

**Influenza Vaccination for Pneumonia –  
Achieving the Standard of Care  
Tools and Resources for Hospital Performance Measurement  
Improvement Activities**

**Nineteenth in a series of targeted quality improvement articles**

**December 8, 2006**

**Illinois Hospital Association**

## **Influenza Vaccination for Pneumonia – Achieving the Standard of Care Tools and Resources for Hospital Performance Measurement Improvement Activities**

### **Achieving the Highest Standard of Care**

Influenza vaccination measure examines whether patients with pneumonia age 50 years and older were screened for their influenza vaccination status and vaccinated if indicated.

Illinois hospitals in the 1<sup>st</sup> quarter 2006, the most current available performance data, achieved 64.2% compliance with the influenza vaccine measure. Comparative national data regarding flu vaccine measure has not been available as the public reporting was suppressed early this year by CMS and JCAHO due to a previous shortage of the vaccine.

According to CMS and JCAHO, public reporting will resume December 2006 and will show results from the 1<sup>st</sup> quarter of 2006. Access the CMS/ JCAHO joint statement at: [www.qualitynet.org](http://www.qualitynet.org), select Hospitals, enter into the Search box “PN-7 measure memo” to review two important documents: [PN-7 measure: Status of Public Reporting](#) and [PN-7 measure memo](#) - joint statement.

The goal for all Illinois hospitals is **100% compliance** with the standard of care.

### **Influenza Vaccination for Pneumonia Measurement Description**

Influenza is a respiratory disease cause by the influenza virus and is characterized by symptoms of fever, headache, extreme tiredness, dry cough, sore throat, runny or stuffy nose, and muscle aches. According to the Center for Disease Control and Prevention (CDC), flu causes severe illness and life-threatening complications in many people.

Vaccines are effective in preventing illness because vaccines cause antibodies to develop in the body; the flu vaccination is highly effective in preventing influenza related pneumonia. Since the viruses associated with flu vary from year to year, individuals should be vaccinated each flu season with the updated vaccine.

*Calculating the Measure’s Performance.* Influenza vaccination for pneumonia is reported as a percent, based on:

- Numerator includes patients with pneumonia, ages 50 and older that were screened for influenza vaccine status and were vaccinated prior to discharge, if indicated.
- Denominator includes inpatients age 50 and older with:
  - Principle Diagnosis code of Pneumonia or
  - Principal Diagnosis code of Septicemia or Respiratory Failure and Other Diagnosis code of Pneumonia.

Since the flu is a seasonal disease generally occurring during the winter months from December through March, data collection and reporting is limited to the months of October 1 through Feb 28<sup>th</sup>.

## **A Fuller Understanding of the Measure**

Due to the shortcomings in the measure listed below, this measure is not necessarily a true estimate of vaccination rates in all hospitals patient populations. This measure's rate reflects two activities, screening for vaccination status and administering the vaccine. The reasons for this are:

- The measure is limited to patients aged 50 and older with diagnosis of pneumonia; specifically a patient population identified to be at greater risk of morbidity and mortality from an influenza-related pneumonia infection.
- The numerator includes patients who are screened and one of the following criteria applies: patient has been previously vaccinated in the current flu season, the patient has refused to be vaccinated, the patient has hypersensitivity or allergy to the vaccine, or the patient was vaccinated prior to discharge.

Therefore, the measure reflects vaccine administered and other select screening criteria for a select patient population not the hospital's entire patient population. As reflected in the hospital experiences shared later in this article, many Illinois hospitals may be addressing the larger public health concerns by assessing and, when indicated, vaccinating all patients admitted to the hospital.

*Reporting Requirements.* Hospitals reporting to CMS Hospital Compare website for the Annual Payment Update are required to report the influenza measure during October 2006 through February 2007.

Please note, effective January 2006 past, CMS added the response item #6 to the influenza field in the pneumonia data collection tool regarding the *flu vaccine wasn't given due to shortage of vaccine*. Therefore:

- Response #6 is only to be used by hospitals IF and WHEN CMS and/or JCAHO issue an official direction to use this response. This notification has not been issued by CMS or JCAHO for the current flu season.
- Hospitals are not to use this response at this time. CMS has indicated that cases submitted to the warehouse will be rejected if the case includes this response.

*Dispelling Myths.* Although much evidence exists to the contrary, some healthcare workers continue to believe that patients may be too sick to be vaccinated against the flu while in the hospital. CMS notes the development of an adequate immune response is a major concern of many physicians. CMS reports that when given to hospitalized patients at discharge, influenza vaccine has been found to stimulate an immune response to a similar degree as when given to patients 4 to 8 weeks after discharge. To learn more about this issue and educating staff on flu vaccine safety and efficacy, review Adult Inpatient Influenza and Pneumococcal Vaccination at: [www.medqic.org/](http://www.medqic.org/), select

Hospitals, select Pneumonia (left side bar menu), enter “Flu Vaccine” into search box at top of screen.

*Other Interventions.* As flu viruses are easily transmitted between infected and healthy persons, health care workers are at risk of being infected by patients, visitors or others sick with the flu. Equally important, infected healthcare workers may spread the flu virus to patients, who due to their altered health state, may be at greater risk of more severe morbidity. Therefore, healthcare workers for their own protection and the protection of others are strongly encouraged to be vaccinated against the influenza annually. For additional information, see the Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices (ACIP) issued July 2006 at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5510a1.htm>.

The *Technical Specifications* manuals are a resource for the measure description, rationale, the numerator and denominator, inclusions and exclusions, contraindications, and how data is processed including what results in *missing data* and *not in measure populations*. To view or download the manual, go to <http://www.qualitynet.org>, select Hospitals, select Specification Manuals (left menu bar), select the manual appropriated to the data abstraction time period.

### **Successful Quality Improvement and Compliance Experiences Shared by Illinois Hospitals**

The experiences and successes for achieving compliance with influenza vaccination for pneumonia are presented below from hospitals representing a variety of characteristics and locations throughout Illinois. The Illinois Hospital Association appreciates the efforts of these hospitals in sharing their experiences with others and also the sharing of contact names at each hospital for follow up questions or discussions.

Some common and unique success factors or strategies include:

- Hospital board of directors active leadership
- Use of standing orders
- Use of electronic patient record and hospital information systems with automated reminders, triggers and mandatory field entry
- Multidisciplinary teams including infection control and pharmacy
- Coordination with hospital clinics and nursing homes

### **Hardin County General Hospital**

Hardin County General Hospital, located downstate in Rosiclare, Illinois is designated as a critical access hospital of 25 beds offering general medical-surgical and emergency services to the residents of Hardin County.

In 2001, Hardin County General Hospital recognized the opportunity and need to improve their assessment and documentation of patient’s vaccination status relates Jan Dombrow, RN, BSN, Director, Risk Management and Utilization Review. Working with the nursing director, they modified the nursing admission assessment form and every patient admitted, not just the patients in the measure, were asked about their pneumonia

and flu vaccine status and if indicated, their plans to be vaccinated at discharge. Ms. Dombrow continues, since “vaccinations were provided by the local health department and neighboring rural health clinic and nursing homes gave their own vaccines, the hospital did not provide vaccinations.”

With the acquisition of the neighboring rural health clinic in 2005, the hospital gained access to the vaccine, relates Ms. Dombrow. A separate and new vaccination form was implemented with pertinent information about the patient’s vaccination history, including contraindications, and if vaccination is indicated, physicians were alerted by placing the form in the physician orders of the patient record, she reports.

The medical staff were actively involved to developing the new vaccine assessment form – the medical staff makes recommendations to what should be included in the patient evaluation and assessment forms used by the hospital, states Todd Carr, Quality Improvement Coordinator. “The cues in these assessments prompt the physicians to attend to important elements of patient care.”

“These process changes allowed for more thorough assessments,” says Ms. Dombrow, yet two problems arose – “the forms for a variety of reasons were occasionally missed by physicians and patients were not always certain of their vaccination history” – these problems needed to be addressed.

