

Pneumococcal Polysaccharide Vaccine - Pneu-P-23 Program

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SCHR Telehealth “Bug of the Month”



Overview of Presentation

- Review of the impact of pneumococcal disease
- Review of Pneu-P-23 vaccine
- Pneu-P-23 vaccine eligibility
- Pneu-P-23 program

Pneumococcal Disease Impact

- Pneumococcal disease is caused by *Streptococcus pneumoniae* bacteria (*S. pneumoniae*).



- Invasive pneumococcal disease (IPD) is most common in the very young, the elderly and persons at high risk (such as those with functional or anatomic asplenia; congenital or acquired immunodeficiency).



Pneumococcal Disease Impact

- Can cause death
 - (the overall fatality rate 5–7 %: much higher in the elderly)
- Serious life-threatening infections:
 - Pneumonia (lungs)
 - Meningitis (brain)
 - Bacteremia (blood)
- Permanent complications include brain damage and deafness
- Otitis media in young children



Disease Distribution

- Among adults:
 - 36% are community acquired
 - 50% are hospital acquired
- In Canada between 2005 to 2008, incidence rates (per 100,000 population per year) of IPD were:
 - **26.6** among infants less than 1 year of age (accounting for 3% of all IPD cases), and
 - **20.4** among adults 60 years of age and older (accounting for 40% of all IPD cases).



Source

- The only natural reservoir is humans
- Many people carry the bacteria in their throat without getting sick
- Most children are colonized with and become carriers of one or more strains during the first year of life
- People with underlying medical, pulmonary conditions or immunosuppression are more likely to develop invasive disease



Transmission

- Spread from person to person by respiratory droplets:
 - coughing, sneezing,
 - through saliva, and
 - close face to face contact

- A person can transmit the infection (period of communicability) as long as nasal and throat secretions contain pneumococci in large numbers; usually until 24 hours following appropriate antibiotic treatment.



Prevention

- Be immunized (direct protection)
- Be immunized to protect others (direct protection or herd immunity)
- Practice good hand hygiene and respiratory etiquette
- Don't share...



History of Pneumo 23 Vaccine in Saskatchewan and SCHR

- September 1998 –
 - Publicly funded Pneumo 23 vaccine provided to residents of long term and personal care homes and those at highest risk
- September 1999 –
 - Pneumo 23 vaccine available for all high risk clients ≥ 2 years
- July 2009 –
 - Enhanced SCHR Pneumo 23 Immunization Program in acute care setting



Pneumococcal Polysaccharide Vaccine – Pneu-P-23

- Pneu-P-23 vaccine protects against **23** common strains of *Streptococcus pneumoniae* bacteria
- **One dose** is recommended for most people



Who Should Get the Pneu-P-23 Vaccine?

- Adults 65 years of age or older
- Residents of nursing homes / group homes and other chronic care facilities
- ***Persons 2 - 64 years of age with the following conditions*** (next 4 slides)



Persons *2 - 64 years* of age with the following conditions:

- Alcoholism
- Chronic cerebrospinal fluid leak
- Chronic heart disease (all conditions)
- Chronic lung disease (excluding asthma, unless on high doses of oral corticosteroid therapy)
- Cystic fibrosis
- Diabetes mellitus



Persons *2 - 64 years* of age with the following conditions:

- Homelessness
- Illicit drug use
- Neurologic conditions where the clearance of oral secretions is impaired
- Predialysis, peritoneal dialysis and hemodialysis
- Cochlear implant candidate or recipient



Persons *2 - 64 years* of age with the following conditions:

- Anatomic or functional asplenia*
- Chronic liver disease (including nephrotic syndrome)*
- Chronic kidney disease (including nephrotic syndrome)*
- Congenital immunodeficiencies*
- Hematopoietic stem cell transplant recipient*



Persons *2 - 64 years* of age with the following conditions:

- Sickle cell disease and other hemoglobinopathies*
- Solid organ or islet cell transplant candidate or recipient*
- Weakened immune system* related to:
 - disease: malignant neoplasm including leukemia and lymphoma; HIV; multiple myeloma
 - therapy: high dose, systemic steroids or severe rheumatoid arthritis requiring immunosuppressive therapy



***Eligible for Second Dose**

- *Individuals with these specific conditions are at higher risk for pneumococcal disease, and are eligible for a second reinforcing dose 3-5 years after the first dose, depending on the client's age when the first dose was given (> or < than 10 years old)



Special Considerations

- Pregnancy – can be provided as indicated for high risk individuals
- Splenectomy – give vaccine at least 14 days before splenectomy, or, if not possible 14 days post-splenectomy. (If concerned that patient may not present later for immunization, give at hospital discharge)
- HIV – early in the course of infection
- Immunosuppressive therapy – before initiation



Who should not get the vaccine?

