Considerations for Pandemic Influenza Human Resources

A range of Interior Health staff will play key roles during all elements of pandemic influenza planning and response. Moreover, health authority stakeholders will be the go-to personnel in providing frontline services to protect the public and treat them over the course of this global health emergency. However, while no one can doubt the anticipated surge in demand for pandemic-specific services during such an event, many non-pandemic services will have to be maintained for "every-day" calls facing the health authority. As a result, human resources planning will be necessary in preparation of a pandemic, to identify core services to be delivered during the emergency, and the staff available to complete these tasks (or to be re-deployed elsewhere to essential service areas).

This "people planning process," which has been identified as a next step in the pandemic planning efforts of Interior Health, ought to be completed at the department/program level so that managers and directors can prioritize their service delivery areas and identify the staffing contingents required to complete said services.

In January 2008, a sub-committee with representation from all Public Health (PH) departments was formed to develop a pandemic response plan for their program and complete a pilot test of this human resources planning strategy. In Interior Health, PH reports to the Senior Medical Health Officer and includes Prevention, Health Protection, Communicable Disease Unit, Population Health, Aboriginal Health and Administrative Services.

The objective of this pilot planning session was to define normal service levels within the departments, and then develop a planned reduction in services using the framework outlined by the Ontario Health Plan for an Influenza Pandemic 2007 (please see below for more information on this outline and its recommended strategy for identifying influenza care competencies).

The framework helped define the services that were:

Must Do: critical services that cannot be deferred or delegated

High Priority: do not defer if possible or bring back on-line ASAP

Medium Priority: can wait if the pandemic is not too long (i.e., defined as less than nine months, based on school immunization programs)

Low Priority: can be brought back when the pandemic is over

The sub-committee then identified the current programs and services offered, ranked and included only those activities deemed to be urgent or high priority, and identified existing staff available. The sub-committee agreed that additional work is required regarding skill-sets and related needs (please see below for more information on skill-set planning from the Ontario Health Plan for an Influenza Pandemic 2007).

A complete set of the medium and low priority services that would potentially be temporarily suspended during a pandemic were then identified by each Public Health department. PH team leaders agreed that the scope and timing of the pandemic will determine when and which programs are deferred, and when they will be restarted.

This pilot process, and the response plan that resulted for PH, therefore deals with the first pandemic influenza wave only – additional work will be required to modify the plan for the second wave where vaccine is likely to be available. In addition, this planning process does not deal with the personal and ethical decisions IH leaders may be faced with during a pandemic, which may impact their ability to provide services or provide strategies to assist staff with these issues.

Samples of the tables used to enumerate and identify the prioritized resources in this process for Public Health have been outlined in the Annexes for more information.

Annex 1 for Human Resources Planning Considerations: Sample Table – Summary of Human Resources (Department-based and Geographic)

Location (program or site/facility)	# of _____ FTEs	Additional Positions	Regional Consultants	# of _____	Additional _____ Positions	_____ Positions
Total						
Total						

Annex 2 for Human Resources Planning Considerations: Sample Table – Business Continuity Plan of Must-Do and High-Priority Services

Program/Service	Priority Ranking Includes only Must Do and High Priority	Reduction/modification
Name of program here:		

Annex 3 for Human Resources Planning Considerations: Overview of Influenza Care Competencies (adapted from the OHPIP 2007) – Skill-Sets and Human Resources

This detailed approach to HHR planning, which was first outlined by the OHPIPP 2007, will allow planners to concentrate on supplying needed competencies rather than focusing on the number of professionals (i.e., doctors or nurses) that they require during a pandemic. This approach will provide a greater degree of flexibility to managers and planners during a pandemic as there is a set of core competencies that will be required during this type of emergency. These can include patient care skills as well as administrative duties. This section details the influenza care competencies that will be needed by care setting during an influenza pandemic.

In that 6-8 week period of the pandemic wave, the health care continuum in Interior Health will need to operate far beyond usual capacity in order to care for the needs of a large cohort of people ill from influenza. While some capacity can be generated by reducing the level of non-urgent care (e.g., routine physicals, elective surgery), many non-influenza care services (e.g., trauma surgery, care for heart attacks, cancer surgery) will need to be maintained, so that additional capacity will need to be generated. In addition, plans are needed for a "recovery" phase to catch-up on the care delayed by the pandemic crisis.