To overcome these obstacles, physicians requested to be verbally notified that the vaccine is indicated for this patient which causes attention to the form. Also, working with the hospital pharmacy, the nursing staff obtains copies of the updated vaccine logs for the hospital and clinic. The main nursing homes admitting to the hospital also make their vaccine logs available. “As a result, we are assessing better again and not repeating vaccines,” states Ms. Dombrow.

Performance data is key to ongoing evaluation and continuous improvement at Hardin County General Hospital. “When the comparative data is available, it is reviewed at medical staff – any anomalies in the data are discussed to identify causes,” explains Mr. Carr.

Like many small hospitals in Illinois, Hardin County General Hospital performance data is based on small patient numbers. Mr. Carr recognizes this fact, one “reason why our data is so good is because it has to be – one or two patients dropping out will really affect our numbers – because of the small numbers we are using!” Ms. Dombrow adds, “Our goal is to be at 100%. And when we are not at 100%, the medical staff are the first ones to ask what can we do to bring this back to 100%.” Mr. Carr echoes, “the medical staff is very open to suggestions and is committed on making improvements,” Contact Jan Dombrow, RN, BSN, Director, Risk Management and Utilization Review at [jdombrow47@hotmail.com](mailto:jdombrow47@hotmail.com).

## **BroMenn Regional Medical Center**

Active engagement of physicians and hospital staff in the performance improvement process and a culture of continuous quality improvement over the past several years has contributed to BroMenn's quality successes and improved vaccination practices, explains Ann Frederick, RN, MA, Director Quality Resource Management. Ms. Frederick acknowledges CMS past actions, the introduction of the Core Measures and an emphasis on vaccination during hospitalization caused BroMenn to review their care processes.

Part of the BroMenn System serving the Bloomington-Normal area, BroMenn Regional Medical Center is a 224-bed full-service hospital located in Normal, Illinois.

"We have engaged many groups in our process changes," states Frederick, recognizing the efforts of the Respiratory Collaborative Practice Team initiatives, and active involvement of Pharmacy, Medical Staff Committees, Infection control, Nursing Leadership, patient care staff, and Case Managers.

"This was an evolutionary process," claims Frederick, "of many interventions, addressing barriers, and achieving small successes over time." These interventions included:

- initially, the screening patients to determine the patient's vaccination status,
- implementing standing orders that did not require a physician's signature and allowed for patients who met specified criteria to be vaccinated prior to discharge,
- implementing an electronic-based patient screening tool that was linked with pharmacy; pharmacy included the flu vaccine on the patient's electronic Medication Administration Record (MAR) which was "color-coded" to act as a "tickler-reminder" for staff,
- more recently, incorporating flu vaccination info in the patient's discharge instruction record with current efforts directed towards an electronic discharge instruction record with force-function capabilities by using mandatory field entry to complete the discharge process.

"Case Managers are strategically used", tells Ms. Frederick, "as they are widely available in the patient care areas and have frequent interaction with staff and family". Kay Hankins, RN, BSN, Case Manager, Medical, relates being on the units and participating in the interdisciplinary team meetings is a "great opportunity to remind staff of the importance of vaccination and reminding staff of vaccinations that need to be given." Ms. Hankins adds her participation in unit staff meetings provides her additional opportunities to get out the message.

BroMenn recognizes the importance for ongoing education of the physicians and staff regarding the clinical guidelines, the importance of vaccination, and to address issues and concerns about the myths of vaccinating sick hospitalized patients, relates Ms. Frederick.

Pam Bierbaum, RN, BSN, Infection Control Coordinator echoes a similar message about the role and importance of education. "I am able to reinforce the important messages

about prevention and the evidence-based practices involving vaccination – this information is shared in the Respiratory Collaborative Practice meetings and Medical Staff meetings.” Ms. Bierbaum finds it particularly important to help “dispel misconceptions and provide accurate information about the safety of the vaccination for hospitalized patients.”

“Recent concerns regarding the pandemic flu and the Avian flu and its carry over to seasonal flu has raised the awareness of staff and perhaps made them more appreciative of the value of vaccination for themselves,” declares Ms. Bierbaum, “and that carries over to the patients as well.” BroMenn is strongly promoting influenza vaccinations for their staff.

