganisms to a susceptible host via an intermediate object such as contaminated hands that are not washed between patients, contaminated instruments or other inanimate objects in the patient's immediate environment.

Critical items: Instruments and devices that enter sterile tissues, including the vascular system. Critical items present a high risk of infection if the item is contaminated with any microorganism, including bacterial spores. Reprocessing critical items, such as surgical equipment or intravascular devices, involves meticulous cleaning followed by sterilization.

Droplet: Refers to large droplets, greater than or equal to 5 mm in diameter, generated from the respiratory tract of the source patient during coughing or sneezing, or during procedures such as suctioning or bronchoscopy. These droplets are propelled a short distance, less than 1 meter, through the air and deposited on the nasal or oral mucosa of the new host.

Decontaminate hands: The reduction of bacterial counts on hands is accomplished by performing an antiseptic hand rub or antiseptic hand wash.

Decontamination: The removal of disease-producing microorganisms to leave an item safe for further handling.

Disinfection: The inactivation of disease-producing microorganisms. Disinfectants are used on inanimate objects; antiseptics are used on living tissue. Disinfection does not destroy bacterial spores. Disinfection usually involves chemicals, heat or ultraviolet light. Levels of chemical disinfection vary with the type of product used.

Exposure: The condition of being subjected to a microorganism or an infectious disease in a manner that enables transmission to occur.

Fit for Work: Terminology used in occupational health to communicate a worker's ability to remain at or return to work. This ability includes three categories: fit for work, unfit for work, fit with restrictions. This categorization allows the occupational health nurse to maintain confidentiality about a worker's diagnosis, symptoms, immune status, etc.

> **Fit for Work:** Fit to work with no restrictions
>
> **Unfit for Work:** Defined as a restriction from patient care tasks, co-worker contact and restriction from the workplace.
>
> **Fit for work with restrictions:** Allows for the re-assignment of duties or re-integration into the workplace in a manner that will not pose an infection risk to the HCW or to the patients and or other individuals in the workplace.

Hand antisepsis: This term refers to either antiseptic handwash or antiseptic handrub1. A process for the removal or reduction of resident and transient microorganisms.

Hand hygiene: A general term that applies either to handwashing, an antiseptic handwash, an antiseptic hand rub, or a surgical hand antisepsis1.

Handwashing: Washing hands with plain (i.e., non-antimicrobial) soap and water1. A process for the removal of soil and transient microorganisms from the hands.

Health Care Worker (HCW): HCWs are professionals, including trainees, and retirees, non-professionals and volunteers, involved in direct patient care; and/or those working/volunteering in designated health care facilities or services. For the purposes of this definition, HCWs are those whose functions are essential to the provision of patient care, and who may have the potential for acquiring or transmitting infectious agents during the course of their work.

High level disinfection: This term refers to the level of disinfection required when processing semicritical items. High level disinfection processes destroy vegetative bacteria, mycobacteria, fungi and enveloped (lipid) and non-enveloped (non-lipid) viruses, but not necessarily bacterial spores. High level disinfectant chemicals (also called chemisterilants) must be capable of sterilization when contact time is extended. Items must be thoroughly cleaned prior to high level disinfection.

Infectious waste: The portion of biomedical waste that is capable of producing infectious disease.

Influenza Clinical Case Definition of Influenza: When influenza is circulating in the community, the presence of fever and cough of acute onset are good predictors of influenza. The positive predictive value increases when fever is higher than 38°C and when the time of onset of the clinical illness is acute (less than 48 hours after the prodromes). Other symptoms, such as sore throat, rhinorrhea, malaise, rigors or chills, myalgia and headache, although unspecific, may also be present.

Confirmed Case of Influenza: Confirmed cases of influenza are those with laboratory confirmation (i.e., virus isolation from respiratory tract secretions, identification of viral antigens or nucleic acid in the respiratory tract, or a significant rise in serum antibodies) or clinical cases with an epidemiological link to a laboratory confirmed case.

Influenza-Like-Illness (ILI): For surveillance purposes, the ILI definition currently used in Canada says: _ Acute onset of respiratory illness with fever (>38□.C) and cough and with one or more of the following: sore throat, arthralgia, myalgia or prostration, which could be due to influenza virus as used by the National Influenza Surveillance Program (FluWatch) for the 2002-2003 season.

Intermediate level disinfection: The level of disinfection required for some semicritical items. Intermediate level disinfectants kill vegetative bacteria, most viruses and most fungi but not resistant bacterial spores.

Low level disinfection: The level of disinfection required when processing noncritical items or some environmental surfaces. Low level disinfectants kill most vegetative bacteria and some fungi as well as enveloped (lipid) viruses (e.g., hepatitis B, C, Hantavirus, and HIV). Low level disinfectants do not kill mycobacteria or bacterial spores. Low level disinfectants-detergents are used to clean environmental surfaces.

Mask: A barrier covering the nose and mouth to protect the mucous membranes from microorganisms contained in large droplet particles (> 5 □m in size) generated from a source person during coughing, sneezing, or talking and during the performance of certain procedures that generate droplets (e.g., suctioning) or are likely to generate splashes or sprays of blood, body fluids, secretions, or excretions. Masks may also be used to contain large droplet particles generated by coughing or sneezing persons. The term mask in this document refers to surgical masks, not to special masks, such as high efficiency dust/mist masks or respirators.

