# 2016-2017 Preventive Care Guidelines

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Introduction

Blue Cross and Blue Shield of Illinois, Blue Cross and Blue Shield of Montana, Blue Cross and Blue Shield of New Mexico, Blue Cross and Blue Shield of Oklahoma, and Blue Cross and Blue Shield of Texas (“the Plans”) publish and disseminate evidence-derived Preventive Care Guidelines (“Guidelines”) based upon the recommendations of recognized sources such as professional medical associations, specialty societies, professional consensus panels, national task forces, and governmental entities. The Guidelines are designed to improve physician/practitioner awareness of (and compliance with) effective clinical preventive care, to improve patient education and to increase the percentage of members who receive recommended clinical preventive care services.

The Guidelines do not cover all possible circumstances, but should be considered a summary of basic preventive services for these populations:

1. Children from birth to 18 years
2. Adults 19 years and older
3. Adults 65 years and older
4. Women needing perinatal care

The Guidelines are focused upon primary prevention; that is, strategies that have been shown to reduce the likelihood of future adverse outcomes in individuals prior to the onset of symptomatic disease. Services such as immunizations, education and counseling, and screening tests are primary preventive services. The Guidelines apply to average risk, asymptomatic and otherwise healthy individuals. Preventive care interventions appropriate for those with other levels of risk (increased or decreased) will vary by individual circumstance, and physicians/practitioners are encouraged to tailor the approach to these patients as necessary. For certain increased risk groups, additional guidelines have been included to assist physicians/practitioners.

Expert groups may disagree on certain preventive interventions, and as a consequence, recommendations regarding preventive services are not always identical. Despite this disparity, there are numerous areas where consensus exists, allowing for the formulation of this set of guidelines. Whenever possible, the Guidelines follow the recommendations of the United States Preventive Services Task Force (USPSTF) that are considered “recommended” (“A” and “B” level recommendations). When USPSTF recommendations do not provide sufficient guidance, the Plans, with input from network providers, have adopted the recommendations of other professional organizations that evaluate the value of clinical preventive services.

The Guidelines represent a minimal set of recommended preventive health services. Additional interventions may be indicated, except where there is a specific recommendation against routine screening. Individual considerations for a given patient should dictate clinical decisions. In addition, physicians/practitioners are encouraged to review the USPSTF statements regarding services that are should not be routinely used (level “D”). These are available at: [http://www.uspreventiveservicestaskforce.org/BrowseRec/Index](http://www.uspreventiveservicestaskforce.org/BrowseRec/Index).

The following points should be emphasized when using the guidelines:

- Unless specified, guidelines are meant to apply to average risk, asymptomatic and otherwise healthy individuals. Preventive care interventions appropriate for those with other levels of risk (increased or decreased) will vary by individual circumstance, and physicians are encouraged to tailor the approach to these patients as necessary.
- The interventions listed are minimal guidelines. Additional interventions may be useful.
- The Guidelines are designed to assist clinicians by providing a guide to clinical preventive care that is usually appropriate, and are not intended to replace a clinician’s judgment, establish a protocol for all patients, or define standards of practice. The final decision regarding medical treatment, including preventive care services, is made by the physician and the patient.
The Guidelines document is not a statement of coverage. Coverage is based upon member eligibility, the member’s specific benefit plan design, and state or federal law. There is substantial variation in coverage between benefit programs, and inclusion of a service in the Guidelines does not imply that the service is necessarily a covered benefit and does not guarantee payment.

Because the Guidelines summarize a large amount of information, all details cannot be provided. The practitioner is, therefore, encouraged to review the original sources for more complete discussion of indications and contraindications for specified preventive care services, and to verify the accuracy of the summary.

Sources are cited for each guideline. Where possible, the exact recommendation of the source is used. In some cases, the recommendation, or its periodicity, has been modified to resolve conflicting recommendations by various sources, or to facilitate practical usage of the guideline in clinical practice settings.

This material is provided for informational purposes only and is not intended to be a substitute for the sound independent medical judgment of health care practitioners. Health care providers are instructed to exercise their independent medical judgment based on the patient’s individual medical circumstances including, but not limited to symptoms, history, family history and other factors. The final decision about whether a particular service or treatment should be rendered is between the health care provider and the member (patient). The fact that a particular medical service is listed in this document is not a guarantee that benefits are available for such service. The member is instructed to refer to their health benefits document or certificate of coverage to determine what benefits are available for the particular medical service.

### Preventive Health Guidelines for Children Age Birth To 18

#### Part I: Neonates (Birth to 1 Month)

1. **History and Physical Examination** (Reference: 1-AAP)
   
