VACCINES: Pneumococcal, Influenza, & Shingles
Immunization Guidelines and Saskatchewan Health Coverage Considerations

Vaccines prevent morbidity and mortality to various degrees. Many vaccines are publicly funded, especially if potentially life-saving. When guideline recommendations & public coverage differ, clinicians/patients must weigh the evidence for benefit versus the out-of-pocket patient cost. Note: Vaccine costs listed in this document do not include markup, dispensing fees, or administration fees, which can vary depending on who is administering the vaccine.

### 1. Who may benefit from a PNEUMOCOCCAL vaccine in Saskatchewan?

Available vaccines include the PNEUMOVAX 23-valent vaccine ($24) and the PREVNAR 13-valent vaccine ($103).

<table>
<thead>
<tr>
<th>Covered in Sask:</th>
<th>Evidence for benefit</th>
<th>Clinical Controversies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 dose of PNEUMOVAX for anyone ≥65 years old.</td>
<td>A single pneumococcal vaccination appears to reduce the risk of community-acquired pneumonia by 30% (NNT = 55) and the risk of a COPD exacerbation by 40% (NNT = 8).2,19,20</td>
<td>Immunization guidelines\textsuperscript{NACI} suggest that if PNEUMOVAX was given before the age of 65, a booster dose should be given 5 years later to all patients regardless of risk factors.18 This recommendation is based on the tendency for older adults to have a weakened immune system.</td>
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<tr>
<td>1 dose of PNEUMOVAX for anyone with specific medical conditions (e.g. diabetes, COPD, others*).</td>
<td>No trials have yet assessed the efficacy of PREVNAR and PNEUMOVAX combined versus one vaccine alone.</td>
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<tr>
<td>2 doses of PNEUMOVAX spaced 5+ years apart for anyone with specific high risk medical conditions (e.g. HIV, transplants, others*).</td>
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\*Visit [http://publications.gov.sk.ca/documents/13/108111-Pneu-P-23%20April%202017.pdf](http://publications.gov.sk.ca/documents/13/108111-Pneu-P-23%20April%202017.pdf) for a full list of individuals covered for PNEUMOVAX in SK.

**Bottom line:** Pneumococcal vaccination effectively reduces the risk of invasive pneumococcal disease. It’s uncertain if one vaccine provides extra benefit over another.

### 2. Who may benefit from an INFLUENZA vaccine in Saskatchewan?

Available vaccines include trivalent (3-strain, $9 covered in Sask), quadrivalent (4-strain, $12 covered in Sask), a trivalent high-dose formulation (4 times more antigen than the usual trivalent vaccine, $64), and others.

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<td>Annual quadrivalent vaccination to anyone ≥6 months old.</td>
<td>In general, influenza vaccination is 10-60% effective depending on yearly match.6,7</td>
<td>Immunization guidelines\textsuperscript{NACI} suggest that the statistically significant benefit for the high dose influenza vaccination (NNT = 200) warrants administration to all adults ≥65 years old.11</td>
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<tr>
<td>High-dose trivalent vaccination (FLUZONE HIGH-DOSE) to anyone in long-term care ≥65 years old.</td>
<td>In adults ≥65 years old, influenza vaccination reduces the risk of influenza from 6% to 2.4% (NNT = 28).8</td>
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<td>Compared to standard dosing, high-dose influenza vaccination prevents more influenza cases in adults ≥65 years old, but the absolute benefit is small (NNT = 200).9</td>
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<td>For adults in long-term care ≥65 years old, high-dose influenza vaccination prevents hospitalizations (NNT = 81).10</td>
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**Bottom line:** Influenza vaccination effectively reduces influenza risk, regardless of formulation. Using the high-dose influenza vaccine for adults in long-term care ≥65 years old can additionally reduce hospitalizations.

### 3. Who may benefit from a SHINGLES vaccine in Saskatchewan?

Two shingles vaccines are available: a 2-dose recombinant vaccine (SHINGRIX, $134 per dose) and a live vaccine (ZOSTAVAX, $203). Shingles vaccination is guideline recommended, with high-quality evidence to support, but is not currently covered publicly in Saskatchewan. Some drug plans offer private coverage. NIHB coverage Jan/2021 for age 65-70 yrs SHINGRIX.

<table>
<thead>
<tr>
<th>SHINGRIX or ZOSTAVAX?</th>
<th>What if the patient already received ZOSTAVAX?</th>
<th>What if the patient previously had shingles?</th>
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<tr>
<td>SHINGRIX is vaccine of choice. The baseline risk of shingles in adults ≥65 years old is approximately 1% per year.17 SHINGRIX will reduce this risk by 91%,12 ZOSTAVAX only by 50%.13 Typically the SHINGRIX vaccination series is offered starting when patients turn 50.</td>
<td>Immunization guidelines suggest vaccinating again, this time using SHINGRIX. American guidelines suggest waiting 2 months before re-vaccination;14 Canadian guidelines suggest waiting 1 year (since ZOSTAVAX is most effective in the first year).15</td>
<td>Since shingles may occur again, immunization guidelines suggest vaccinating with SHINGRIX one year after the shingles episode.15 This recommendation is based on expert opinion.</td>
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See also: RxFiles Q&A’s on Shingrix & Zostavax, available online at [www.rxfiles.ca](http://www.rxfiles.ca), for further comparison of ZOSTAVAX and SHINGRIX.

**Bottom line:** Shingles vaccines are efficacious, and indicated in older adults, but not covered publicly for all.
References: