Influenza Immunization: Issues for Nurses

Anita Hanrahan
Director, Communicable Disease Control, Alberta Health Services

Filomena Pietrangelo
Manager, McGill University Health Centre

February 7, 2013
Joyce Douglas, RN, MPH
Nurse Advisor
Policy & Leadership
Canadian Nurses Association

Anita Hanrahan, RN, MN
Director, Communicable Disease Control
Alberta Health Services

The new CNA mbna rewards MasterCard credit card is proud to sponsor this webinar
Annual epidemics of influenza

• Every year an epidemic of influenza occurs
• On average, 10 to 20% of the population becomes infected
• Serious illness occurs most commonly in the elderly, persons with chronic conditions and the very young
• Complications and death do occur in persons previously healthy

National Advisory Committee on Immunization. Statement on Seasonal Influenza Vaccine for 2012-2013

• World Health Organization. Influenza. 2008; available at http://www.who.int/immunization/topics/influenza/eg
### 10 Leading Causes of Death, Canada

[Link to Dataset](http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/health30a-eng.htm)

<table>
<thead>
<tr>
<th>Disease</th>
<th>Number of Deaths</th>
<th>Mortality Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malignant neoplasms</td>
<td>71,125</td>
<td>423.5</td>
</tr>
<tr>
<td>Heart disease</td>
<td>49,271</td>
<td>160.3</td>
</tr>
<tr>
<td>Stroke</td>
<td>14,105</td>
<td>101.4</td>
</tr>
<tr>
<td>Chronic lower respiratory</td>
<td>10,859</td>
<td>28.4</td>
</tr>
<tr>
<td>Accidents</td>
<td>10,250</td>
<td>22.9</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>6,923</td>
<td>24.5</td>
</tr>
<tr>
<td>Alzheimer’s</td>
<td>6,281</td>
<td>14.9</td>
</tr>
<tr>
<td><strong>Influenza and Pneumonia</strong></td>
<td><strong>5,826</strong></td>
<td><strong>11.8</strong></td>
</tr>
<tr>
<td>Suicide</td>
<td>3,890</td>
<td>10.7</td>
</tr>
<tr>
<td>Kidney disease</td>
<td>3,609</td>
<td>7.2</td>
</tr>
</tbody>
</table>
Globe and Mail (Front Page, January 10, 2013)

It’s turning into a nasty, deadly, perfectly normal flu season

ANDRÉ PICARD
apicard@globeandmail.com

The annual outbreak of influenza that is filling hospitals and thinning out workplaces across North America is more acute and more widespread than in recent years. Hospitals are bursting at the seams, from the ER to the ward, and many are cancelling surgeries and clinics to ease the pressure. Tamiflu, an antiviral drug, is in such short supply that Ottawa is dipping into its emergency reserves. At least one city, Boston, is so overrun by flu that the mayor or has declared a public health emergency.

Yet for all the rising concern, this is a normal flu season. Nasty and deadly is the norm. An estimated 2,000 to 8,000 Canadians die annually of influenza and its complications. Globally, the flu kills about 500,000 people a year.

So why are we suddenly shocked and overwhelmed by the arrival of this year’s flu?

First of all, it’s arrived a little early. Second, the dominant circulating strain, H3N2, is known to cause severe illness, so a lot more people are seeking medical help.

Flu, Page 8
…a nasty, deadly, normal flu season

- Nasty and deadly is the norm
- Hospitals are bursting at the seams, from ER to the ward; many are cancelling surgeries
- “Tamiflu is in such short supply that Ottawa is dipping into its emergency reserves”
- “The naysayers convinced people the flu was not a big deal, and warnings were just a ploy by Big Pharma to sell vaccines”

André Picard. (2013) It’s turning into a nasty, deadly, perfectly normal flu season. Globe and Mail
Types of Influenza Vaccine

