

## **10**

### **PUBLIC HEALTH MEASURES FOR PANDEMIC INFLUENZA**

**The Community and Health Services Committee recommends:**

- 1. Receipt of the presentation by Dr. K. Kurji, Medical Officer of Health; and**
- 2. Adoption of the recommendations contained in the following report dated September 15, 2009, from the Commissioner of Community and Health Services with Recommendation No. 5 amended as follows:**
  - 5. The Regional Clerk circulate this report to local municipalities requesting their support and assistance with these measures where required.**

#### **1. RECOMMENDATIONS**

It is recommended that:

1. Regional Council authorize the expenditures required to initiate priority public health response measures to anticipated pandemic H1N1 influenza activity in York Region in the autumn, including five immunization clinics and three influenza assessment centres.
2. Should funding not be received by the Region to reimburse costs associated with implementing public health response measures for pandemic H1N1 influenza activity, the costs be funded from any overall surplus in all Regional programs and, if sufficient funds are not available, the balance of funding be contributed from the tax stabilization reserve.
3. Staff be authorized to execute agreements with government and community partners, subject to review by Legal Services, for public health response measures for pandemic H1N1 influenza activity.
4. Staff be authorized to recruit, into an existing vacancy, a full-time Associate Medical Officer of Health.
5. The Regional Clerk circulate this report to local municipalities for information.

## 2. PURPOSE

This report is prepared for Regional Council in order for it to carry out its legislative duties and responsibilities as the Board of Health under the *Health Protection and Promotion Act*. The purpose of this report is to outline the key public health measures that have and may be enacted in response to the pandemic influenza virus H1N1 and their estimated costs.

## 3. BACKGROUND

### **The Public Health Branch has been working with community partners to plan a coordinated response to an influenza pandemic**

For the past several years, following provincial direction, the Public Health Branch has been liaising with local partners, such as emergency responders, the health-care sector and school boards, to help them prepare to respond to an influenza pandemic. One product of this undertaking was the development of a Co-ordinated Local Health System Pandemic Plan for York Region that outlines the roles of primary care, long-term care, Community Care Access Centres, the hospitals and the public health unit. According to this plan, the Public Health Branch in partnership with local healthcare providers will operate up to three centres for primary assessment of individuals with influenza-like-illnesses. Each of these centres will be associated with a hospital (i.e. Southlake, York Central, Markham-Stouffville). The hospitals will operate secondary flu assessment centres to manage the more seriously ill individuals. Local plans vary by health unit according to the needs and capabilities of communities. At this time, the City of Toronto has a similar plan.

On June 11, 2009, the World Health Organization declared an influenza pandemic of mild-moderate severity because of evidence of widespread transmission of a novel influenza virus in several countries and cases of severe illness in previously healthy young adults.

For three weeks, the Public Health Branch partially activated the Health Emergency Operations Centre; a physical location with comprehensive telecommunications capabilities, to coordinate various aspects of emergency response between the Ministry of Health and Long-Term Care, public health, and other sectors. This included, for example, the dissemination of important health notices for the health care sector and guidance protocols to schools and daycares. The Branch also enhanced the staffing and telephone capacity of Health Connection, a public health telephone information service for the general public. This involved redeployment of a proportion of Public Health staff and some associated overtime costs.

## **The Ministry of Health and Long-Term Care advises public health units to prepare for an unusual and busy flu season in the upcoming autumn**

The influenza season in North America typically begins in late autumn and winter. This summer, the amount of influenza illness due to H1N1 activity in North America has been exceptionally high. It is uncertain how the H1N1 virus will behave in the upcoming autumn, so the Ministry of Health and Long-Term Care advises public health units to prepare for an unusual and busy flu season.

Clues about how H1N1 might behave this autumn come from countries in the southern hemisphere. According to the World Health Organization, these countries have experienced a slightly worse than normal flu season. Notably, 80% to 90% of the influenza illness in these countries this season has been caused by H1N1, which is predominating over the expected seasonal influenza strains.

To better understand the pandemic influenza virus and its impact on our health care system, the Public Health Branch is co-operating with local hospitals, primary care settings and schools to systematically collect and analyze health-related data from those settings. These public health surveillance activities will inform the Branch about disease activity and severity and the health system's capacity to cope with the burden of illness as we move into the autumn.