Health care planners across Interior Health will need not only to create stockpiles of equipment and medication for use during the pandemic, but also to identify "virtual stockpiles" of the care competencies needed to provide care for residents ill with influenza. To assist planners in thinking about the creation of these "virtual stockpiles" of competences, a list of the most important competencies needed for influenza care and pandemic management is provided below.

It is important to note that the competencies considered under "influenza care" include not only components that are usually considered "health care" (e.g., diagnosis, medication prescription), but also the infrastructure needed to run triage and immunization clinics and alternative care sites, and the community supports needed for ill patients caring for themselves at home who fall under IH jurisdiction (e.g., medication delivery). Planners also need to address the supports (e.g., child and pet care, food purchases) that may be needed to keep essential service workers able to come to work daily.

The competencies needed to provide health care for influenza listed in Table 1 are classified into five broad categories:

A. Administrative/support

During the pandemic wave, facilities providing all types of health care will be required to function at levels above their usual capacity. In addition, if the pandemic is of moderate or greater severity, alternative care sites will be needed to provide both out-patient services and domiciliary care for those unable to be managed at home. Alternative care sites will also need a full range of administrative and support services to function. Communications infrastructure, both internally within organizations, and externally across provider agencies and between providers and government authorities will be of critical importance.

B. Transportation

During the pandemic wave, particularly if alternative care sites are needed, transportation will be needed for patients and supplies. Transportation may also be needed for staff: for instance, public transport may be reduced, or, in rural areas, additional resources may need to be moved to particular isolated areas.

C. Education

During phases 4 through 6 of the pandemic, education of existing health care providers, (including training for providers who may be extending their scope of practice during phase 6), and education of the public regarding self-protection from influenza and self-care for influenza will be needed.

D. Infection control/occupational health and safety/surveillance

While most surveillance for influenza will be coordinated at federal and provincial levels, each health care setting will need to be performing syndromic and laboratory-based surveillance for disease and mortality in patients, disease in staff, vaccination rates, antiviral treatment and prophylaxis, and adverse events associated with vaccination and antivirals (as resource availability permits). In addition, training in infection control and monitoring of workplace safety are critical functions. Recent studies of health care providers and public health agency staff have suggested that the provision of both psychosocial and logistic support are viewed by staff as critical to their remaining at work during the stress of a pandemic.

E. Care of well persons

The provision of vaccine as soon as it is available will be a critical function during a pandemic. The current national and provincial antiviral stockpiles are not large enough to permit their use for prophylaxis; however, planners should be aware that this may change, and that provision of antiviral prophylaxis to contacts of influenza cases, essential service providers, or persons at high risk of complications, may become part of pandemic plans in Interior Health.

F. Care of ill persons

Much of the additional resources required during the pandemic wave will be required to provide direct care to patients with illness due to influenza. Many technical skills are needed to provide this care; however, the most important resources, and those which will be most difficult to supply, are the competencies to assess patient status, to develop a care plan for the patient, to identify whether additional care is needed, and to determine whether the patient can be discharged from the care site. These competencies are also the most difficult to assess.

There are a number of ways planners may wish to structure care so that provider competencies are stretched to their limits. These include:

- Detailed care plans/algorithms.
- Supervision by experienced staff (i.e., designing care to be delivered in “teams” or “pods”)
- Using a “cascade” system for deploying resources – that is, as resources need to be extended, moving staff whose competencies require the least supplementation into new

roles. Thus, in the emergency department (ED), the triage role requires the highest level of competence in initial assessment: usually this role is provided by a subset of ED nurses. As triage resources become stretched, other ED nurses would be the first to be moved into this role, with nurses with assessment/ED technical skill capacity being moved from in-patient units into the ED, and student/retired nurses being added to the in-patient unit complement.

- Differentiating between the competence to assess patients who require assessment by a "more competent" practitioner and the competence to discharge patients from the particular care site: referring to a "more competent" practitioner provides a safety net. Structuring care providers in teams will likely provide the greatest amount of support of providers coping in extended roles.

It is also important to note that the most useful means of identifying staff that would be helpful in extending resources available is not technical skills for individual, regulated acts. In order to be useful in teams providing care, staff need to be able to perform several of the technical skills outlined below.