- Persons who have a serious illness, with or without a fever, should delay immunization
- Persons who have had a life-threatening reaction to a previous dose of the vaccine, or who have severe allergies to any of the vaccine components




Possible reactions to the Pneu-P-23 vaccine

- *Vaccines are very safe. It is much safer to get the vaccine than to get pneumococcal disease (remember the fatality rate for invasive pneumococcal disease from earlier in the presentation).*
- Common expected reactions are:
 - Soreness, redness and swelling at the injection site
 - Headache and mild fever
 - Mild reactions generally last 1 to 2 days



After Pneu-P-23 vaccine is given...

- Client is given a wallet card indicating date of Pneu-P-23 immunization
- Client's Pneu-P-23 immunization is registered in Saskatchewan Immunization Management System (SIMS)
- Letter is sent to family physician informing them of client's Pneu-P-23 immunization



SCHR Enhanced Pneumococcal 23 Immunization Program

- Introduced July 2009 (as an opportunity to start improvement prior to arrival of pandemic)
- Immunization of eligible acute care hospital patients and / or referral to Public Health for immunization if recommended
- Nurse is responsible for screening patient (according to eligibility criteria) on admission



Pneumococcal 23 Vaccine -- Assessment Form

Redvers Health Centre
Fax: (306) ###-####

Addressograph information

(Require: Patient's Legal Name, D.O.B., HSN, Gender, Address)

Patient Phone Number: _____

1. Acute Care – On Admission

For all patients \geq 65 years and /or those at high risk (medically at risk for severe disease from pneumococcal infections, e.g. chronic cardio-respiratory disease (excluding asthma), cirrhosis, alcoholism, chronic renal disease, nephrotic syndrome, diabetes mellitus, conditions associated with immunosuppression, people who are homeless, and people who use illicit drugs).

Has this patient received the Pneumococcal 23 vaccine?

Yes, has written confirmation (i.e. patient's wallet card, or documentation from health record).
If patient has a card, please note this information on health record and attach this document to record. **A request to Public Health is not necessary and no further action required.**

No / No written confirmation / Unknown
If No/Unknown – FAX this form to **Weyburn Public Health at (306) 842-8637** for SIMS immunization check.

FAX sent (date and time, initial): _____

2. Public Health – SIMS Immunization Check

THIS AREA FOR PUBLIC HEALTH USE

1. Record of previous Pneumo 23 immunization in SIMS Yes No

a. If yes, the date(s) of prior Pneumo 23 immunization(s) in SIMS are:

FAX sent (date and time, initial): _____

3. Acute Care – Follow-up after form returned from Public Health

Patient already immunized. Document immunization history/status as per facility protocol.

Patient requires immunization. Please arrange immunization follow-up using one of the options below:

Inpatient: Contact local public health office to arrange Immunization appointment OR advise patient to contact Public Health for appointment.