- **Trivalent Inactivated Vaccines (TIV)**
  - Agriflu®, Fluviral®, Fluzone®, Influvac®, and Vaxigrip®
  - Fluad® for persons ≥ 65 years
  - Intanza® for persons ≥ 18 years, given intradermally

- **Live Attenuated Influenza Vaccine (LAIV)**
  - Flumist®, approved for those 2 – 59 years
Diagram of Influenza Virus
Safety of Influenza Vaccines

- **TIV**
  - cannot cause influenza
  - Most common adverse – soreness at injection site
  - Fever, malaise, and myalgia
  - Oculorespiratory syndrome (ORS) seen in 2000/01 season. Fewer cases now. Not IgE mediated.

- **LAIV** (currently only in Quebec and Alberta, primarily for children)
  - Only replicate efficiently in nasal mucosa
  - Nasal congestion and runny nose

*National Advisory Committee on Immunization. Statement on Seasonal Influenza vaccine for 2012-2013*
Guillain-Barré Syndrome

- An autoimmune disease
- Associated with prior infection with *Campylobacter jejuni*, as well as CMV and Epstein Barr virus
- Annual incidence in general population is 3.4 to 40 cases/million
  - Small incremental risk may be associated post influenza vaccine 0.46 cases/million

Vaccine Efficacy

- TIV prevents laboratory-confirmed influenza in 80% of healthy adults when the vaccine and circulating influenza virus match well
  

- In the elderly, vaccine effectiveness is about half that of healthy adults

- A recent meta analysis identified vaccine efficacy of 50% in healthy adults during select seasons of vaccine mismatch
  
  *Herrera, Iwane, Cortese (2007) Influenza vaccine effectiveness among 50-64 year olds during a season of poor antigenic match. Vaccine, 25:154-60*
Importance of Vaccine for Nurses

- Greater likelihood of exposure
- More likely to develop immunity
- Provide care to those at high risk of complications
- Commonly work when infectious with mild or unrecognized disease
- Fewer facility outbreaks with high staff immunization rates
- More facility outbreaks with low immunization rates

CDC (2006). *Influenza Vaccination of Health-Care Personnel, MMWR RR-2*
Filomena Pietrangelo, BScN
Occupational Health and Safety Manager
McGill University Health Centre
Nurses touch many lives....
Value A:

Nurses provide **safe**, compassionate, competent and ethical care.

Code of Ethics and flu vaccine

- Patient safety
- Commitment to do good
- Vulnerable patients placed at risk by HCWs that don’t get immunized.
- Vaccinating HCWs reduces deaths from all causes

Code of Ethics

Value G:

Nurses are accountable for their actions and answerable for their practice.

Nurses maintain their fitness to practice

“Working days lost in vaccine recipients as compared to placebo recipients is significantly reduced” (Cochrane review)
Patient and family expectations...

- Quality care
- Health-care worker does not represent a risk
- Active infection prevention and control measures
NACI statement

Health-care workers who have direct patient contact should consider it is their responsibility to provide the highest standard of care, which includes annual influenza vaccination. In the absence of contraindications, refusal of HCWs who have direct patient contact to be immunized against influenza implies failure in their duty of care to patients.

Why the low uptake of flu vaccine?

Misconceptions:

- Vaccine does not protect against flu
- Overestimation of the risks of flu vaccine

References:

Why the low uptake of flu vaccine?

- vaccine side effects “made me sick”
- do not believe that, if unvaccinated, pose a risk to patients
Why the low uptake of flu vaccine?

- “Personal choice or evidence-based nursing intervention?”

- Education, for the most part, does not result in the behavior change of getting vaccinated.


Annual influenza vaccination

- Patient safety
- Quality care
- Healthy presence at work

Ethical Nursing Practice
CNA Position Statement on Influenza Immunization of RNs

http://www2.cna-aiic.ca/cna/documents/pdf/publications/PS_Influenza_Immunization_for_RNs_e.pdf

The new CNA mbna rewards MasterCard credit card is proud to sponsor this webinar