## **4. ANALYSIS AND OPTIONS**

### **Public Health Branch to operate H1N1 influenza immunization clinics in addition to seasonal influenza immunization clinics**

Vaccination is the best defence against influenza. Production of a vaccine against the pandemic H1N1 strain is underway, and the first dose is expected to be ready for distribution by mid-November. The Province has directed Ontario health units to take a lead role in administering this pandemic H1N1 vaccine to priority groups, which have yet to be announced. This will also involve tracking vaccine uptake and monitoring for adverse events. The Ministry of Health and Long-Term Care will provide software to assist with this task. The Public Health Branch will also be responsible for delivering seasonal influenza immunization clinics, which may be targeted to priority populations at greater risk of complications from seasonal influenza, depending on evolving science.

In a typical influenza season the Public Health Branch administers a total of 13,000 doses of influenza vaccination which covers about 1% of the Region's population. Depending on the size of the population targeted to receive the H1N1 vaccine, the Branch will likely have to significantly increase its capacity to meet this requirement. The Branch plans to operate five immunization clinics in co-operation with the local municipalities. Site selection for clinics is underway, based on Geographic Information Systems (GIS)

mapping of demographic groups that are likely to be identified to initially receive the vaccine. One clinic can serve up to 2,300 clients per day. Based on the number of nursing staff, at most, the branch can operate five clinics in one day, which should provide the capacity to administer a total of 11,500 vaccinations daily.

The Public Health Branch may be seeking support from the Region, through training and redeployment of staff, to fill non-nursing roles at H1N1 immunization clinics. The Branch will be seeking assistance for nursing roles from community nursing agencies to enhance staffing. Additional services, such as security and custodial care, will also need to be purchased. The Ministry is stockpiling supplies such as needles and syringes to support the operation of these clinics, and is expected to reimburse health units on a per dose basis. The reimbursement rate to administer the seasonal flu vaccine is \$5.00 per dose. However, this rate is currently under review by the Ministry.

### **Public Health Branch to operate up to three influenza assessment centres funded by the Ministry of Health and Long-Term Care**

The Ministry of Health and Long-Term Care and Dr. Arlene King, the Province's Chief Medical Officer of Health, have instructed Ontario public health units, in accordance with the Ontario Health Plan for Influenza Pandemic, to prepare to operate influenza assessment centres. The purpose of the centres is to provide surge capacity when the primary care system is overwhelmed to ensure residents have rapid access to antiviral medication.

Should the Public Health Branch open influenza assessment centres, these will be mostly staffed by nurses, who will prescribe antivirals under a medical directive. A medical directive is an order from a regulated health professional with legislative ordering authority that permits performance of a procedure by another. The Ministry of Health and Long-Term Care is investigating indemnification and liability issues related to operating flu assessment centres under medical directives. The Ministry is also looking at ways to more actively engage the primary care sector in the operation of flu assessment centres.

The Public Health Branch does not routinely operate influenza assessment centres. The Province has indicated that it will reimburse health units for the operation of these centres. The details of this reimbursement have yet to be communicated. The Branch intends to redeploy a proportion of its staff to manage and co-ordinate three centres in York Region, and to seek support from the Region for information technology and records management. Redeployment strategies as well as appropriate training and safety protocols for transferred staff are currently being developed. The Branch will be seeking assistance from community nursing agencies to enhance staffing at influenza assessment centres. Services such as security and custodial care will also be purchased. One influenza assessment centre can serve up to 150 clients per day.

### **Communication requirements in autumn may again involve partial activation of the Health Emergency Operations Centre and enhancement of Health Connection**

In order to maintain coordination and communication between community stakeholders such as school boards and hospitals, it may, again, be necessary to partially activate the Health Emergency Operations Centre.

Public health has a major responsibility to educate the public about the evolving pandemic scenario and relevant public health response measures. The capacity of the Health Connection telephone service will need to be enhanced to meet the demands of the public during the pandemic. Additional branch staff will be trained and redeployed to answer the information needs of the general public.