One approach to using assessment of the influenza competencies is to create teams of care providers for different care settings. In this framework, **providers are generally categorized as support providers, assessment providers, and decision-makers.** Support providers are those who can provide some, but not all, of the technical skills. They are not sufficiently competent to assess the overall status of the patient. Assessment providers may or may not be able to provide all of the technical skills, but they have the competency to assess the status of the patient, and provide a care plan for some, but perhaps not all, patients. They can recognize when patients need additional care, but do not have the competence to discharge patients from the care setting. Decision-maker providers are those with the competence to assess all patients in the care setting, make final decisions regarding care plans, and discharge patients. This framework also has some relatively specialized functions: telephone triage of patients, emergency department triage of patients, provision of psychosocial support and rehabilitation, and discharge planning.

The tables below provide an overview of both the skill-sets required for each category of competencies, along with breaking-down the various roles required during a pandemic according to competences.

Table 1: Influenza Care Competences

A. Administrative/support
a. Management/leadership/innovation: i. Ability to respond to crises, develop strategies for response.
b. Care site management (care clinic, immunization clinic, ED, home care): i. Organization, staffing, response to changing situations for particular setting, ii. Assessment of staff competencies, and matching to needs, and iii. Scheduling and deployment: 1. Staff (physician, employees, volunteers), 2. Beds, and 3. Sites. iv. Succession and contingency planning, and v. Coordination of triage and rationing decisions, ethics.
c. Coordination of patient flow: i. Answering patient questions, and ii. Receiving and directing patients.
d. Communication i. Coordination with other levels of care, public health ii. Internal communication 1. status of pandemic 2. changes in
e. For hospitals and alternative care sites: i. Pharmacy ii. Laboratory service iii. Radiology iv. Supplies (clean/sterile, as well as office) v. Health records vi. Information infrastructure management 1. telephones 2. email 3. hospital information systems 4. surveillance infrastructure vii. Food services viii. Laundry ix. Parking x. Security xi. Housekeeping xii. Disposal of waste (including handling and disposal of biohazardous waste) xiii. Facility management (ventilation, creation of isolation space, etc.) xiv. Ability to prepare bodies for burial/cremation, and store pending transport
B. Transportation
a. Patients including assessment and provision of care to patients during transport

b. Laboratory specimens (if required)
c. Waste
d. Dangerous goods (as necessary)
e. Staff
C. Education
a. Ability to educate health care professionals about i. Provincial emergency and pandemic preparedness ii. Individual preparedness (e.g., wills, stockpiling OTC meds, etc.) iii. Influenza and pandemic influenza iv. Self screening for influenza illness and for stress/ability to continue working v. Assessment, triage, management protocols (patient with and without co-morbidities) 1. within healthcare settings 2. within community/PHC settings (e.g., pharmacy, schools) vi. Infection control and occupational health and safety
b. Ability to educate the general public about i. About influenza including self care ii. Pandemic preparedness
c. Ability to respond to questions about influenza and self care (phone, web, in person)
D. Infection control/occupational health and safety
a. Ability to screen staff for illness
b. Ability to identify staff who through other illness or burn out, need assistance/rest
c. Ability to develop surveillance programs i. For disease ii. For adverse events of immunization and therapy
d. Ability to implement surveillance programs i. For disease ii. For adverse events of immunization and therapy
e. Ability to monitor workplace and patient safety i. Identify hazards/problems ii. Provide on-going education and training iii. Rectify hazards
f. Provision of support for staff i. Psychosocial ii. Logistic (food, gas, care for pets, care for family)
E. Care for well persons
a. Immunization i. Ability to screen for eligibility for immunization ii. Ability to obtain consent for immunization iii. Ability to prepare vaccine for injection iv. Ability to inject vaccine

b. Prophylaxis
   i. Ability to screen persons for eligibility for antiviral prophylaxis
   ii. Ability to obtain consent for antiviral prophylaxis
   iii. Ability to prescribe antivirals for prevention of influenza
   iv. Ability to dispense antivirals for prevention of influenza (public health or hospital supply)