Noncritical items: Items that either touch only intact skin but not mucous membranes or do not directly touch the patient/resident/client. Reprocessing of noncritical items involves cleaning and or low level disinfection.

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Chapter 8:

Operations

Incident Management System Security
Information Technology Supplies

Incident Management System:

The Incident Management System (IMS) is an international emergency management structure that is the recognized North American standard essential for the management of all emergency incidents. IMS identifies key roles needed to do key functions during a time of crisis. This framework for managing emergency incidents is scalable and can be applied to small or large-scale incidents or events. IMS design utilizes standardized terminology and communications systems, consolidated action plans, pre-designated facilities, and an all hazards approach appropriate for all types of emergencies.

During a pandemic, the IMS will ensure that resources and skills are utilized in the most appropriate and efficient and ensure that the response is coordinated and integrated amongst all agencies involved.

Recommendation:

TAHSN recommends that health care organizations adopt IMS as the operational framework for pandemic planning. The common organizational structure will allow for coordination of efforts and resources, maximizing the capacity of agencies involved and the efficiency of the response.

The chart in Appendix 8-A outlines the application of the IMS model within the Ontario Ministry of Health and Long Term Care, Emergency Management unit.

It is based on the following key points:

- Internal and external incidents can disrupt normal hospital operations and services, including patient care, staff functioning and finances
- IMS provides medical facilities with an organized, universal management structure that promotes immediate, focused direction of activities during a disaster
- The goal of IMS is to provide a structure for disaster response that allows for minimal disruption to hospital activities and allow for prompt resumption of normal operations
- Fire, police and EMS all use IMS, so hospitals using IMS can communication with these agencies using a common language and identical job titles
- The Ministry of Health and Long-Term Care has adopted the IMS model for its Emergency Operations Centre at the Emergency Management Unit which will help increase the effectiveness of emergency management across the province
- This framework is position-driven, not person-driven, so that anyone capable can fill the role without having to rely on specific individuals. Standardized job action sheets ensure consistency between shifts.

Overview of IMS Roles

The IMS structure is built around five functions: command, operations, planning, logistics, and finance/administration. The following is an overview of the key positions within the IMS structure and example of a hospital role that may fill the IMS position. During a pandemic it will be important to identify multiple people to fill the roles of the IMS structure to function as alternates if staff are ill.

Command Centre Roles	**Example of hospital roles that may fill the IMS position**
Incident Manager: In charge of directing and coordinating all activities related to the incident	• Administrator on call • Nursing administrator on call • Director of Operations • Director of Nursing
The following roles report to the incident manager:	
Security Officer: Secures hospital and perimeter	• Manager of Security • Site Security Supervisor
Public Affairs Officer: Manages key messages and communications with staff and media regarding the impact on UHN services and operations	• Public Affairs on call • Most senior Public Affairs representative • Site representative
Liaison Officer: Communicates with external agencies to coordinate response between agencies	• Risk Manager • Emergency Preparedness Manager
Health and Safety Officer: Ensures the health and safety of staff during the emergency incident	• Director Occupational Health & Safety
Operations Chief: Manages all actions carried	• Chief of Medicine • Director of Operations • Director of Integrated Medical or Surgical Programs
Planning Chief: Provides long term planning	• Vice President Human Resources • Director Human Resources • Director of Operations
Logistics Chief: Provides support to all activities – materials and equipment	• Controller • Manager of Materials Management

Job action sheets

Job action sheets drive the IMS rollout by allowing the staff in the activated IMS positions above to carry out specific tasks grouped into immediate and extended groupings (see Appendix 8-C for a sample job action sheet).

The tasks in the job action sheets are aided and further driven by three types of supporting documents:

- Procedures and Protocols: describe the processes related to certain areas or functions.
- Organization Outlines: describe the mission and physical makeup of certain key units within the IMS structure.
- Forms: allow for documentation of the tasks carried out as indicated in the job action sheets.

Command Centre

A command centre is used to base the emergency management team and coordinate the response and may be established depending on the scale and type of emergency.

Recommendation:

Due to the possible large-scale impact of a pandemic, TAHSN recommends that hospitals plan for and establish a command centre in order to coordinate the response and focus resources.

Key points regarding the command centre and IMS roles:

- In most cases the Incident Manager activates the command centre
- The incident manager will contact staff and assign IMS roles to manage the organizations response
- A senior staff member assumes the role of Incident Manager and remains in the command centre. Often this is the most senior administrator on site at the time of the incident
- Other roles are assigned to manage key areas such as Operations, Planning and Logistics to support the Incident Manager.

Redeployment Centre (Please refer to Human Resources Chapter)

The redeployment centre is a designated location in the hospital where staff can report to be assigned to a work area as part of the emergency response. At the time of the pandemic, together with the Planning Chief, the Incident Manager will decide if a labour pool needs to be activated based on the severity of the situation and the need for redeployment of staff.

Recommendation:

TAHSN recommends that hospitals consider using a redeployment centre to assist in re-deployment of staff and form a more coordinated and efficient response (see Chapter 5 for redeployment principles and guidelines on developing a labour pool).

