Primary Care Concerns for the HIV Aging Population and the Hope continues

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Disclosure

- I do not have any financial relationships to disclose for this presentation

Learning Objectives

- Recognize the common comorbidities in older people with HIV
- Apply age-related recommendations for USPSTF-and IDSA-recommended primary care screenings in people with HIV
Understanding the Causes of Morbidity and Mortality in Older People with HIV

Trends in the Percentage Distribution of Deaths with HIV Infection as the Underlying Cause, by Age Group, 1987–2018—United States

Deaths Among People with Diagnosed HIV, U.S., 2010–2018

* Rates per 1,000 persons with diagnosed HIV infection.
† Deaths among persons with HIV infection regardless of cause.
§ HIV-related deaths include deaths with an underlying cause with an ICD-10 code of B20-B24, O98.7, or R75.
¶ Deaths by cause available through 2017 because of reporting delays.

Bosh K, et al. MMWR 11/20/20. Vol 69 Number 46. 1717-1724
### Common Comorbidities in HIV Infection

- Depression
- Bipolar Disease
- Alcohol use
- Tobacco use
- Other Drug use
- Human papillomavirus infection
- Hepatitis B
- Hepatitis C
- Syphilis
- Other STIs
- Tuberculosis
- Hyperlipidemia
- Diabetes mellitus
- Hypertension
- Heart disease
- Osteoporosis
- Non-AIDS cancers

### Improvements in Life Expectancy

Comorbidity-free years were those lived before incident diagnosis of chronic liver disease, chronic kidney disease, chronic lung disease, diabetes, cancer, or cardiovascular disease.

### Mortality/Incidence of Comorbidities, HIV+ vs HIV-

Events per 100 Person-Years, Kaiser Permanente 2000-2016

Primary care screenings for Older Adults with HIV

Resources for Primary Care Screenings in People with HIV

- U.S. Preventive Services Task Force
  - Home page | United States Preventive Services Taskforce (uspreventiveservicestaskforce.org)

- Primary Care Guidance for Persons with HIV
  - Primary Care Guidance for Persons With Human Immunodeficiency Virus: 2020 Update by the HIV Medicine Association of the Infectious Diseases Society of America (idsociety.org)

U.S. Preventive Services Task Force A/B Recommendations

<table>
<thead>
<tr>
<th>Grade</th>
<th>Definition</th>
<th>Suggestions for Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>The USPSTF recommends this service. There is high certainty that the net benefit is substantial.</td>
<td>Offer or provide this service.</td>
</tr>
<tr>
<td>B</td>
<td>The USPSTF recommends this service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.</td>
<td>Offer or provide this service.</td>
</tr>
</tbody>
</table>

- 53 recommendations currently have A or B ratings
- A portion of these recommendations target older individuals

Home page | United States Preventive Services Taskforce (uspreventiveservicestaskforce.org)
USPSTF Recommendations for Older People

<table>
<thead>
<tr>
<th>Topic Description</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA screening Ultra sound one time in men aged 65-75 who ever smoked</td>
<td>B</td>
</tr>
<tr>
<td>Diabetes mellitus screening Adults aged 40-70 who are overweight or obese…</td>
<td>B</td>
</tr>
<tr>
<td>ASA use to prevent CVD and colorectal cancer Low-dose ASA in adults aged 50-59 who have a 10% or greater risk of CVD, are not at risk of increased bleeding, and a life expectancy at least 10 years</td>
<td>B</td>
</tr>
<tr>
<td>Breast cancer screening Biennial screening mammography for women aged 50-74 years</td>
<td>B</td>
</tr>
<tr>
<td>Cervical cancer screening Detailed recommendations regarding use of cytology, HPV testing, or both in women up to 65 years</td>
<td>A</td>
</tr>
</tbody>
</table>

Screening for Breast and Cervical Cancer in Women with HIV (IDSA)

- Guidelines are similar to the USPSTF recommendations
- Breast Cancer: Age 50–75 years: mammography performed at least every 2 years
- Cervical Cancer age ≥30 years:
  - Pap only: Pap at diagnosis of HIV, repeat yearly × 3, then if all normal, Pap every 3 years
  - Pap with HPV testing, if both negative then Pap with HPV every 3 years.
  - In general, continue screening past 65 years

Primary Care Guidance for Persons With Human Immunodeficiency Virus: 2020 Update by the HIV Medicine Association of the Infectious Diseases Society of America (idsociety.org)