F. Care for Ill patients

a. Competencies Across Care Settings:
   i. Taking a medical history
   ii. Examining the chest
   iii. Performing a complete physical exam
   iv. Interpreting the results of history, physical exam, chest x-ray, laboratory and point of care testing
   v. Prescribing medication
   vi. Triaging patients to appropriate location
      1. In community, to care location
      2. In ED to level of care
   vii. Deciding to refer patient for assessment by staff with greater competency
   viii. Discharging patient home or to another care setting
   ix. Deciding on palliative care/withdrawal of care.
   x. Certification of death
   xi. Designing and implementing rehabilitation programs
   xii. Psychosocial support

b. Supports Across Care Settings
   i. Activities of daily living
   ii. Delivery of food etc (community only)
   iii. Care for dependents (community only)

c. Technical skills by Care Setting:
   i. Community/PHC:
      - measuring temperature, pulse, blood pressure, taking blood, obtaining NP swabs, other cultures (e.g., skin swabs, urine), 02 sats
   ii. ED/Acute Care/LTC: Community/PHC skills PLUS
      - ECG, Chest x-ray, performing IM injections, starting intravenous lines, maintaining intravenous lines (site and tubing), setting up oxygen for administration; checking oxygen administration sets, administering oral, inhaled, iv and im medication, suctioning non-intubated and trached patients, insertion, maintenance of foley catheters
   iii. Critical Care: ED/Acute Care/LTC skills PLUS
      - intubation, ventilation, central and arterial line insertion and maintenance, administration of medication by continuous infusion, suctioning, ACLS, management of inotropes and vasopressors, management of insulin infusions, management of dialysis

Table 2: Sample framework for using competency assessments to plan care for team-based care for patients ill with influenza

Role	Competency Category	Potential for Controlled Acts	Activities	Competencies Required
Screener	Support	None	Direct patients to "flu" or "non-flu" triage Exclude visitors Ensure hand hygiene and PPE use	Ability to maintain order Ability to use PPE as appropriate Language competencies an asset
Triage (ED only)	Triage	None, except in crisis, when decision making care re withdrawal of care for patients arriving at ED might be made by this role	Triage patients to levels of care, assess CTAS category	ED triage competencies (advanced diagnosis capabilities)
ADL support (domiciliary only)	Support	None	Assists patients in domiciliary care with basic hygiene, activities of daily living Prepare bodies for morgue /funeral home	Physical ability to assist patients Ability to use PPE Ability to read English Language competencies an asset Ability to assess vital signs
Assistant	Assessment	IM injection, drawing blood, obtain other lab specimens; administer meds, oxygen therapy, iv/foley catheter insertion/maint.	Support for assessment – has some or all of technical skills for care, and may be able to take some/all elements of history	As ADL, plus: Some/all of technical skills for non-ICU/resuscitate
Assessor	Assessment	As assistant, plus : dispense meds, order lab tests Interpret tests (to some degree)	Takes history for flu patients, examines chest, assesses patient status within care plan, all technical skills for non-ICU setting Refers on appropriately within care setting	As assistant, but with ability to make diagnosis, order lab tests, recognize impact of modifying factors and co-morbidities, determine if patient "fits" in standard treatment algorithms
Critical care assessor (ED only)	Assessment	As assessor plus: some/all ICU technical skills	Monitors, assesses patients with compromised hemodynamic/respiratory status in ED	Ability to monitor patients requiring ICU level care in the ED
Primary decision-maker	Decision-maker	As assessor, plus for uncomplicated patients with influenza: decide on disposition, prescribe medications, order non-care plan lab tests, change therapy	For uncomplicated flu patients and those in clinic settings, decide on disposition, prescribe medications, order non-care plan lab tests, change therapy	All of assessment competencies (except critical care), plus ability to diagnose, recommend treatment plan, prescribe meds, discharge patient to another location as long as patient has uncomplicated influenza and/or while working with supervision

Role	Competency Category	Potential for Controlled Acts	Activities	Competencies Required
Secondary decision maker	Decision-maker	As primary decision-maker, plus: For complicated patients, decide on disposition, prescribe medications, order non-care plan lab tests, change therapy	As decision-maker I, but for acute care in-patients, and those in ED with significant co-morbidities/complications	All of assessment competencies (except critical care), plus ability to diagnose, recommend treatment plan, prescribe meds for and discharge patient, for patients with complicated influenza
Critical care decision maker (ED only)	Decision-maker	All technical skills for critical care	Manages/directs management of patients in the ED with compromised hemodynamic and respiratory status	All of other assessment and decision making competencies, plus the ability to diagnose and treat patients requiring ICU level care
Rehab/ discharge planning	Support	None	To direct rehab programs and assess domiciliary patients for suitability for discharge to other care locations/home	Ability to assess ADL capacity and home support Ability to plan and deliver physical rehab
Psychologic support	Support	None	To provide psychosocial support for patients and families	Ability to provide psych/social support