Nunavut’s response to H1N1

A public health success story from the far north

Presented by
Dr. Isaac Sobol
CMOH, Nunavut

with data from Mike Ruta, Epidemiologist, Government of Nunavut

Canadian Public Health Association Centenary Conference
Public Health In Canada: Shaping the Future Together

Toronto, ON
June 15, 2010
First Alert re: SRI in Mexico

- Urgent Memo 24 April 2009
- To: EMC
- SMC—for particular attention of all Regional Director
- Communicable Disease Coordinators
- Chief of Medical Affairs
- Chiefs of Medical Staff
- Director, QGH
- H&SS Communications
- and—to be delivered to all Health Centre NICs
- From: Dr. Isaac Sobol, CMOH
- Re: Severe Respiratory Illness Alert—Nunavut Response

You may have heard there have been reports of severe respiratory infections in Mexico, as well as infections with swine flu in several cases in the U.S.

- The cases in Mexico have occurred in multiple locations, have in some cases affected young, healthy adults, who have become seriously ill with respiratory infections. There been some deaths in Mexico resulting from this illness.
- The cases in the U.S. have not resulted in any deaths so far—all cases have recovered.
- NB: We have just received verification that the infections seen in Mexico are also swine flu.

In view of the above, I am requesting that all Health Centres/health care facilities proceed as follows:

- ACTION:
  - At this time, please be on alert for any patients presenting with a severe respiratory infection.
  - Specifically, be sure to take a travel history of such a case.
  - If the ill individual has recently returned from Mexico, please immediately contact the CMOH to discuss the investigation and management of the case.
  - (direct line at office: 867 975-5774; cell: 867 222-0051; home 867 979-7757)
  - Please note that to date, there have been no known adverse events involving health care staff as a result of caring for any of the patients. However, please follow your normal respiratory precautions when dealing with such patients.
Health Emergency Preparedness Team Established

- May 1 2009
- Health and Social Services Health Emergency Preparedness Team
- Terms of Reference

**MANDATE**
- The primary role of the Department of Health and Social Services
- Health Emergency Preparedness Team is to safeguard the
- health of Nunavummiut in the event of a Territorial Health Emergency.

- The aim of the Health Emergency Preparedness Team is to direct the
  planning and execution of mitigation, response, and recovery activities prior to, during, and following health emergencies in Nunavut.
Broad Departmental Representation

- MEMBERSHIP
  - Chief Medical Officer of Health, Chair
  - Assistant Deputy Minister of Operations
  - Deputy Chief Medical Officer of Health
  - Director of Medical Affairs
  - Chief of Medical Staff Qikiqtani General Hospital
  - Executive Director Qikiqtani General Hospital
  - Director of Social Programs H Q
  - Communicable Disease Control Coordinator I
  - Environmental Health Consultant
  - Executive Directors of Health and Social Services (Baffin, Kivalliq, Kitikmeot, Qikiqtani General Hospital, and Population and Public Health
  - Directors of Regional Health Facilities
  - Director of Health Information
  - Director of Communication
  - Additional staff members may be invited to take part in the Team as requested.
The outbreak begins

- Nunavut confirms 1st swine flu case
- Last Updated: Friday, May 29, 2009 | 3:47 PM CT CBC News
- Nunavut has its first confirmed case of swine flu caused by the H1N1 influenza virus.
- The territory's Health Department announced Friday that a person was being treated for a respiratory illness outside Nunavut when diagnosed with swine flu.
- The department would not release the name of the patient, or where in Nunavut the patient is from, citing the need to protect that person and his or her family.
- Dr. Isaac Sobol, the territory's chief medical officer of health, said the patient did not travel to Mexico or the United States. He added it’s now impossible to pinpoint where the patient contracted the H1N1 virus because it is so widespread.
More cases emerge

- **Lead:** Health department confirms another H1N1 case in Nunavut
  
  Another case of swine flu has been confirmed in Nunavut. This brings the total number of confirmed H1N1 cases to five in the territory. Medical officials won’t identify the name of the person or their home community. They will say the infected person doesn't need to be hospitalized. Peter Shelden (sp) has more.

- It's the same message from Doctor Isaac Sobol. He's Nunavut's Chief Medical Officer.

- "There's no need to be scared or panicked or worried. Please just take the normal precautions that we've been indicating are useful for the past several weeks."