### **Public Health Branch will need additional staff and resources to carry out immunization clinic, influenza assessment centre and communications requirements**

The Public Health Branch has identified critical essential public health services, such as investigation of reportable disease and protection of safe water that must continue during a pandemic in order to protect the health of York Region residents. Branch staff assigned to these functions would not be available for redeployment. Given the demands of maintaining essential services, operating the Health Emergency Operations Centre, and enhancing Health Connection, the Public Health Branch could meet approximately 50% of estimated staffing requirements for five immunization clinics and three influenza centres by maximizing staff training and redeployment.

Table 1 summarizes staffing estimates to operate immunization clinics and influenza assessment centres.

**Table 1**  
Estimated Total Staffing Requirements and Client Volume  
For Public Health Measures to Respond to H1N1

|                              | <b>Estimated Total Staffing Requirement</b> | <b>Clients per Day</b> |
|------------------------------|---|------------------------|
| Immunization Clinics         | 273   | 11,500                 |
| Influenza Assessment Centres | 166   | 450                    |

### **Augmenting public health staffing by one Associate Medical Officer of Health would enhance communicable disease crisis management**

Communicable disease crises such as an influenza pandemic require adequate public health leadership for public health management of the disease, and to provide administrative management of numerous resulting issues. Comparisons with neighbouring public health units suggest that other jurisdictions are better resourced with Associate Medical Officers of Health, who can provide the necessary expertise and guidance during a crisis. Table 2 shows the number of Associate Medical Officers of Health in adjacent health units.

**Table 2**  
Number of Associate Medical Officers of Health  
In Adjacent Health Units

| <b>Jurisdiction</b> | <b>No. of Associate Medical Officers of Health</b> |
|---------------------|--|
| Durham              | * 0  |
| Peel                | 3 + 1 Senior Academic Public Health Specialist     |
| Simcoe              | 3  |
| Toronto             | 11   |
| York                | 1  |

\* Durham has one Infections Disease Physician Specialist and 1.6 Associate Medical Officer of Health vacancies.

Filling an existing Public Health Branch vacancy with an Associate Medical Officer of Health with communicable disease expertise would not only benefit York Region residents during out-of-the-ordinary public health crises, but would also help address and resolve local public health issues after pandemic concerns subside.

### **H1N1 may also have an impact on other regional services, resources and staff**

The Community and Health Services Department is currently reviewing its business continuity plans with an emphasis on pandemic influenza preparation. If H1N1 activities increase in the autumn, an unusually high degree of absenteeism may result throughout the Regional Corporation as a consequence of illness. Departmental and regional staff redeployment and resource reallocation may become necessary to maintain critical and essential services to the residents of the Region, including supporting public health pandemic response measures, for the duration of the pandemic. Collaboration and planning with other regional departments and external partners will continue to address the health, safety and well being of our residents and staff in response to the pandemic influenza virus H1N1. Although strategies and preparations are ongoing for the potential

redeployment of staff, it cannot be assumed that all staff will be willingly reassigned. In such event, it may be necessary to find ways to invite staff to accept alternate assignments. The Region will engage the unions to discuss their cooperation in staff redeployment strategies.

## 5. FINANCIAL IMPLICATIONS

### **Costs have been estimated for public health measures that may be required to respond to H1N1 in the autumn**

The estimated costs to operate daily immunization clinics and influenza assessment centres for eight weeks in the autumn are outlined in Table 3.

**Table 3**  
Estimated Costs to Operate Immunization Clinics  
and Influenza Assessment Centres

|                                  | <b>Estimated<br/>Cost per Site<br/>for 1 week</b> | <b>Estimated<br/>Cost per Site<br/>for 8 weeks</b> | <b>Estimated<br/>Total Cost<br/>for 8 weeks</b> |
|----------------------------------|---|--|---|
| Immunization Clinics (5)         | \$158,815   | \$883,949  | \$4,393,747                                     |
| Influenza Assessment Centres (3) | \$134,898   | \$754,300  | \$2,250,341                                     |

Enhancing the capacity of the Health Connection telephone service by staff from other Public Health Branch programs would cost approximately \$77,340, which would be covered under current cost-shared funding.

### **Regional funds required to cover upfront costs of these public health measures in anticipation of eventual provincial reimbursement**

The Ministry of Health and Long-Term Care is currently reviewing its reimbursement rates for influenza immunizations and immunizations given as part of the school-based immunization programs. The Ministry has also indicated that it will reimburse the Region for the costs of implementing and operating influenza assessment centres. However, specific details have not been provided by the Ministry related to the process for reimbursement nor eligible costs.

The Region will be required to cash flow expenditures until reimbursed by the Ministry of Health and Long-Term Care.

Should funding not be received from the province to reimburse costs associated with public health pandemic response measures, funding from any overall surplus in Regional programs is requested. In the event that this funding does not fully offset expenditures

incurred, it is requested that the balance of funding be contributed from the tax stabilization reserve. Currently, best estimates predict a total cost of approximately \$6.7 million for public health pandemic response. Based on an estimated reimbursement for immunization clinics of \$5 per dose (\$2.3 million) and full recovery of influenza assessment centre costs (\$2.3 million), the potential Regional cost exposure is approximately \$2.1 million.

## **6. LOCAL MUNICIPAL IMPACT**

According to the Ontario Health Plan for an Influenza Pandemic, municipal governments and local public health authorities are responsible for coordinating the local response to an influenza pandemic, including plans to provide mass immunization and influenza assessment centres. Dialogue between the Region and the local area municipalities is underway to examine siting requirements and potential impacts on municipal facilities and service levels.

## **7. CONCLUSION**

As North America approaches its typical influenza season it is quite likely that the level of pandemic H1N1 activity will increase. Operation of the response measures outlined in this report exceeds current capacity and resourcing. It is necessary that the Region release funds for the estimated costs provided to support the response measures necessary to protect the health and welfare of the residents of York Region.

For more information on this report, please contact Dr. Karim Kurji, Medical Officer of Health at Ext. 4012.

The Senior Management Group has reviewed this report.

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# **Public Health Measures for Pandemic Influenza**

**Presentation to Community and  
Health Services Committee**

**Dr. Karim Kurji  
September 16, 2009**

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# Influenza activity during summer has been unusually high

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## **Current H1N1 status**

- ❑ Canada: 1,422 hospitalizations,  
74 deaths
- ❑ Ontario: 371 hospitalizations,  
23 deaths
- ❑ York Region: 34 hospitalizations,  
no deaths

# What we know about H1N1

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## Ontario's experience

- ❑ Most illness has been mild, with low rates of hospitalizations and deaths (28 and 1.8 per million population, respectively)
- ❑ Severe disease with hospitalization occurs most frequently in children and young adults
- ❑ Risk factors for severe outcomes include pregnancy, morbid obesity and chronic medical conditions
- ❑ About half of currently hospitalized were on ventilators/ICU

# What we know about H1N1

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## Experience in the southern hemisphere

- Australia:
  - 4596 hospitalized, 162 deaths
  - Highest hospitalization rate in young children less than 5 (24.5 per 100,000)
  - 334 still in hospital (65 in ICU)
- WHO: 80 - 90 % of influenza in Southern Hemisphere is pH1N1; "slightly worse than a normal influenza season"