Key elements:

- Choose a central location in the hospital for the labour pool.
- To the extent possible, pre-determine redeployment strategies for staff to ensure a fast response.

Telephone Fan-Out

A fan-out is a method to call off duty staff to the hospital if there is an incident requiring additional resources to support hospital operations as well as respond to the critical event. A fan out may be used for a sudden influx of patients from an external incident such as a pandemic or when an internal disaster necessitates the need for an evacuation.

Recommendation:

TAHSN recommends that hospitals have and maintain a disaster telephone fan-out list for the event of a pandemic.

Key points:

- The fan-out typically begins with the CEO (or most senior administrator available) calling senior management and medical staff.
- The process of "fanning out" to additional staff then continues through the reporting structure of the hospital.
- Fan-out lists need to remain current at all times with up-to-date versions kept at managers' homes.

APPENDIX 8-A

Incident Management System Resources:

The original Hospital Emergency Incident Command System - HEICS
http://www.heics.com

Online training:

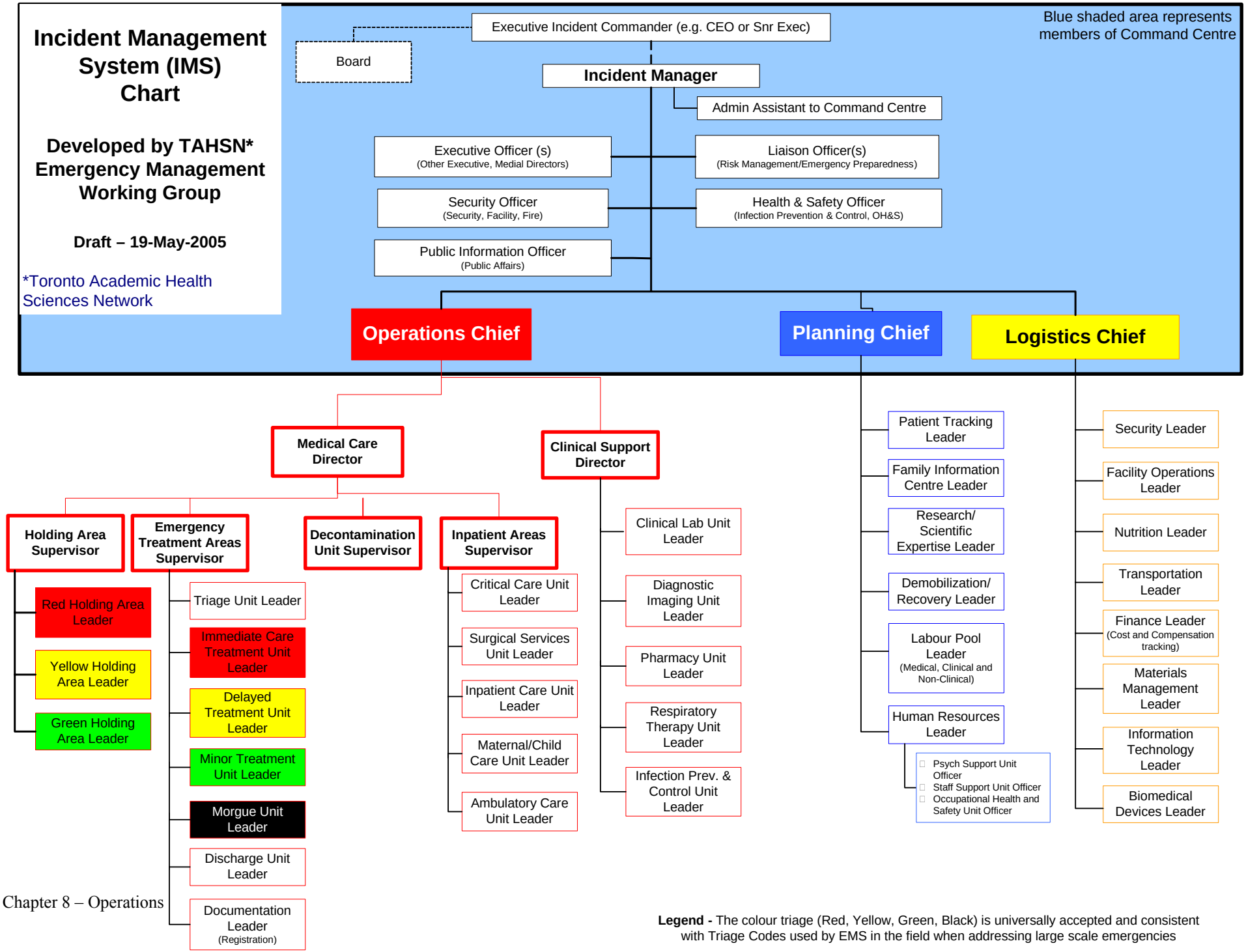
http://www.jibc.bc.ca/emergency/default.htm