USPSTF Recommendations for Older People

<table>
<thead>
<tr>
<th>Topic Description</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Colorectal screening All adults aged 50-75 years</td>
<td>A</td>
</tr>
<tr>
<td>Colorectal screening All adults aged 40-49 years</td>
<td>B</td>
</tr>
<tr>
<td>Falls prevention Exercise interventions to prevent falls in community-dwelling adults aged 65 or older at increased risk</td>
<td>B</td>
</tr>
<tr>
<td>Hepatitis C screening In adults aged 18-79 years</td>
<td>B</td>
</tr>
<tr>
<td>CT Lung cancer screening Adults aged 50-80 who have a 20 pack-year history and currently smoke or quit within the past 15 years</td>
<td>B</td>
</tr>
<tr>
<td>Osteoporosis screening Bone measurement testing in post-menopausal women less than 65 years at increased risk as well as all women 65 years and older</td>
<td>B</td>
</tr>
</tbody>
</table>
Cancer as a cause of death among people with AIDS in the United States

- Evaluation of cancer deaths in a U.S. cohort of 83,282 persons with AIDS
- NHL was the most common cause of cancer death
- Lung cancer was the most common non-AIDS cancer


University of Colorado: Malignancy as a Cause of Death, 2010-2015; 32 cancer deaths out of 100 total deaths

- Lymphoma (EBV, HHV8)
- Lung (smoking)
- Liver (HCV, HBV)
- Tongue (smoking, HPV)
- Anal (HPV)
- Uterine (HPV)
- Breast (smoking)
- Colon (smoking)
- Glioblastoma
- Astrocytoma

Simard E and Engels E. CID 2010;51:957-962


- AIDS-Related
- Liver-Related
- CVD-Related
- Non-AIDS CA
- Other/Unknown

CT Lung Cancer Screening

- 2021 update of the 2013 recommendation
- Applies to adults aged 50-80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years
- Annual screening with low dose chest CT
- Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability/willingness to have curative lung surgery


Relative Risk of Cancer, HIV vs Non-HIV

<table>
<thead>
<tr>
<th>Type of Cancer</th>
<th>Standardized Rate Ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anal Cancer</td>
<td>42.9</td>
<td>34.1 - 53.3</td>
</tr>
<tr>
<td>Cervical Cancer</td>
<td>21</td>
<td>11.2 - 35.9</td>
</tr>
<tr>
<td>Hodgkin Lymphoma</td>
<td>14.7</td>
<td>11.6 – 18.2</td>
</tr>
<tr>
<td>Liver Cancer</td>
<td>7.7</td>
<td>5.7 – 10.1</td>
</tr>
<tr>
<td>Lung Cancer</td>
<td>3.3</td>
<td>2.8 – 3.9</td>
</tr>
<tr>
<td>Melanoma</td>
<td>2.6</td>
<td>1.6 – 3.6</td>
</tr>
<tr>
<td>Oropharyngeal Cancer</td>
<td>2.8</td>
<td>1.9 – 3.4</td>
</tr>
<tr>
<td>Leukemia</td>
<td>2.5</td>
<td>1.6 – 3.8</td>
</tr>
<tr>
<td>Colorectal Cancer</td>
<td>2.3</td>
<td>1.8 – 2.9</td>
</tr>
<tr>
<td>Renal Cancer</td>
<td>1.8</td>
<td>0.4 – 0.8</td>
</tr>
</tbody>
</table>


Colorectal Cancer Screening

- 2021 update of the 2016 recommendation
- Recommends colorectal screening in all adults 50-75 years (A recommendation) and 45-49 years (B recommendation)
- Screening may be offered to selected individuals aged 76-85 years based on overall health, prior screening, and preferences (C recommendation)
- Screening methods can include stool-based tests (FOBT, FIT) or direct visualization methods (CT colonography, flexible sigmoidoscopy, or colonoscopy)

Strategies For Cancer Screening and Prevention in an HIV Program

<table>
<thead>
<tr>
<th>Type of Cancer</th>
<th>Prevention Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung cancer</td>
<td>Tobacco counseling, low dose chest CT scanning</td>
</tr>
<tr>
<td>Oral cancers</td>
<td>Oral exams</td>
</tr>
<tr>
<td>Anal cancer</td>
<td>Rectal exam, anal cytology (?)</td>
</tr>
<tr>
<td>Prostate cancer</td>
<td>Rectal exam, PSA testing discussion</td>
</tr>
<tr>
<td>Cervical cancer</td>
<td>Pelvic exam, cervical cytology, HPV testing</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>Rectal exam, fecal occult blood testing, colonoscopy</td>
</tr>
<tr>
<td>Melanoma</td>
<td>Periodic skin exam, sun exposure counseling</td>
</tr>
<tr>
<td>Liver cancer</td>
<td>Hepatitis B vaccine, Hepatitis B and C treatment, abdominal ultrasound or CT scan for surveillance</td>
</tr>
</tbody>
</table>