It is uncertain how the H1N1 virus will behave in the autumn

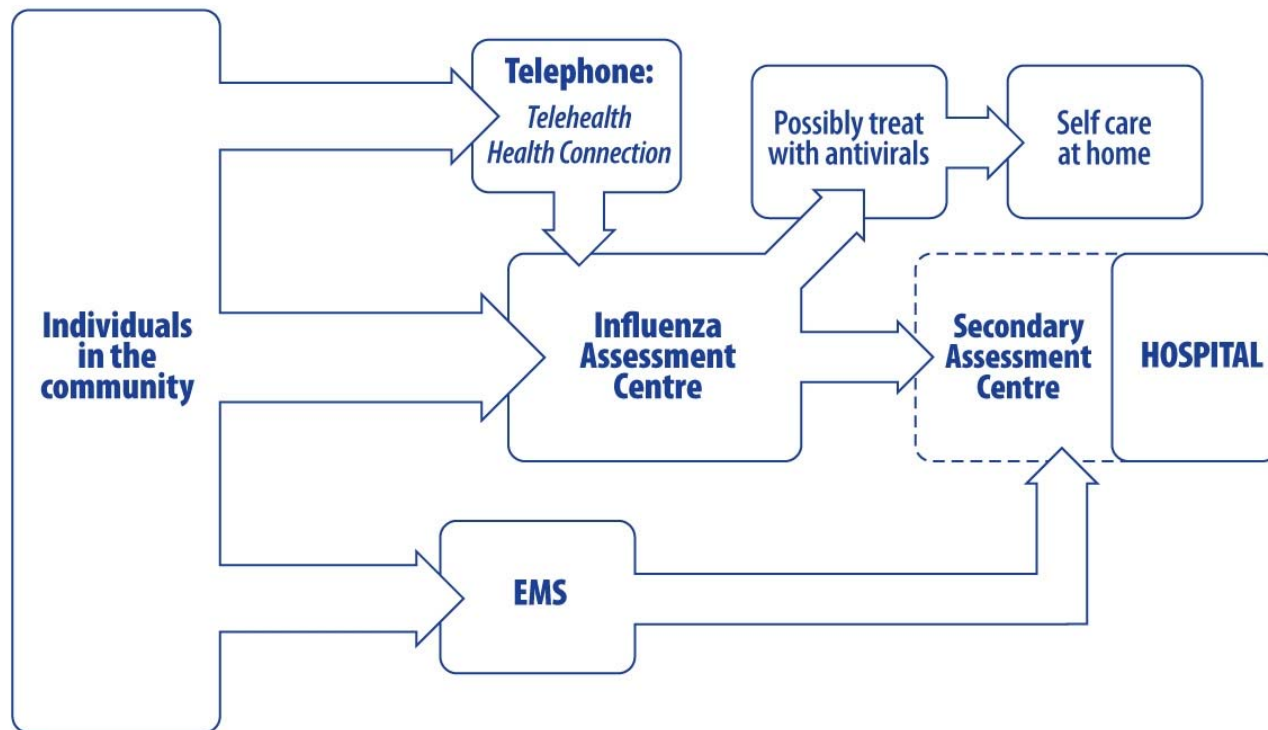
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## Uncertainties

- ❑ Will disease severity of illness in the fall be greater?
- ❑ Association of seasonal influenza vaccine with pandemic H1N1 risk?
- ❑ Will there be increased demand on the health system (primary care, hospitals, home care, etc)?

# Coordinated Local Health System Pandemic Plan for York Region

## Public Health components



# Public Health will be the main pandemic H1N1 vaccine administrator

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## **Pandemic H1N1 immunization clinics**