Incident Management System (IMS) Chart

Developed by TAHSN* Emergency Management Working Group

Draft – 19-May-2005

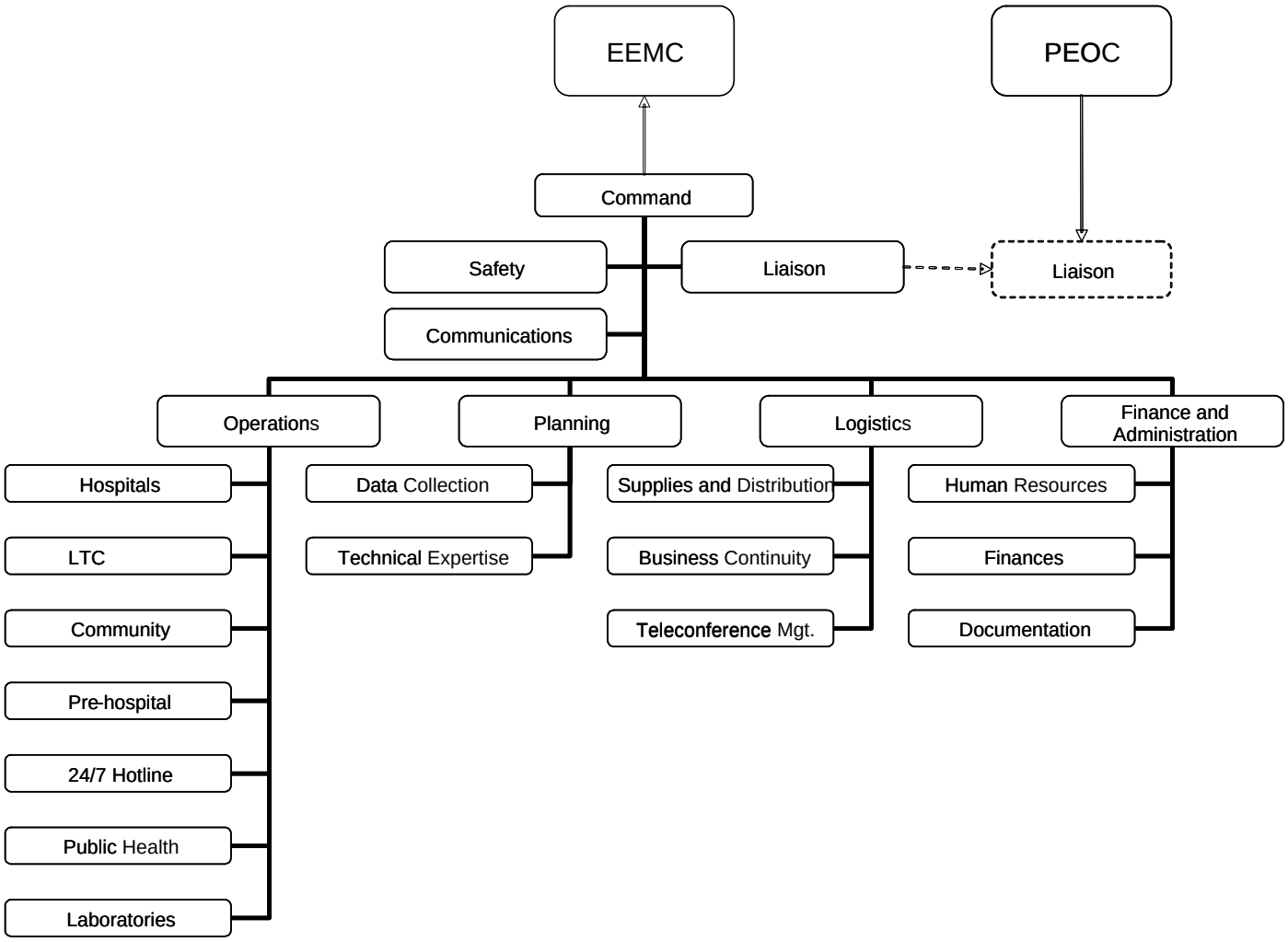
*Toronto Academic Health Sciences Network



Legend - The colour triage (Red, Yellow, Green, Black) is universally accepted and consistent with Triage Codes used by EMS in the field when addressing large scale emergencies

APPENDIX 8-B

Emergency Response at the Ministry of Health and Long Term Care



EEMC: Executive Emergency Management Committee

PEOC: Provincial Emergency Operations Centre

APPENDIX 8-C

JOB ACTION SHEET

Incident Manager

Mission

- Organize and direct Command Centre.
- Initiates the Incident Management System (IMS) and coordinates all response activities in support of emergency operations
- Assumes the role of the Incident Manager and stays in position until formal hand-off occurs if necessary

Immediate Responsibilities

- ❑ Initiate the Incident Management System by assuming the Incident Manager role
- ❑ Read entire Job Action Sheet and put on position Identification Vest
- ❑ Review the IMS organizational chart (on back of page)
- ❑ Appoint / Confirm all Officers/Chiefs and distribute Job Action Sheets:
    - ❑ Executive Officer (as necessary)
    - ❑ Security Officer
    - ❑ Public Information Officer
    - ❑ Health & Safety Officer
    - ❑ Liaison Officer
    - ❑ Operations Chief
    - ❑ Planning Chief
    - ❑ Logistics Chief
    - ❑ Admin Assistant
- ❑ Announce a status/action plan meetings including all Officers/Chiefs
- ❑ Obtain status report from all Officers/Chiefs considering the type of disaster
- ❑ Initiate communications fan-out if situation warrants
- ❑ Ensure that contact has been established with outside agencies if warranted.