Contacted Public Health (date/time/initial): _____

Appointment Date/Time: _____

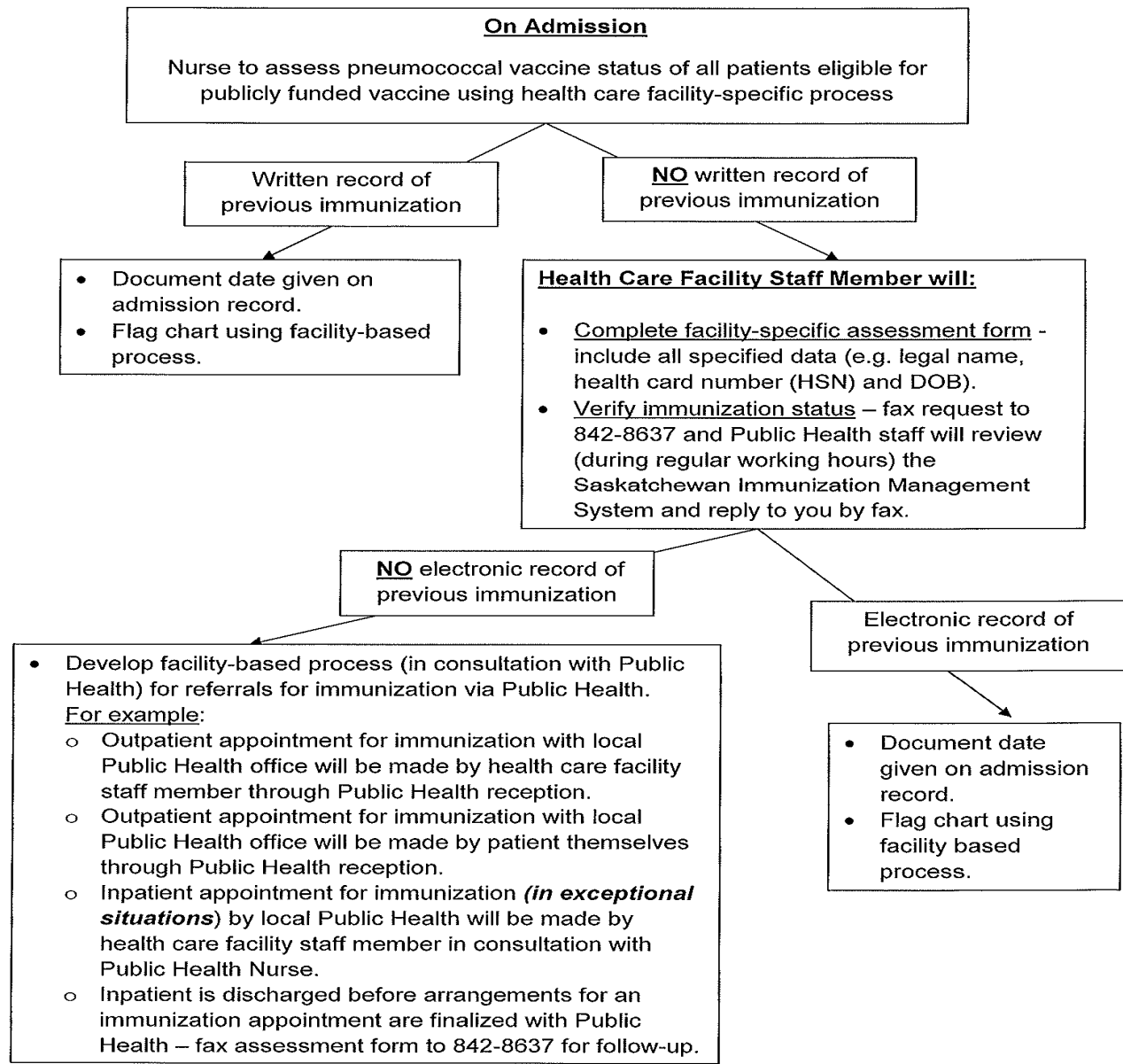
Patient advised to contact Public Health for appointment (date/time/initial): _____

Discharged: Fax form back to **Weyburn Public Health at (306) 842-8637** for follow-up.

FAX sent to Public Health (date and time, initial): _____

(This document will become part of Patient's Health Record).

Pneumococcal 23 Vaccine – Acute Care Settings





Pneumococcal 23 Vaccine Assessment Form

- Review Pneu-P-23 immunization status for each **eligible** patient when admitted to hospital
- If patient has written confirmation of Pneu-P-23 vaccine (wallet card) please note this information on chart and record date on ***Pneumococcal 23 Vaccine Assessment*** form. A request to Public Health is not necessary and no further action required.



Pneumococcal 23 Vaccine Assessment Form Section 1

- If patient has no written confirmation of Pneu-P-23 vaccine, complete Pneumococcal 23 Vaccine Assessment form **Section 1** (Acute Care On Admission)
- Include patients legal name, date of birth, gender, health services number ,address and phone number (**daytime /cell** and evening)
- Have facility staff member fax form to Weyburn Public Health at **306-842-8637**



Pneumococcal 23 Vaccine Assessment Form Section 2

- Weyburn Public Health will check Saskatchewan Immunization Management System (SIMS) database to see if a record of Pneumococcal 23 immunization exists
- **Public Health will complete Section 2:** Record of previous Pneu-P-23 immunization in SIMS and will check off *Yes/No* boxes. If patient has received Pneu-P-23 Immunization the date(s) will be entered on the form
- The form will be faxed back to your facility



Pneumococcal 23 Vaccine **Assessment Form Section 3**

- If there is a record of Previous Pneu-P-23 immunization in SIMS please record this in the patient's chart and attach the Pneumococcal 23 Vaccine Assessment Form to the chart
- If patient has no record of Pneu-P-23 immunization and requires immunization please arrange for follow up with Public Health



Pneumococcal 23 Vaccine Assessment Form Section 3

○ **Inpatient:**

- Advise patient to contact local Public Health Office to arrange an immunization appointment.
- Provide Pneumococcal Polysaccharide 23 Vaccine Fact Sheet May 2012 and appointment sheet if available.