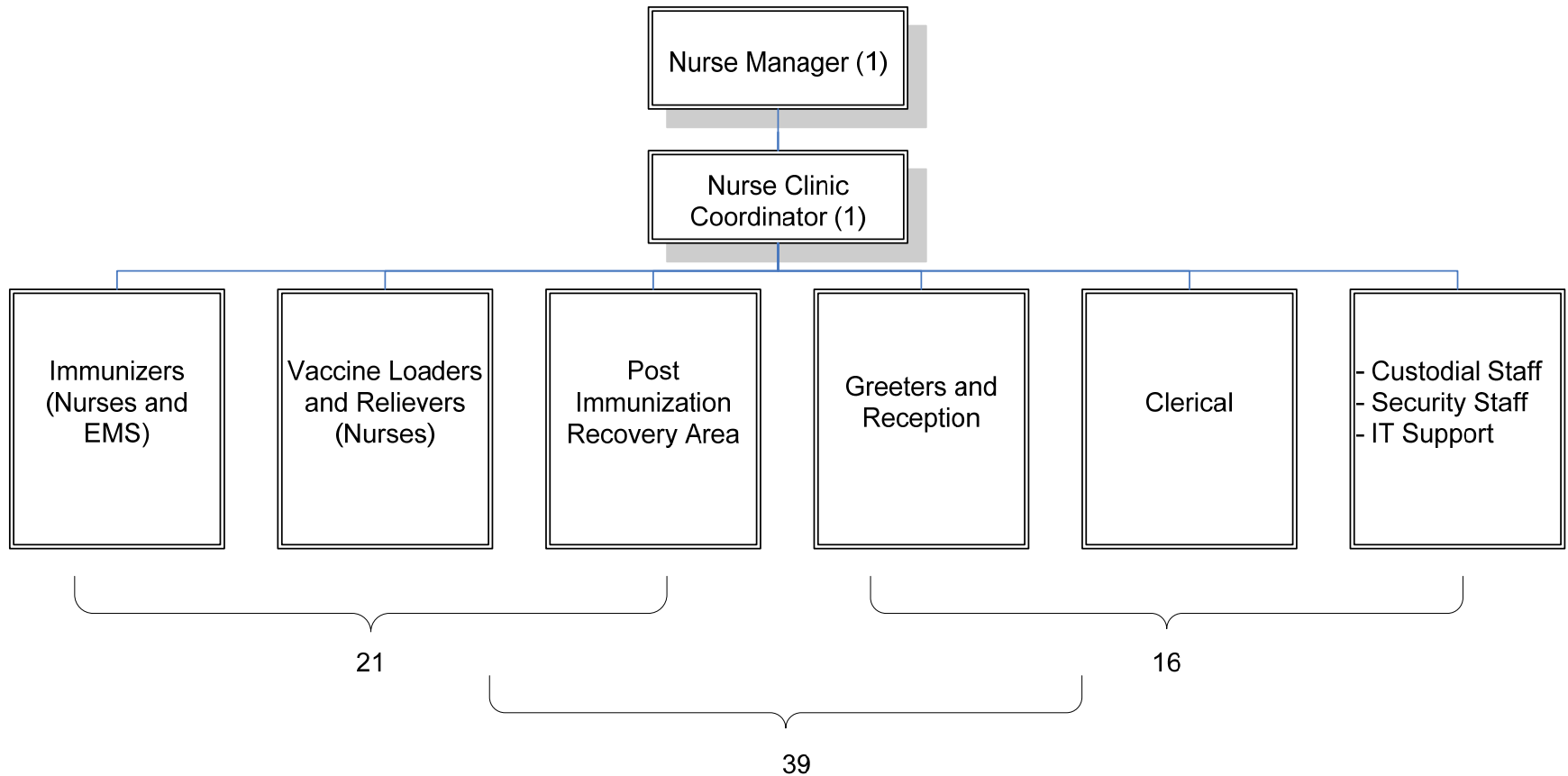
- ❑ Groups to initially receive vaccine yet to be announced
- ❑ Hospitals, LTC facilities, and pre-qualified primary care may also be allowed to administer vaccines
- ❑ Based on seasonal influenza vaccine uptake, approximately 400,000 York Region residents will want vaccine
- ❑ Five clinics, seven days a week: 12 to 8 pm
- ❑ Capacity to immunize about 11,500 clients a day
- ❑ 8 week time frame

# Staffing: Mass immunization clinics

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| <b>Role</b>             | <b>Needed</b> |
|-------------------------|---------------|
| Nursing Managers        | 7             |
| Nurses – Coordinators   | 7             |
| Nurses                  | 133           |
| Non-nurses and clerical | 126           |
| <b>TOTAL</b>            | <b>273</b>    |

# Model for mass immunization clinics



# Estimated costs: immunization clinics

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## Estimated costs based on 8-week time frame

| <b>Estimated cost<br/>per clinic for<br/>1 week</b> | <b>Estimated cost<br/>per clinic for<br/>8 weeks</b> | <b>Estimated total<br/>cost for 8<br/>weeks</b> |
|---|--|---|
| <b>\$158,815</b>                                    | <b>\$883,949</b>                                     | <b>\$4,393,747</b>                              |

8-week time frame

# Public Health will operate up to three influenza assessment centres

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## **Influenza assessment centres**