Intermediate Responsibilities

- ❑ Authorize resources as needed or requested through Planning Chief
- ❑ Arrange routine briefings with appointed Officers/Chiefs to receive status reports
- ❑ Communicate status of incident to CEO/Delegate
- ❑ Consult with Logistics/Planning functions on needs for Staff, Physicians and Volunteers

Extended Responsibilities

- Approve media releases submitted by Public Information Officer
- Receive report from Health and Safety Officer on the status of staff, volunteers and patients exhibiting signs of stress and fatigue

Recovery

- Once situation resolves, initiate deactivation of response
- Monitor the deactivation to normal operation activities
- Debrief the incident with the Command Centre Group

Security

Security is a vital consideration in any large-scale emergency plan, particularly in a context of an influenza pandemic where supplies will be limited and fear and anxiety may be widespread.

Security issues that need to be addressed include the following:

- Access control at entrances
- Support of assessment/triage areas
- Security of supplies
- Aggressive patients and family members (people not receiving the care they think they require and long wait times)
- Liaising with local law enforcement

Recommended Roles and Responsibilities for Security:

- Conduct access control at staff and visitor entrances and in triage lines. Outline which entrances will require security staff
- Aid in direction to staff, visitors and patients
- Secure non-essential entrances
- Direct vehicular traffic where required
- Block entrances/driveways in accordance with security management directives
- Determine which security roles can be filled by non-trained staff i.e. unlocking doors

Patient Registry / Information Technology

Information technology is a strategic underpinning for all aspects of pandemic planning.

This section has not yet been fully developed. However, suggestions for IT involvement have been mentioned throughout these guidelines.

Some of these issues are highlighted here:

- Data reporting, volume tracking
- Links with emergency response task force
- Establishment of information lines
- Development of registration systems-patient tracking, tracking uptake of antivirals and vaccine among healthcare workers
- Development of pandemic influenza websites:
  The TAHSN website can be found at: http://portal.sw.ca/tahsn/pandemic/default.aspx

IT will provide support where indicated by the TAHSN group.

It is recognized that the structure of IT differs between hospitals. Therefore general guidelines on how IT support can be used will be outlined which can then be tailored to individual sites.

Supplies

In May 2004, the Ministry of Health and Long Term Care (MOHLTC) Emergency Management Unit (EMU), with stakeholder participation, published the Ontario Health Pandemic Influenza Plan (OHPIP). The Plan provides provincial guidance to local pandemic planning groups, to ensure a coordinated response to a pandemic.

Under the governance of the OHPIP Steering Committee, the Equipment and Supply Working Group (ESWG) was established to address equipment and supply needs for OHPIP. The mandate of the ESWG was to:

- Develop guidelines that will enable facilities, agencies and institutions to acquire their own four week stockpile of equipment and supplies.
- Develop, test and evaluate a plan for the purchase, storage and distribution of a four to six week provincial stockpile of equipment and supplies.
- Support management of stockpiles at provincial and local levels:
    - Develop a model to calculate quantities for stockpiles
    - Develop a centralized purchasing strategy
    - Develop a distribution strategy
- Maintain the centralized distribution system for Personal Protective Equipment (PPE) through the Ontario Government Pharmacy to support inventory shortfalls as authorized by the EMU.
- Develop communications protocols to inform health care providers how to access supplies during a pandemic.
- Develop and maintain domestic suppliers and manufacturers list.

Current Situation

- The EMU has advised that it will:
    - Request funding for bulk purchase of priority equipment and supplies to protect healthcare workers (at the provincial level). Purchases will be made over the next 3 years.
    - Focus on priority areas:
        - PPE's (masks, gloves, gowns, eye protection)
        - Infection Prevention and Control (hand sanitizer, disinfecting wipes)
        - Mass Vaccination/Prophylaxis clinics and assessment centres
    - Not include direct patient care supplies at this time
- Suppliers are advising that there is huge demand on manufacturing capacity
- Most hospitals don't know what products to order (e.g. confusion over N95's)
- Everyone is currently functioning on an ad hoc basis
- Some hospitals are ordering PPE's and direct patient care supplies based on list developed by ESWG, leveraging current agreements

Assumptions for TAHSN Supplies Sub-Committee

- The groundwork that has been laid by the ESWG will be foundational, i.e., the ESWG:
    - Identified equipment and supplies by health care sector (in conjunction with PIDAC and OHPIP clinical management workgroup)
        - PPE's
        - Diagnostic
        - Direct patient care
    - Developed formulae for calculating quantities of PPE's by sector
- The sub-committee will remain allied with OHPIP so that all planning assumptions are consistent
- The sub-committee will endeavour to align its sourcing strategy with the strategy of the EMU
- Volumes will be predicated on a 35% attack rate, and will be validated through the workload data being developed by the Safety and Support sub-committee
- The supplies sub-committee will include representation from all TAHSN members, plus St Joseph's and Toronto East General
- The sectors represented will include:
    - Acute care
    - Long Term Care
    - Rehab
    - Labs
    - Assessment Centres (once plan is developed)

Recommendations:

Inventory of Personal Protective Equipment (PPE) and Direct Patient Care Supplies:

It is recommended that healthcare institutions have access to the supplies outlined below, as appropriate to the type of facility and functions performed at that facility. Each institution should review the following list, drawn from the OHPIP list of PPE and direct patient care supplies (posted on the OHPIP website), and working with Infection Prevention and Control and representative clinicians, determine the exact product mix required for the organization. These products are likely to be used within the facility currently, and there may be limited options to change because of compatibility with equipment etc. The TAHSN Supplies Sub Committee is working on a plan to consolidate these purchases, and is reviewing the products recommended by each institution.