Education and raising staff awareness is also achieved through sharing Core Measure data and results. “Core Measure data is shared with the Respiratory Collaborative Team and also the patient care staff,” states Cindy Schaumburg, RN, BSN, Quality Specialist & Regulatory Compliance Coordinator. “By sharing data with the staff,” she adds, “staffs are able to look at different opportunities that exist to improve patient care.”

Ms. Frederick adds, “Medical and hospital engagement in the Core Measures has been instrumental to improve the quality of care. Information is shared widely across the organization – with staff in the patient care units, with leadership, with administration, with the Board of Directors. Sharing is important so we all know what the goals are, how we are performing, and what type of support is needed to promote continuous improvement.”

Looking back on this interview, Ms. Frederick summarized the key barriers and success strategies. “Our two biggest barriers seemed to have been the time lag between the initial assessment and the time of vaccination administration. Next important was the misconception held by some staff about administering vaccinations to patients during hospitalization. It was not one intervention – instead combined interventions over time led to the desired changes and reaching our goals. Key to our success was the use of standing orders, the use of the tickler reminders in the MAR and discharge instructions, and the constant and regular reminders to staff by the case managers.” Contact: Ann Frederick, RN, MA, Director Quality Resource Management at [afrederick@bromenn.org](mailto:afrederick@bromenn.org).

### **Delnor-Community Hospital**

“An awareness brought about through public reporting of performance measures, the hospital’s board of directors’ active involvement, and a strong commitment to the community were key factors driving quality improvement changes with flu vaccination practices at Delnor-Community Hospital,” says Mary Roesch, Team Leader, Quality Management. Delnor-Community Hospital in Geneva, Illinois is a rapidly growing 120 bed hospital located 50 miles west of Chicago serving the residents of the Central Fox Valley area.

Ms. Roesch describes, “Delnor-Community Hospital’s initial efforts and processes captured the patient’s vaccination status in the hospital information system nursing

Influenza Vaccination for Pneumonia – Achieving the Standard of Care  
Illinois Hospital Association

December 8, 2006

history assessment. This information was linked to the patient's medication administration record (MAR) thereby alerting the nurse to vaccinate the patient prior to discharge."

Barriers arose when "waiting until discharge to vaccinate the patient," said Ms. Roesch. "We were seeing delays in getting the vaccine from pharmacy, and sometimes coupled with patients with discharge orders wanting to leave, opportunities were missed. We tried educating the staff about early administration during the stay and prior to discharge; however, we did not see the improvement we were looking for."

Delnor-Community Hospital's "turning point came with CMS public reporting of performance measures and the realization by the hospital's board members *that we could do better*," relates Ms. Roesch. Further, she continues, "the hospital's Performance Improvement Committee felt that the flu vaccination was too important to be limited just to the pneumonia patients as described in the Core Measure. These actions led to the hospital assigning flu vaccination as their 1st Community Pillar Goal – making it part of their internal score card and hospital strategic initiatives."

In response to the Board's recommendation that a "*small group be accountable and take charge*, the nursing leadership approached the IV Therapy Team and asked them to take-on flu vaccine improvement efforts," relates Nancy Moran, Team Leader, IV Therapy. "We agreed to do this and believe that 'ownership' is what drove our success!" She explains, "IV Team members received reports daily of new admissions; all patients are visited and interviewed, records reviewed, and follow-ups conducted with the nursing homes or physicians to clarify the patient's vaccination status, if required. Having this small team take ownership and "interviewing each and every patient that was admitted – our compliance and accuracy rate was much better," exclaims Ms. Moran.

In addition to IV Therapy ownership and accountability, Ms. Roesch adds, "the medical staff executive committee changed the medical staff bylaws to include provisions for all patients who met specified criteria to be given the flu vaccine without a separate order. Subsequently, for patient's who meet the criteria set forth, nurses administer the flu vaccine with a standing physician's order," states Ms. Roesch. "That has made our jobs a lot easier," exclaimed Ms. Moran. According to Ms. Roesch, "Steven Lewis MD, Infectious Diseases and Medical Director, Infection Control, and Keith Gordey MD, Pulmonologist and Medical Director, Performance Improvement, have helped to inform and educate physicians and address any issues or concerns when they have arisen."

