Communicating Importance of Influenza Vaccination for Older Adults

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VITALiTY
Vaccine Initiative To Add Life To Years

Presenter Disclosure

• I have relationships with commercial interests
  – Advisory Boards – GSK, Pfizer, Sanofi
  – Clinical Trials – GSK, Sanofi
  – Honoraria – Merck, Pfizer, Sanofi
  – Travel Support – GSK, Pfizer, Sanofi

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Experts rank immunization among key measures for preventing adverse health outcomes.

**Case Scenario: influenza outcomes**

1) 75 yo man active and independent in the community
   - Adheres to a healthy diet and exercises daily
   - Believes that he is healthy and does not need influenza vaccination
   - Dies from influenza illness contracted on a cruise ship

2) 75 yo man active and independent in the community
   - Healthy diet and has two chronic diseases but does not exercise daily
   - Receives annual influenza vaccination.
   - Develops medically attended influenza illness while on a cruise ship
   - His wife who was vaccinated is an “asymptomatic seroconverter”
**Case Scenario: influenza disabling complications**

75 yo woman previously active and independent in the community

- Had received annual influenza vaccination but missed the current seasonal vaccination.
- In late January, she developed sudden onset of muscle aches, feverishness and cough - 24 hours later intubated in the ICU
- Lifelong non-smoker who had been independent in her home. She has hypertension stable on medications and stable heart disease.
- 10-day hospitalization including 3 days in ICU - discharged to rehab facility with diagnosis of exacerbation of chronic lung disease.
- On admission to geriatric rehabilitation, required assistance for transfers and difficulty walking.
- *Her question:* Will I ever be able to go back to my home?

**Case Scenario - Pneumonia**

80 yo woman active and independent in community, enjoys walk several times a week and going on cruises with neighbours

- Develops atrial fibrillation and becomes quite sedentary because of concerns about her heart – palpitations with exercise and ultimately requires pacemaker for heart rate control
- Rarely cooks meals and relies on daughter to bring groceries but with encouragement to resume regular exercise, function improves
- Hospitalized with pneumonia and further loss of independence and now unable to bathe independently
- **Recovery to functional baseline by hospital discharge:** 67% chance of remaining independent one year later
- **Discharged with continued dependence for bathing:** 40% 1-year mortality rate

Boyd CM et al. JAGS 56:2171-9, 2008
**The Immune System Weakens with Age**

Incidence of serious outcomes of influenza

- 90% of influenza deaths occur in older people
- For every influenza death, there are 3–4 influenza hospitalization
  
  **greatest impact when A/H3N2 strains circulate**

Response to vaccination

**CURRENT INFLUENZA VACCINE**

Efficacy is 70–90% in preventing respiratory illness in healthy adults and only 30–40% in older people **particularly for H3N2 strains**

BUT are cost-saving –

**mainly due to the prevention of A/H3N2 hospitalization**

indicates a clear margin for improvement

**in protection against A/H3N2**

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**Influenza and Pneumonia:**
**Predictors of Hospitalization and Death**

<table>
<thead>
<tr>
<th>Age, years</th>
<th>Score</th>
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<tr>
<td>&lt;70</td>
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<tr>
<td>70-74</td>
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<td>75-79</td>
<td>28</td>
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<tr>
<td>80-89</td>
<td>42</td>
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<tr>
<td>≥90</td>
<td>56</td>
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| Male       | 9     |

<table>
<thead>
<tr>
<th>OP Visits</th>
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<tr>
<td>0</td>
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<td>1-6</td>
</tr>
<tr>
<td>7-12</td>
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<tr>
<td>≥13</td>
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</table>

| Previous hospitalization for pneumonia or influenza | 63 |

<table>
<thead>
<tr>
<th>Comorbidity</th>
<th>Score</th>
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<tbody>
<tr>
<td>Pulmonary disease</td>
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<tr>
<td>Heart disease</td>
<td>6</td>
</tr>
<tr>
<td>Renal disease/ transplant</td>
<td>12</td>
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<tr>
<td>Dementia or stroke</td>
<td>22</td>
</tr>
<tr>
<td>Nonhematological and hematological cancer</td>
<td>48</td>
</tr>
</tbody>
</table>

Hak et al. JID 189:450, 2004
Resilience to Influenza with Aging

Vaccine Preventable Disability

Catastrophic disability

- Defined as a loss of independence in ≥ 3 basic Activities of Daily Living
- 14.6% of older adults hospitalized with influenza experience catastrophic disability
- Disability due to influenza hospitalization is also linked to leading causes of catastrophic disability

1. Strokes
2. CHF
3. Pneumonia and influenza
4. Ischemic heart disease
5. Cancer
6. Hip fracture

2. Ferrucci et al. JAMA 1997;277:728.
Keeping your glass half full!
Exercise, diet, smoking cessation and vaccination

Are you willing to risk your independence this winter?