- He says H1N1 is much like the regular seasonal flu. Yes it's dangerous and not to be ignored, but the majority of people who catch it only experience mild illness and then recover. He says the four people who have already been diagnosed in Nunavut are getting better.
CMOH frequently engages the media

- Communications assistance is requested and provided by Health Canada, to augment our one-person communications staff.
- Prior to, and during the outbreak, the CMOH worked with the Communications Team to develop and deliver regular updates to the media.
Nunavut deployed anti-virals to all of our communities early in the outbreak

- Deployment of Relenza in Nunavut as of June 11, 2009
- Relenza deployment in Nunavut
- Relenza is the antiviral drug of choice to use for treatment of pregnant women with infection with Influenza A H1N1.
- At present we have 670 doses of Relenza in Nunavut, stored in QGH pharmacy, part of our Pandemic stockpile.
- We will be deploying Relenza to the following communities now, with shipment to begin immediately, in the following quantities.
  - (Please note that one course of treatment is 10 doses.)
  - Rankin Inlet 100 doses
  - Gjoa Haven 50 doses
  - Taloyoak 50 doses
  - Kugaaruk 30 doses
  - Cambridge Bay 100 doses
  - Kugluktuk 50 doses
- The remaining doses of Relenza will be kept in QGH for future use throughout the Territory, as needed.
- Dr. Sandy MacDonald has provided clinical guidelines for the use of Relenza (and for the use of Tamiflu, which is otherwise used to treat adults and children), which will be sent to all communities, as soon as possible.
- This deployment of Relenza has been approved by me as of today.
- Please note that I am attempting to procure an additional 3000 doses of Relenza from the National Emergency Stockpile, for deployment to Nunavut.

Dr. Isaac Sobol
CMOH
Nunavut
Telemedicine used to reach health centres

- Nunavut has 25 isolated communities, each with a health centre
- Telemedicine was used to communicate with each health centre, to discuss treatment, infection control, and public health guidelines; and to listen to any concerns of community based nurses regarding equipment/supplies.
Swine flu count leaps to 143 in Nunavut

Federal epidemiologists asked to investigate outbreak

*Last Updated: Thursday, June 11, 2009 | 4:30 PM CT*

CBC News

Officials said 47 new cases of swine flu were confirmed in Nunavut on Thursday, bringing the total number of infections from the H1N1 influenza virus to 143.

Significant outbreaks of swine flu are reported in several communities in the western and central parts of the territory, health officials stated in a release Thursday afternoon.

As a result, the territory's Health Department has asked the Public Health Agency of Canada to send two field epidemiologists to Nunavut to help investigate the outbreak.
We developed an H1N1 web site
Mass immunization clinics begin

- NEWS November 01, 2009 - 7:41 pm
- No shortages, little confusion, as Nunavut flu-shot campaign kicks off Nov. 1 in Iqaluit
- "It is still the best protection you can get"
- JIM BELL
- Hundreds of Iqaluit residents poured into Iqaluit’s Inuksuk High School, some lining up for as long as an hour before the 11 a.m. opening time, as Nunavut’s two-week mass vaccination campaign against swine flu kicked off Nov. 1.
- But unlike the current situation in large population centres like...
- FULL STORY
Minister of Health gets his shot
Minister of Health helps kick off mass vaccination campaign

- Margot Suttis, a nurse who normally works at the Iqaluit public health centre, helps Tagak Curley, the Nunavut health minister, prepare for an H1N1 vaccination at a mass flu shot clinic held Nov. 1 at Iqaluit's Inuksuk High School, kicking off Nunavut's 15-day immunization campaign against swine flu. By mid-day, a team of about two dozen health care workers and volunteers, including Canadian Rangers, helped vaccinate nearly 400 people. The clinic will resume Nov. 2 at Aqsarniit Middle School. Residents may receive vaccinations to protect against H1N1 and seasonal flu at the same time. (PHOTO BY JIM BELL)
Many Iqaluit residents got a chance this past weekend to witness what can happen when a government gets serious about acting on behalf of the public good.

On Nov. 1, a team of health workers, volunteers and Canadian Rangers achieved something that most other governments in the country have fumbled so far.

They managed to conduct a mass flu-shot clinic that worked. They turned no one away and they forced no one to stand for hours in long, frustrating queues.

The government doesn’t have to be your enemy — when it does its job, government can also be your friend. JB
Minister of Health speaks to the media about our immunization campaign
Tagak Curley, the health and social services minister, speaks during a news conference in Iqaluit Wednesday, Nov. 18, 2009. The department released figures showing that 60 per cent of Nunavummiut got the H1N1 vaccine during a two-week flu shot blitz. (PHOTO BY CHRIS WINDEYER)

Six in 10 Nunavummiut got the H1N1 flu shot during a two-week vaccination blitz, health minister Tagak Curley said Wednesday.
Nunavut H1N1 Vaccination Campaign

- Vaccination campaign ran from November 1st to November 19th.
- Teams travelled to all communities in Nunavut to administer H1N1 and Seasonal Influenza vaccines.
- Community H1N1 coverage rates ranged from 38.90% to 99.04% with total coverage equalling 59.24%.