PPE

4 – 6 weeks supply (assumes 4 – 6 weeks inventory will be stored at provincial level). Sectoral formulas for usage are available on the OHPIP website, but are being reviewed to ensure they are accurate. Once they have been established, they will be included in these guidelines.

- Liquid Soap
- Alcohol hand rinse
- "Surgical/Procedure Masks"
- Paper gowns (small, medium, large, XL, XXL)
- Latex Exam Gloves (small, medium, large, XL, XXL)
- Non-latex Gloves (S, M, L, XL)
- Safety Glasses

Other supplies

8 – 12 weeks supply (assumes no inventory will be stored at the provincial level). Formulas for usage are being developed by the TAHSN Supplies Sub Committee, using FluSurge as a volume indicator for inpatient load, and will be included in these guidelines.

Acute care inpatients

Acute care requirements per patient:

- Average LOS: 9.5 days
- 100% using an acute care bed for 7 days
- 15% using an ICU bed for 10 days
- 7.5% using ventilator support for 10 days
- Therapy will include oxygen, IV solutions and IV antibiotics

Non-acute care inpatients

The assumption is that the patient load in non acute care settings will not change. These institutions will likely not take in new ill patients, and the critically ill will be sent to acute care facilities.

Most within the TAHSN group have built 6 weeks of regular stock to cover potential interruption in supply during a pandemic.

Direct patient care

- Thermometers (disposable covers)
- Stethoscopes
- Blood Pressure Cuffs (Child, Adult, Large Adult sizes)
- Cold Pack sodium or ammonium nitrate
- Gel pack soft cold pack
- Sterile Gauze pads (7.6 cm x 7.6 cm)
- Tape Hypoallergenic 2.5 cm x 9.1 cm
- Other tapes
- IV Solutions
- IV sets and tubing

Cleaning and Disinfecting

- Disinfecting Wipes
- Surface cleaner and disinfectant
- Garbage bags
- Autoclave and other specialized waste disposal bags
- One-use tissues

Diagnostic

Nasopharyngeal (NP) swab specimen kit: (a) NP swab (b) Viral transport
Testing reagents (e.g., rapid ELISA-based kits; DFA panels: viral transport media; cell lines and media

Vaccination Clinics

- Needles 25 gage 1", 25 gauge 5/8"
- Syringes
- Alcohol wipes
- Sharps containers
- Medium cotton balls
- Band-Aids

Respiratory Therapy

- Oxygen tubing
- Oxygen masks with tubing (non-rebreathers)
- Nasal prongs/cannula
- Oxygen masks Venturi
- Oxymeters and probes
- Disposable tips, catheters, tubing, canisters
- Disposable manual resuscitators (BVM) & filters (various sizes)
- Inline suction catheters

Miscellaneous

- Body bags
- ID bands for patients
- "How to" instruction material for vaccinators
- "Self-monitor; self-care" info for general public
- Fact sheets for patients and families
- Consent forms for Vaccines
- Adverse reaction reporting form
- Assessment/health record forms

Other items (to be developed further)

Food

Food service distributors are working with institutions to develop non-perishable menus for patients. Institutions should determine if they will feed staff during an outbreak or not.

Linen

Linen suppliers are working with institutions to determine what linen supplies will be critical. Processing of non-critical items would be cut back. Quotas per institution will be determined by patient load.

Medical gasses

Strategies are being developed to manage the production and delivery of additional medical gasses required for treatment (e.g. oxygen). Capacity challenges are being addressed, but information relating to alternate care sites will be critical.

Warehousing strategy

Each institution must determine how much space can be made available for pandemic supplies. Considerations besides actual space include ability to manage inventory and rotate perishable stock before it stale dates. Given the size of the stockpiles, this will prove a challenge for most organizations.

Understanding that there is some security in having stock on the institution's premises, the TAHSN supplies sub-committee is currently working with various suppliers to develop other strategies to store product, either in a central location or at the manufacturer's warehouse. This inventory would be tagged by institution, and allocated as required. Once this strategy is developed, it will be included in the guidelines.

Chapter 9:

Laboratories

Laboratory Services

In the event of an influenza pandemic, laboratories will be challenged with the need to accommodate the expected surge in volume while working to maintain their testing capacity, as both available staff and resources are affected.