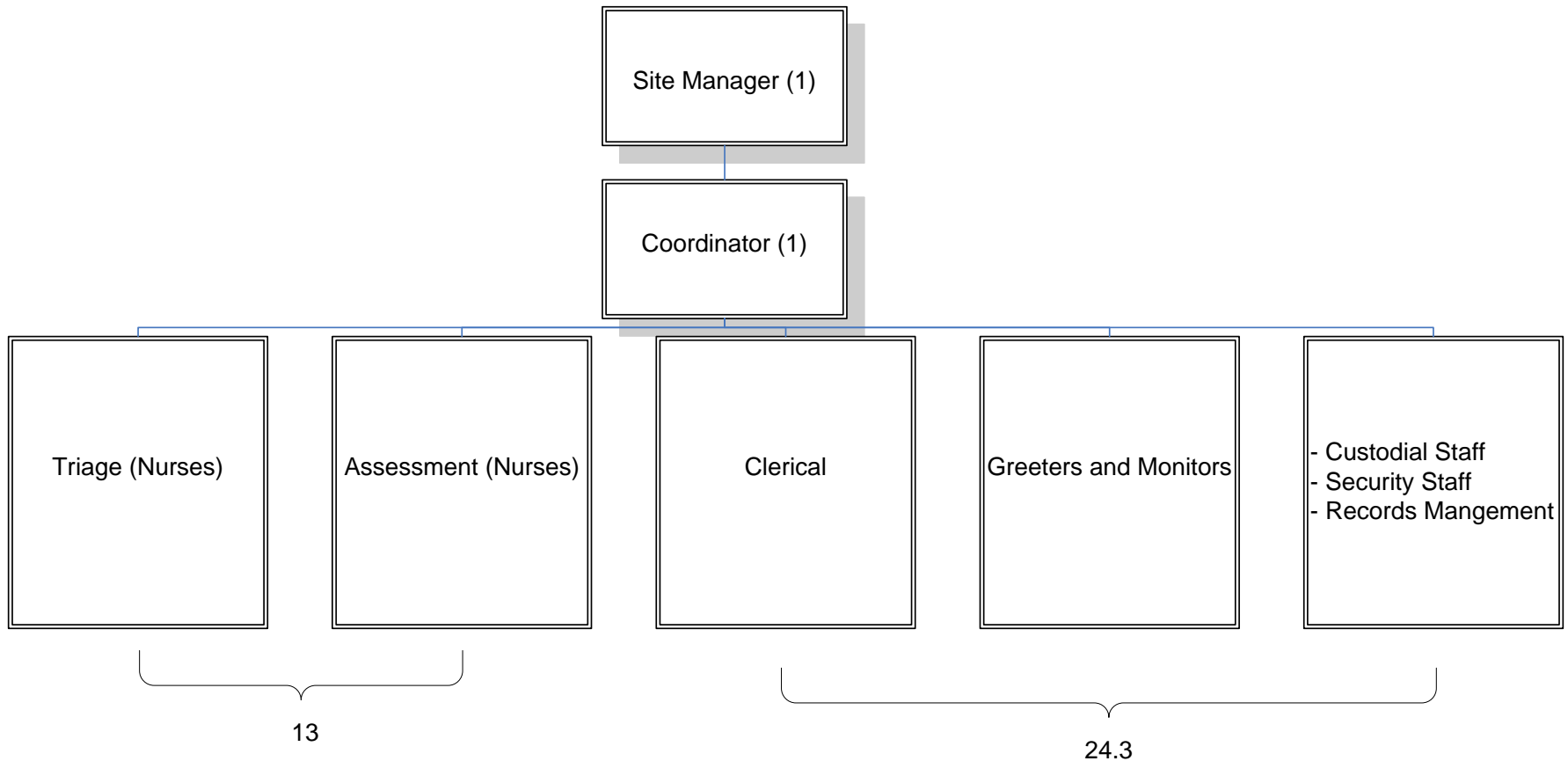
- ❑ Operationalized if primary care overwhelmed
- ❑ Triage of patients
- ❑ Antiviral distribution within 48 hours of symptom onset (50 per cent reduction in complications)
- ❑ Up to three centres, seven days a week: 2 to 8 pm
- ❑ Secondary assessment centers to be operated by hospitals

# Staffing: influenza assessment centres

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| <b>Role</b>             | <b>Needed</b> |
|-------------------------|---------------|
| Nursing Managers        | 9             |
| Coordinators            | 17            |
| Nurses                  | 38            |
| Non-nurses and clerical | 102           |
| <b>TOTAL</b>            | <b>166</b>    |

# Model for influenza assessment centres



# Estimated costs: influenza assessment centres

## Estimated costs based on 8-week time frame

| <b>Estimated cost per centre for 1 week</b> | <b>Estimated cost per centre for 8 weeks</b> | <b>Estimated total cost for 8 weeks</b> |
|---|--|---|
| <b>\$134,898</b>                            | <b>\$754,300</b>                             | <b>\$2,250,341</b>                      |

Public health can meet approximately 50% of estimated staffing requirements

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## External resource requirements

| <b>Estimated staff requirements</b> | <b>PH staff available for redeployment</b> | <b>Needs<br/>(Total non-PH staff required)</b> |
|-------------------------------------|--|--|
| 439                                 | 226  | 213  |