<table>
<thead>
<tr>
<th>Region</th>
<th>% of population vaccinated for H1N1</th>
<th>% of population vaccinated for Seasonal Influenza</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baffin</td>
<td>58.95 (n=10,136)</td>
<td>44.81 (n=7,704)</td>
</tr>
<tr>
<td>Kivalliq</td>
<td>54.82 (n=5,069)</td>
<td>42.39 (n=3,920)</td>
</tr>
<tr>
<td>Kitikmeot</td>
<td>67.21 (n= 3,859)</td>
<td>56.95 (n=3,270)</td>
</tr>
<tr>
<td>Nunavut</td>
<td>59.24 (n=19,064)</td>
<td>46.28 (n=14,894)</td>
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</table>
Nunavut vaccine blitz could 'wave H1N1 goodbye': medical officer

*Last Updated: Thursday, November 19, 2009 | 9:37 AM CT*

CBC News

Nunavut might avoid a second wave of the swine flu pandemic now that 60 per cent of its population has been vaccinated, according to the territory's top health officials.

Over a 16-day period this month, more than 18,000 Nunavummiut were vaccinated by teams of nurses that travelled to all of the territory's 25 communities.

The immunization campaign, the largest public health effort in Nunavut's history, may have helped turn the tide on H1N1 in the territory, chief medical officer Dr. Isaac Sobol said Wednesday.

"I like to think that we can wave H1N1 goodbye," Sobol told reporters in Iqaluit.
H1N1 Epi Curve Canada-Wide
Epi-Curve of Total (Suspected+Confirmed) H1N1 Cases in Nunavut

H1N1 Vaccination Campaign
29-OCT-09 to 19-NOV-09
The first confirmed case of H1N1 Influenza A in Nunavut was reported on May 24th, 2009. The last confirmed case was reported on November 29th, 2010.

There were a total of 634 confirmed cases with a total rate of 19.70 cases per 1,000 population.

Community rates ranged from 1.37 cases per 1,000 to 73.10 cases per 1,000.
Age Distribution of Confirmed H1N1 Cases

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Total*</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Cases</td>
<td>634</td>
<td>292 (46.1%)</td>
<td>338 (53.3%)</td>
</tr>
<tr>
<td>Mean Age</td>
<td>15.83 years</td>
<td>13.38 years</td>
<td>17.97 years</td>
</tr>
<tr>
<td>Median Age</td>
<td>11.00 years</td>
<td>9.00 years</td>
<td>13.00 years</td>
</tr>
</tbody>
</table>

*includes (4) cases where gender was unknown
In Inuit vs. Non-Inuit Case Rates

<table>
<thead>
<tr>
<th>Region</th>
<th>Race</th>
<th>Rate per 1,000</th>
<th>Rate Ratio (95% C.I.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baffin</td>
<td>Inuit</td>
<td>15.80</td>
<td>3.37 (1.99-6.13)*</td>
</tr>
<tr>
<td></td>
<td>Non-Inuit</td>
<td>4.70</td>
<td></td>
</tr>
<tr>
<td>Kivalliq</td>
<td>Inuit</td>
<td>33.58</td>
<td>5.81 (2.46-18.05)*</td>
</tr>
<tr>
<td></td>
<td>Non-Inuit</td>
<td>5.78</td>
<td></td>
</tr>
<tr>
<td>Kitikmeot</td>
<td>Inuit</td>
<td>30.90</td>
<td>4.83 (1.85-17.96)*</td>
</tr>
<tr>
<td></td>
<td>Non-Inuit</td>
<td>6.40</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Inuit</td>
<td>24.07</td>
<td>4.52 (3.03-7.04)*</td>
</tr>
<tr>
<td></td>
<td>Non-Inuit</td>
<td>5.33</td>
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*Ratio is significant at p. < 0.05

- In all three regions and in the territory as a whole, Inuit rates of confirmed H1N1 infection were statistically, significantly higher than that of non-Inuit.

- The overall Inuit rate was 4.52 times higher than that of non-Inuit.
H1N1-Related Hospitalizations

- N=83 hospitalizations amongst 634 confirmed H1N1 cases = hospitalization rate of 13.09% or 130.9 hospitalizations per 1,000 confirmed cases.

- According to PHAC, Nunavut’s hospitalization rate was 40 times higher than the National average.

- PHAC figures use total population rather than # of confirmed cases as the denominator. This method has the potential to introduce error as it doesn’t control for variance in case rates between Provinces and Territories.

- While Nunavut’s population-based hospitalization rate is much higher than the national average, it is hypothesized our case-based hospitalization rate (i.e. measure of virulence) is closer to that of the national average.
Acknowledgments

• Special thanks to team members who worked above and beyond the call of duty:
  • Chiebere Ogbuneke
  • Peter Workman
  • Pam Coulter
  • and many other staff at Headquarters and in our communities.
• Acknowledgement of support given to our response by our Deputy Minister, Alex Campbell.