The following are identified risks related to laboratory services during a pandemic:

- Inadequate support by physical facilities to maintain laboratory services
- Inadequate laboratory staff to maintain the full spectrum of services
- Inadequate blood product supply from Canadian Blood Services
- Increased demand on laboratory services
- Interruption of inventory supplies and equipment support services

Issue:

Maintain laboratory-testing services, blood and blood products at appropriate levels. Prioritize and manage the activity of the laboratory staff.

Recommendations:

Operational:

- Identify a Laboratory Unit Leader whose role will be to:
  - Receive appointment from Senior Management/Risk Management Director.
  - Receive briefing from Senior Management/Risk Management Director with other subsection unit leaders.
  - Coordinate laboratory action plan implementation and report to Senior Management/Risk Management Director.
  - Inventory blood and reagents supply.
  - Evaluate laboratory service's capacity to perform testing services (determine turn around times and priority lists) and report to Senior Management/Risk Management Director.
- Contact Materials Supply Unit Leader in anticipation of needed supplies.
- Contact other laboratory service providers to discuss possible back up testing services.
- Ensure implementation of general bio-safety protocols and assess the need to refine these during the pandemic
- Implement contingency planning with the hospital's information services
- Plan for expanded storage capacity
- Initiate coordination of back up services with other departments (e.g. IV services and Nursing units) and external institutions/laboratories
- Maintain all laboratory testing services as long as possible
- Plan for offering weekend services 7 days a week in worst case scenarios

Supplies:

- Initiate planning discussions with suppliers and external clients
- Contact courier and shuttle transportation services to confirm service capacity.
- Consider collaboration with nearby hospital laboratories in terms of limited supplies.
- Obtain assurance from suppliers to deliver scheduled and increases in supplies required
- Develop priority lists of essential, core and other laboratory services (see Appendix 9-A)
- Plan for 1-3 months surplus inventory of selected laboratory supplies
    - Challenge: impact on budget
    - Challenge: Lack of refrigerated storage capacity
    - Challenge: Shelf life of supplies

Human Resources:

- Inventory staffing resources and redeploy staff as required.
- Initiate departmental meetings to communicate plan and updates to staff.
- Redistribute workload across shifts to allow better utilization of off shifts
- Increase all non-full time staff hours
- Inform users of available testing services.
- Provide for routine meetings with Senior Management/Risk Management Director.
- Provide information updates for staff.
- Observe and assist any staff members who exhibit signs of stress and fatigue. Report concerns to Senior Management/Risk Management Director. Provide for staff rest periods and relief.

APPENDIX 9-A
Priority Listing of Laboratory Services

*Note: this is a recommended list only. It is subject to review by individual hospitals and may change accordingly

Department	Essential services Priority 1	Core services Priority 2	Others Priority 3
Microbiology	Stat specimens Blood cultures Sterile body fluids Antibiotic susceptibilities & identifications Virology (tissue cultures, DFA, IFA) PCR testing for primary infectious agents Weekend services	All other bacterial cultures including surveillance swabs Abbott AxSym Analyzer testing Roche Cobas Chlamydia PCR testing	All referred out testing All other serology testing done in house
Anatomic Pathology	Morgue/Autopsy services Frozen Section services Diagnostic biopsies for cancer cases Stat testing	Histology, immunopathology and cytology	Molecular, electron microscopy, neuropathology
Blood and Tissue Bank	Maintain all testing: ▪ Group and screen ▪ Antibody investigation based on clinical need ▪ Blood and Blood product preparation ▪ Tissue processing and preparation as required Priority of testing based on: ▪ Urgency (Trauma, bleeding patient) ▪ Non-elective surgery patients ▪ Oncology as an adjunct to treatment WCACC NICU as per needs		
Clinical Pathology Biochemistry	Restricted service to urgent tests only (with TAT less than 2 hours)	Restricted service equivalent to evening & weekends (24/7)	No change in service, except canceling vacation; all on stand-by

Clinical Pathology Biochemistry	Acetaminophen Blood gases Calcium COHb Creatinine CSF glucose CSF protein Ethanol Glucose Lactate Lytes Magnesium MetHb Osmolality Phosphate Troponin T Urea Sa licylate HCG	Acetaminophen Blood gases Calcium Carbamazepine COHb CKMB Creatinine CSF glucose CSF protein Digoxin Ethanol Glucose Ionized calcium Lactate Lithium Lytes Magnesium MetHb Osmolality	Phenobarbital Phenytoin Phosphate Theophylline TSH fT3 fT4 Tobramycin Troponin T Urea Valproic Acid Vancomycin Salicylate Gentmycin HCG Lipase Urinalysis	Refer to menu
Hematology/ Coagulation	CBC INR PTT Fibrinogen Sickle Cell Screen Mini lap (fluid) for trauma Fluids (except for joint)	All other Hematology testing as on evenings and weekends (24/7)		

Chapter 10:

Research

Research

The following are issues that have been identified regarding research activities targeted towards pandemic influenza.

- Central Research Ethics Board
- Develop a mechanism for expedited review
- Plan the type of studies to be conducted: clinical, biological, psychological and public health
- Develop flexible protocols

Guidelines are being developed at the national level and will be incorporated as they become available.

Chapter 11:

Physicians / Surgeons

PHYSICIANS/SURGEONS

This section has not yet been developed. Further information for this chapter will be available pending guidance from Ministry of Health and Long Term Care.