Pneumococcal Polysaccharide 23 Vaccine

Keep your child and yourself safe. By getting all vaccines on time, you and your child can be protected from many preventable diseases over your lifetimes. Immunizations have saved more lives in Canada in the last 50 years than any other health measure.

Pneumococcal Polysaccharide 23 Vaccine Fact Sheet

What is pneumococcal disease?

- Pneumococcal disease is caused by *Streptococcus pneumoniae* bacteria.
- Many people carry the bacteria in their throat or nose without getting sick.
- In some people, pneumococcal disease can cause serious and life-threatening infections of the lungs (pneumonia), the lining that covers the brain (meningitis) and the blood (bacteremia).
- Permanent complications of infection include brain damage and deafness.

How are pneumococcal bacteria spread?

- Pneumococcal bacteria are spread from one person to another by coughing, sneezing, through saliva, and close face-to-face contact.

How can pneumococcal disease be prevented?

- Be immunized. The vaccine is the best way to protect you against 23 common strains of *Streptococcus pneumoniae* bacteria.
- When you get immunized, you help protect others

- Residents of nursing homes and other chronic care facilities.
- Persons 2-64 years with the following conditions:
 - Alcoholism
 - Chronic cerebrospinal fluid leak
 - Chronic heart diseases (all conditions)
 - Chronic lung diseases (excluding asthma, unless on high doses of oral corticosteroid therapy)
 - Cystic fibrosis
 - Diabetes mellitus
 - Homelessness
 - Illicit drug use
 - Neurologic conditions where clearance of oral secretions is impaired
 - Predialysis, peritoneal dialysis and hemodialysis
 - Cochlear implant candidate or recipient
 - Anatomic or functional asplenia *
 - Chronic liver disease (including hepatitis B and C) *
 - Chronic kidney disease (including nephrotic syndrome) *
 - Congenital immunodeficiencies *
 - Hematopoietic stem cell transplant recipient *



Pneumococcal 23 Vaccine Assessment Form Section 3

- **Discharged:**

- Fax form back to Weyburn Public Health at (306) 842-8637 for follow up by local Public Health Nurses



Pneu-P-23 Vaccine Follow Up

- Pneumococcal 23 Vaccine Assessment Form will be faxed to the local Public Health office where client resides
- Public Health nurse will contact individual to confirm eligibility and make arrangements for Pneu-P-23 if individual wishes to get vaccine.



Scenario 1

- 21 year old male patient into the hospital with asthma . Takes Ventolin and Flovent inhalers prn.
- Is he eligible for Pneumo 23 vaccine?
 - No



Scenario 2

- 52 year old women has been hospitalized 3 times for pneumonia with no underlying medical conditions.
 - Is she eligible for Pneumo 23 vaccine?
 - No



Scenario 3

- 43 year old male with a long history of drug and alcohol abuse.
 - Is he eligible for Pneumo 23 vaccine?
 - Yes



Scenario 4

- Pregnant 27 year old woman with diabetes mellitus.
 - Is she eligible for Pneumo 23 vaccine?
 - Yes



Questions

Thanks for your time!!!!





References

- Saskatchewan Immunization Manual 2012 - <http://www.health.gov.sk.ca/immunization-manual>
- Sask Ministry of Health ***Pneumococcal Polysaccharide 23 vaccine*** Fact Sheet May 2012 - <http://www.health.gov.sk.ca/pneumococcal-disease-pneumo23>
- Communicable Disease Management Protocol – Invasive Pneumococcal Disease (Streptococcus pneumoniae) (Pneumococcus) – Manitoba Communicable Disease Control Branch 2011 - <http://www.gov.mb.ca/health/publichealth/cdc/protocol/strep.pdf>
- 2012 Canadian Immunization Guide - <http://www.phac-aspc.gc.ca/publicat/cig-gci/p04-pneu-eng.php>
- MMWR (CDC) - <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5934a3.htm>
- Picture – Strep.jpg microbewiki.kenyon.edu