



# CSHP 2015 Success in Alberta

---

Pharmacy Grand Rounds  
June 21, 2012

# Improving Vaccination Rates in Hospitalized Patients

Margaret Gray BSP, Clinical Practice Leader  
Lorie Carter B.Sc.(Pharm), Pharmacy Resident

# CSHP 2015 Objective 6.2

85% of hospital pharmacies will participate in ensuring that high risk patients in hospitals and related healthcare settings receive vaccinations for influenza and pneumococcus.

# Background

- Pharmacists/students screened for flu vaccine “campaign” since formation of Capital Health
- Vaccination rates remained relatively stable
- Impact of screening campaigns?
- 2009 – Preprinted patient care order (PPCO) developed for screening of both influenza and pneumococcal vaccines
  - Poorly rolled out
  - Pandemic hit!!

# Background

- Post-pandemic an attempt was made to reinitiate the PPCO for 2010-11 season
  - Late updating form – flu season post-pandemic
  - Formation of AHS made approval process difficult
  - Results from mid-season rollout looked promising
- Plan for 2011-12 to update the forms and have ready for influenza season
  - Aim to make part of hospital admission packages
  - Interest in assessing impact of the forms



Affix

### Influenza and Pneumococcal Vaccination Patient Care Orders (Adult)

For use at University of Alberta Hospital Only

- All orders must be completed and signed by the prescriber.
- All co-signatures must be timed and dated within 24 hours.
- Check Caution Sheet for any allergies before ordering.
- Medication orders must include drug, dose, route, frequency and, if applicable, duration.
- Orders may be deleted by stroking the order out and initialing the entry or by leaving prompt blank (boxes and/or lines).
- Scan both pages and send to Pharmacy.

#### Risk Assessment for Influenza

(Alberta Health and Wellness recommends that all patients receive vacci  
contraindicated)

- Patients at highest risk include the elderly, those with chronic cond  
pulmonary disease, diabetes mellitus, cancer, immunodeficiency, i  
residents of nursing homes, chronic care facilities, lodges, homele
- Vaccination is also important for those in a health care occupation  
high risk for influenza-related complications.

Check all that apply (for Public Health data collection)

- Age 65 or older
- Age 18-64 years
- Pregnant

#### Risk Assessment for Invasive Pneumococcal Disease (Check

- Age 65 or older
- Chronic cardiovascular or pulmonary disease (e.g. CF, or COPD)  
(NB: Asthma alone has not been associated with increased risk of
- Resident in nursing home, chronic care facility, lodge, or homeless
- Chronic condition such as diabetes mellitus and other metabolic di  
(including HIV/AIDS, asplenia, splenic dysfunction), immunosuppre  
recipients), renal disease, anemia, sickle-cell disease, or hemoglot
- Condition that compromises management of respiratory secretions  
risk of aspiration (e.g. cognitive dysfunction, spinal cord injury, seiz  
including multiple sclerosis)
- Chronic liver disease, cirrhosis, alcoholism, cochlear implants or ci

Prescriber's Signature \_\_\_\_\_ Date \_\_\_\_\_



Affix patient label within this box.

### Influenza and Pneumococcal Vaccination Patient Care Orders (Adult)

For use at University of Alberta Hospital Only

- All orders must be completed and signed by the prescriber.
- All co-signatures must be timed and dated within 24 hours.
- Check Caution Sheet for any allergies before ordering.
- Medication orders must include drug, dose, route, frequency and, if applicable, duration.
- Orders may be deleted by stroking the order out and initialing the entry or by leaving prompt blank (boxes and/or lines).
- Scan both pages of Patient Care Orders, and forward to Pharmacy.

Is medication order STAT or URGENT?

- No
- Yes **if yes, notify RN**

#### Contraindications to Vaccination (Check all that apply)

- Anaphylactic reaction to previous dose
- History of Guillain Barré Syndrome within 8 weeks of previous influenza vaccination (influenza vaccine only)
- Previously received influenza vaccine during current influenza season. Date last received: \_\_\_\_\_
- Previously received pneumococcal vaccine within last 5 years. Date last received: \_\_\_\_\_
- Patient refuses vaccination.

#### Precautions to Vaccination (Check all that apply)

- Anaphylaxis (or IgE-mediated hypersensitivity) to eggs, or hypersensitivity to eggs with poorly controlled asthma (influenza vaccine only).
  - Initiate through allergy assessment of tolerability to vaccine prior to vaccination
- Acute febrile illness. Suggest delaying vaccination until afebrile
  - Reassess for vaccination on following date: \_\_\_\_\_

#### Vaccination Orders

- Administer influenza vaccine (Check appropriate vaccine and dose below)
  - Influenza vaccine (Agrimu) 0.5 mL IM into deltoid
  - Administer pneumococcal polysaccharide 23-valent vaccine (e.g. Pneumovax) 0.5 mL IM injection into deltoid.
- Do not administer vaccines

Prescriber's Signature		Date (yyyy-Mon-dd)	Time
Influenza vaccine lot	Expiry	Date administered (yyyy-Mon-dd)	
Pneumococcal vaccine lot	Expiry	Date administered (yyyy-Mon-dd)	

**Influenza Vaccination Patient Care Orders (Pediatric)**

- Check Caution Sheet for any allergies before ordering.
- Medication orders must include drug, dose, route, frequency and, if applicable, duration.
- Orders may be deleted by stroking the order out and initialing the entry or by leaving prompt blank (boxes and/or lines).

Affix patient label within this box

Proof #2

is medication order STAT or URGENT?

- No
- Yes **if yes, notify RN**

Wt: \_\_\_\_\_ kg

**Risk Assessment for Influenza** *(Alberta Health and Wellness recommends that all patients aged 6 months and older to receive vaccination for seasonal influenza unless contraindicated.)*

- Patients at highest risk include pregnant adolescents, those with chronic conditions (e.g. cardiovascular, pulmonary disease, diabetes mellitus, cancer, immunodeficiency, immunosuppression), children 2-4 years of age, children or adolescents on chronic acetylsalicylic acid (ASA), residents of chronic care facilities, and homeless individuals.
- Vaccination is also important for those in close contact with people at high risk for influenza-related complications.

**Contraindications to Vaccination** *(Check all that apply)*

- Age less than 6 months of age.
- Anaphylactic reaction to previous dose.
- History of Guillain Barré Syndrome within 8 weeks of previous influenza vaccination.
- Previously received **influenza vaccine** during current influenza season. Date last received: \_\_\_\_\_
- Patient or family refuses vaccination.

**Precautions to Vaccination** *(Check all that apply)*

- Anaphylaxis (or IgE-mediated hypersensitivity) to eggs, or hypersensitivity to eggs with poorly controlled asthma.
  - Initiate thorough allergy assessment of tolerability to vaccine prior to vaccination.
- Acute febrile illness. Suggest delaying vaccination until afebrile.
  - Reassess for vaccination on following date: \_\_\_\_\_

**Vaccination Orders**

Administer influenza vaccine. *(Check appropriate vaccine and dose below)*

- Age 6-11 months: Influenza vaccine (*Agriflu*) 0.5 mL IM into anterolateral thigh.
  - Age 12 months and older: Influenza vaccine (*Agriflu*) 0.5 mL IM into deltoid muscle.
- For children under 9 years of age** - has the child been vaccinated in any previous influenza season?
- Yes
  - No **if no,** ■ Re-administer influenza vaccine (*Agriflu*) 0.5 mL IM in 4 weeks.
- Indicate date repeat vaccination due: \_\_\_\_\_

Do not administer vaccine. Reason (if not noted above): \_\_\_\_\_

Prescriber's Signature	Date (yyyy-Mon-dd)	Time
------------------------	--------------------	------

Influenza vaccine lot	Expiry	Date administered (yyyy-Mon-dd)
-----------------------	--------	---------------------------------

# Pediatric Form – Influenza Only

- Pneumococcal vaccine part of routine vaccines
- One page form vs. adult



# Residency Project

- Title: Implications of a pre-printed care order on influenza and pneumococcal vaccination rate
- Authors: Lorie Carter, Dr. Cheryl Sadowski, Dr. Sheri Koshman, Dr. Christine Hughes, Margaret Gray, Jane Xu
- Primary objective: difference in vaccination and screening rates pre/post pre-printed care order (PPCO) in eligible patients



# Methods

- Retrospective chart review
- Pre-PPCO group: Nov.1, 2010 – Jan.31, 2011
- Post-PPCO group: Nov.1, 2011 – Jan.31, 2012
- Sample size calculation: n=100 per group
- Inclusion criteria:
  - Age  $\geq$  65 years
  - UAH general internal medicine

# Results

INFLUENZA			
	Pre (n=100) n (%)	Post (n=77) n (%)	P-value
Vaccination (eligible pts)	6/94 (6.4%)	9/27 (33.3%)	<b>&lt;0.001</b>
Screening	13 (13%)	58 (75.3%)	<b>&lt;0.0001</b>
Vaccination (overall)	6 (6%)	9 (11.7%)	>0.05

# Results

PNEUMOCOCCAL			
	Pre (n=100) n (%)	Post (n=77) n (%)	P-value
Vaccination (eligible pts)	2/92 (2.2%)	10/34 (29.4%)	<b>&lt;0.0001</b>
Screening	11 (11%)	62 (80.5%)	<b>&lt;0.0001</b>
Vaccination (overall)	2 (2%)	10 (13%)	<b>&lt;0.01</b>

# Results from Flu Seasons 2009-2012

## Influenza Vaccine Doses Dispensed from UAH Pharmacy

Year	Total Fluviral Doses	Total Vaxigrip Doses	Total Agriflu Doses
2009-2010	132	82	0
2010-2011	238	50	0
2011-2012	0	0	301

## Pneumococcal Vaccine Doses Dispensed from UAH Pharmacy

Oct – Jan 2009-10	Oct – Jan 2010-11	Oct – Jan 2011-12
30	65	111

# Summary

- Usage of PPCO improved screening and vaccination of at risk hospital populations
- Pre-planning required to incorporate PPCO's with admission packages
  - Errors associated with 2 page form
  - Medicine pharmacists worked hard to ensure utilization of PPCO
- Acknowledgements:
  - Research team: Cheryl Sadowski, Christine Hughes, Jane Xu, Sheri Koshman
  - Medicine team pharmacists at UAH