Issues to consider include:

- Liability
- Insurance: the pandemic will be treated in the same manner as any other emergency situation wherein ethical guidelines will guide behaviour
- Skills
- Remuneration: it is expected that the provincial government will develop a plan for physician remuneration that will be used by the TAHSN hospitals
- Physicians will be re-assigned

Chapter 12:

Recovery

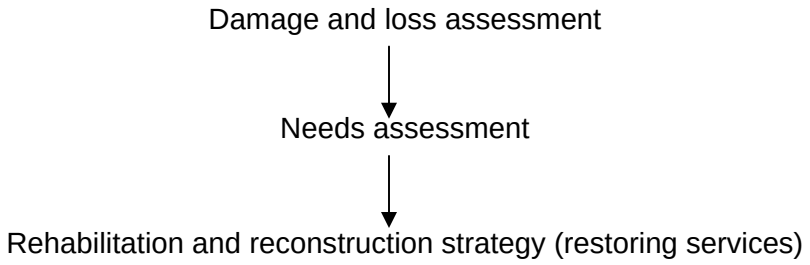
Recovery

The primary focus of work during the post-pandemic period is to de-activate the pandemic response activities, review their impact and use the lessons learned to guide future planning activities for the potential second wave of the pandemic.

The pandemic will have a profound affect on health care workers; therefore this recovery period will be essential to ensure the welfare of staff. An intensive phase of recovery and evaluation may be required.

A step-down plan is required to outline how to scale back activities and measures that were implemented during the emergency. Guidance on activities that should be maintained and those that can be scaled back during the recovery period will ensure a consistent response across health care agencies and help to focus limited resources. In addition, those services that were scaled back will have to be re-evaluated and slowly return to their regular service levels.

Evaluation will help to identify effective and ineffective strategies and help to guide future actions in identifying "best practices" for future implementation.



Recovery needs to be: coordinated, comprehensive, and have a clear strategy

Recovery plans will generally set out to develop and formalize arrangements for the effective management of the recovery process. Plans may include details of inter-agency coordination and specify responsibilities for the overall management of the recovery process. Plans should identify resources and define responsibility for the range of specific services to be provided.

The following elements should be addressed as part of a recovery strategy:

- Demobilize pandemic influenza related health care services
- Estimate the impact of the pandemic on health services

Facility:

- Demobilize/re-evaluate security services
- Assess costs associated with the pandemic
- Project when the facility will be able to resume pre-pandemic services
- Review/revise clinical management guidelines
- Review/revise Infection Prevention and Control guidelines
- Evaluate the reporting structure and decision making process that took place during the pandemic
- Review the response plan and draft a lessons learned report

Develop a plan and timeline for implementation of activities as per updated guidelines:

- Reinstate services that were postponed
- Cancel or extend services that were initiated during the pandemic
- Determine if clients needs services re-evaluated as a result of the event
- Determine if new services are required long term as a result of the event

Human Resource Management:

- Demobilize of staff and volunteers
- Formally recognize the efforts of all staff and volunteers
- Evaluate immediate emotional needs of staff
- Evaluate long term emotional needs of staff
- Evaluate use of psychological and social services for staff
- Ensure that critical incident and stress management/support is available for staff and patients

Paperwork:

- Staff payroll documentation
- Activity log records
- Financial processing and documentation
- Seek financial redress
- After-action reports

Communication:

- Update education/communications materials: provide up to date information to the public, patients and staff
- Communicate the concept of "New normal" i.e. daily activity will not return to baseline until the pandemic is truly declared over
- Possibility and uncertainty of a second wave
- Acknowledge contributions of staff
- Communicate the recovery strategy, what to expect, announcements and notifications of the gradual restoration of services
- Continued promotion of Infection Prevention and Control and key health messages
- Risk communication: focus on emotional needs of staff, being sensitive to physical and emotional impact of the pandemic

Inventory Assessment:

- Drugs
- Assess usage of supplies including patient care and laboratory supplies
- Beds
- Ventilators
- Develop projections for future requirements

Equipment:

- Determine if items been rented, leased or purchased or borrowed that need to be returned
- Determine if equipment been lent out that will need to be returned
- Repair or replace damaged equipment
- Replace "lost" equipment
- Extensively clean and disinfect equipment

Antivirals:

- Evaluate the effectiveness of the antiviral strategy
- Summarize resistance data
- Summarize adverse event data
- Perform an inventory assessment

Vaccine:

- Evaluate and summarize the vaccine delivery strategy
- Summarize adverse event data
- Perform an inventory assessment

Surveillance:

- Estimate burden of disease
- Revise case definition if necessary
- Evaluate surveillance system and determine ongoing surveillance needs

Conclusion

Conclusion

These guidelines have been developed in conjunction with the TAHSN hospitals, following both the provincial and federal pandemic influenza guidelines. This is a dynamic document that will be updated on a regular basis and new policy is developed and as planning continues at all levels of government. The TAHSN manual is meant to serve as a guideline for pandemic planning for hospitals across the province. It is recognized that specific details of any plan will depend on the regional organization, however this manual will serve to enable health care facilities to be consistent in the application of the principles outlined.