Recommendations for Immunizations in Older Adults Living with HIV

HIV Adult Immunization Schedule by Vaccine and Age Group, June 2021*

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19-26 years</th>
<th>27-59 years</th>
<th>60-64 yrs</th>
<th>&gt; 65 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza</td>
<td>1 dose annually</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tdap</td>
<td>Substitute Tdap for Td once every 10 years, booster every 10 years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPV</td>
<td>2 doses (6, 12 and 24 months)</td>
<td>24-48 (boys)</td>
<td>21-41 (girls)</td>
<td></td>
</tr>
</tbody>
</table>

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<th>&gt; 65 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Td/Tdap</td>
<td>Substitute Tdap for Td once, then Tdap booster every 10 years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella</td>
<td>2 doses 3 months apart (if CD4 &lt; 200 and no immunity to Varicella)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HPV</td>
<td>3 doses (0, 2 and 6 months)</td>
<td>21-41 (girls)</td>
<td>27-41 (boys)</td>
<td></td>
</tr>
<tr>
<td>Zoster RZV</td>
<td>2 doses at 0 and 6 months &amp; &gt; 50 yrs</td>
<td>2 doses at 0 and 6 months &amp; &gt; 50 yrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMR</td>
<td>1 or 2 doses (if CD4 &gt; 200 and no immunity)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCV-13</td>
<td>2 doses 6 weeks apart, at least 2 years after PCV-23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPSV-23</td>
<td>2 doses 5 years apart, at least 2 months after PCV-23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>2 or 3 doses depending on vaccine, 4 weeks before elective surgery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>2 or 3 doses depending on the vaccine, check lab after</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal Conjugate</td>
<td>1 dose of MenACWY-3P or MenACWY-CRM85-2 if no prior vaccine and &lt; 5 years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COVID-19 Vaccine</td>
<td>2 doses of Pfizer, 2 doses of Moderna, or 1 dose of Johnson &amp; Johnson (CDC states no preference)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* After assessing age, presence of immunity, and CD4 count. High dose flu vaccine is my recommendation. Recombinant zoster vaccine is preferred over the live zoster vaccine. Live vaccines (MMR, Varicella, Zoster Live, and Yellow Fever) should not be given if CD4 < 200 cells/mm3. The oral typhoid and live influenza vaccines are contraindicated in HIV.
High Dose Influenza Vaccine

- The vaccine is more immunogenic in individuals 65 years or older.¹
- The vaccine is more immunogenic in persons living with HIV infection.²
- The vaccine has been shown to provide better protection against laboratory-confirmed influenza than standard dose vaccine.³
- A study demonstrated a mortality benefit of high dose vaccine in the 2012-2013 season but not in 2013-2014.⁴


Updated Immunization Section in the Federal OI Guidelines


Immunizations in Older Adults

- Consider high dose influenza vaccine in persons 65 and older
- Recombinant zoster vaccine is preferred over the live zoster vaccine
- Repeat the pneumococcal polysaccharide vaccine at age 65 if 5 years have elapsed since the last dose
- Continue to boost Td/Tdap and the meningococcal conjugate vaccines at appropriate intervals

Advisory Committee on Immunization Practices (ACIP) Vaccine Recommendations and Schedules | CDC
COVID-19 Vaccines in HIV

• Large cohort studies report a higher risk of mortality in people with HIV who develop COVID-19
• CDC has recognized HIV infection as one of the medical conditions that increase risk for severe illness with COVID-19
• People with HIV often have other comorbidities associated with risk for severe COVID-19
• ACIP currently does not express a preference with regards to the 3 COVID-19 vaccines available through EUA

Factors Associated with risk of Severe Disease in COVID-19 are Common in People with HIV

• Older age: ~50% of people with HIV are over 50
• Obesity: common in HIV, weight gain with ART
• Cardiovascular disease: HIV is a risk factor
• Lung disease: increased tobacco use in HIV
• Hypertension
• Diabetes mellitus
• Cancer: increased non-AIDS cancers in HIV
• Gender: HIV more common in men in the U.S.
• Immunocompromising diseases and medications

COVID-19 Vaccination in People with HIV: Talking Points

• People with HIV who were well-controlled on ART were included in the Phase 3 trials of the Moderna, Pfizer, and Johnson & Johnson vaccines
• Complete data on immunogenicity, efficacy, and safety from these trials in people with HIV are not yet available
• None of the COVID-19 vaccines currently available by EUA are live vaccines
• People with HIV on ART with a normal CD4 count respond well to licensed vaccines so we might see the same with COVID-19 vaccines
• People with HIV who have advanced disease may have a reduced response to vaccines but are also at greater risk for severe COVID-19
Summary

• Life expectancy continues to improve for people with HIV
• Comorbidities continue to play a large role in morbidity and mortality
• Many of the USPSTF recommendations are particularly important for older people with HIV
• In 2021, new guidelines for lung cancer and colorectal cancer screening were released
• A number of immunizations are important in older people with HIV. The role of COVID-19 vaccination continues to evolve

Question-and-Answer Session