Marie Lee, Director, Quality and Performance Improvement recaps the significance of the hospital's commitment – "everyone felt it was important enough-- the Board and Administration -- that we were able to get the necessary resources to reach our goals. From there, dedication and ownership were the right combination for reaching the targeted outcome."

Expanding the scope beyond just pneumonia patients to all hospitalized patients meeting criteria required additional resources estimated to be about 3 hours a day, spread among

Influenza Vaccination for Pneumonia – Achieving the Standard of Care

Illinois Hospital Association

December 8, 2006

the team members. Contact: Marie Lee, Director, Quality and Performance Improvement at [marie.lee@delnor.com](mailto:marie.lee@delnor.com).

**Influenza Vaccination for Pneumonia Based Resources**

See Appendix I. for additional resources for Influenza Vaccination for Pneumonia Web-Based Resources.

For additional information about Influenza Vaccination for Pneumonia, the Hospital Quality Alliance Performance measures, or to comment on this series, please contact Tim Philipp, Director, Quality Improvement at [tphilipp@ihastaff.org](mailto:tphilipp@ihastaff.org).

## APPENDIX I. Pneumonia Web Based Resources

This document offers web resources about Pneumonia measure and Influenza vaccination useful in your improvement efforts. To access the materials below, click on or enter the web address and follow the additional steps.

### *Vaccine Recommendations.*

- Review general information as well as information specific for health professionals including Recommendations of Advisory Committee on Immunization Practices (ACIP) for the Prevention and Control of Influenza, training aids, flu vaccine bulletins, patient education materials, frequently asked questions and answers, and other valuable references and resources at the Center of Disease Control and Prevention (CDC) website at: <http://www.cdc.gov/flu/>.

### *National Influenza Vaccine Summit.*

- Co-sponsored by the American Medical Association (AMA) and the Centers for Disease Control and Prevention (CDC), this web site provides a variety of supporting resources of the National Influenza Vaccination Week November 27<sup>th</sup> through December 3<sup>rd</sup>, 2006. Go to: <http://www.ama-assn.org/ama/pub/category/13732.html>.

### *Educational Materials.*

- Continuing education module addressing vaccination rates, hospitalization and death rates, vaccine safety and efficacy, stranding order protocols, high-risk populations, vaccine contraindications and patient education at: <http://www.medqic.org>, select Hospitals, select Pneumonia (left side bar menu), enter into Search box “influenza vaccine.” See Adult Inpatient Influenza and Pneumococcal Vaccination.
- A slide presentation entitled Improving Adult Vaccination: dispelling the Myths presented Dr. Dale Bratzler, DO MPH, Principal Clinical Coordinator, QIOSC Medical Director, Oklahoma Foundation for Medical Quality at: <http://www.medqic.org>, select Hospitals, select Immunization (left side bar menu), select Presentations (upper right menu box).

### *Intervention Tools.*

- Inpatient Vaccination Policy and Forms provides a draft standing order policy for adult vaccination, screening and order form, and suggestions/considerations for designing vaccination protocol. Go to: an orientation to Medqic based for pneumonia. Direct links are given for the 17 Medqic references. Go to: <http://www.medqic.org>, select Hospitals, select Immunization (left side bar menu), select Tools (upper right menu box).

### ***Frequently Asked Questions – (FAQs)***

FAQs often reflect the insights and concerns of hospital staff involved in clinical care and data collection. Aside from answering your specific questions, reviewing FAQs is an

Influenza Vaccination for Pneumonia – Achieving the Standard of Care  
Illinois Hospital Association

important educational tool for novice & expert.

Access frequently asked questions at <http://www.medqic.org/>, select Home, select FAQs (bottom left menu bar). Enter these “key words” (flu, influenza, vaccine, vaccination, standing orders) or a combination of these will increase your returns (with some duplication).