   Perform newborn examination and at 3-5 days:
   
   a) History

### KEY TO MAJOR PROFESSIONAL ORGANIZATIONS REFERENCED IN THE GUIDELINES

<table>
<thead>
<tr>
<th>Key</th>
<th>Organization Name</th>
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<tr>
<td>AAP</td>
<td>American Academy of Pediatrics</td>
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<td>ACIP</td>
<td>Advisory Committee on Immunization Practices of the CDC</td>
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<tr>
<td>ACS</td>
<td>American Cancer Society</td>
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<td>ACOG</td>
<td>American Congress of Obstetricians and Gynecologists</td>
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<td>AAFP</td>
<td>American Academy of Family Practice</td>
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<td>AHA</td>
<td>American Heart Association</td>
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<td>ADA</td>
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<td>AMA</td>
<td>American Medical Association</td>
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<td>CDC</td>
<td>Centers for Disease Control and Prevention</td>
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<td>HHS</td>
<td>U.S. Department of Health and Human Services</td>
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<td>IDPH</td>
<td>Illinois Department of Public Health</td>
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<td>MDPHHS</td>
<td>Montana Department of Public Health and Human Services</td>
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<td>NCI</td>
<td>National Cancer Institute</td>
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<td>NMDOH</td>
<td>New Mexico Department of Health</td>
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<td>NMHSD</td>
<td>New Mexico Human Services Department</td>
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<td>OSDH</td>
<td>Oklahoma State Department of Health</td>
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<td>TDSHS</td>
<td>Texas Department of State Health Services</td>
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<td>USPSTF</td>
<td>U.S. Preventive Services Task Force</td>
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b) Physical exam  
c) Length and weight, weight for length  
d) Head circumference  
e) Development surveillance  

2. Screening Tests (References: 2, 3 – AAP; 4, 5, 6 – USPSTF; 7, 8, 9, 10, 11 – States of Illinois, Montana, New Mexico, Oklahoma and Texas) 
   • Perform screening tests prior to discharge or transfer from the nursery, but no later than 7 days of age.  
   USPSTF recommends screening for phenylketonuria, congenital hypothyroidism and sickle-cell disease as a minimum. **However, state regulations define required screening.** The state-specific lists of required newborn screening can be found at these sites:  
   MT [http://dphhs.mt.gov/publichealth/cshs/NewbornScreeningPrograms.aspx](http://dphhs.mt.gov/publichealth/cshs/NewbornScreeningPrograms.aspx)  
   NM [http://nmhealth.org/about/phd/fhb/cms/nbgs/](http://nmhealth.org/about/phd/fhb/cms/nbgs/)  
   OK [Rchcls1hcmdata\hcmdata\QIP\Preventive Guidelines 2015-2017\Resources 2016\OKLAHOMA NEWBORN.htm](Rchcls1hcmdata\hcmdata\QIP\Preventive Guidelines 2015-2017\Resources 2016\OKLAHOMA NEWBORN.htm)  
   TX [http://www.babysfirsttest.org/newborn-screening/states/texas#first-section](http://www.babysfirsttest.org/newborn-screening/states/texas#first-section)  

3. Ocular Chemoprophylaxis (Reference: 12 – USPSTF)  
   • Administer ocular antibiotic prophylaxis at birth.  

4. Immunizations (References: 13, 19 – CDC)  
   • Administer immunizations in accordance with the ACIP Recommended Immunization Schedules for Persons Aged 0 through 18 Years. Copies of the Schedules are attached at the end of the document.  

5. Counseling/Anticipatory Guidance (Reference: 1 – AAP)  
   • Relevant topics include injury prevention, nutrition, and sleep positioning.  

**Part II: Children Age 1 month through 17 years – Average Risk Pediatric Population**  

1. General Recommendations – see table below. Provide preventive services for children in accordance with the recommendation summarized in the following table. (References: 1, - AAP; 14, 16, 17, 18, 21, 22, 56, 66 - USPSTF).  
   • **For Texas Medicaid, ages 0 to 21, please use the periodicity schedule at [http://www.dshs.texas.gov/thsteps/providers.shtm](http://www.dshs.texas.gov/thsteps/providers.shtm)**
2. **Immunizations** (References: 13 - CDC; 19 – ACIP; 20 – NMDOH)
   - Administer immunizations in accordance with ACIP Recommended Immunization Schedules for Persons Aged 0 through 18 years, or in accordance with state law or mandates if such exist. Copies of the ACIP immunization schedules are attached at the end of this document. NOTE: New Mexico physicians/practitioners are encouraged to follow the optimized “Done By One” immunization schedule. A copy of the “Done By One” schedule is attached and the most current version is available online at [http://nmhealth.org/publication/view/general/450](http://nmhealth.org/publication/view/general/450).

3. **Prevention of Dental Caries in Children from Birth through Age 5 Years** (Reference: 67- USPSTF)
• The USPSTF recommends that primary care clinicians prescribe oral fluoride supplementation starting at age 6 months for children whose water supply is deficient in fluoride. It is also recommended that primary care clinicians apply fluoride varnish to the primary teeth of all infants and children starting at the age of primary tooth eruption.

Part III: Recommendations for Select Populations at Risk

1. Iron Supplementation (Reference: 15 – USPSTF)
   • Routine iron supplementation is recommended for asymptomatic children age 6-12 months who are at increased risk for iron deficiency anemia. Premature and low birth weight infants are at increased risk for iron deficiency. In the U.S. race, income, education, and other socioeconomic factors are also associated with iron deficiency.

2. Hepatitis B Screening (Reference: 68 – USPSTF)
   • Screen for Hepatitis B in adolescents at high risk for infection. Risk factors include country of origin, HIV-positive persons, injection drug users, household contacts or sexual partners of persons with HBV infection, and men who have sex with men. Screening is also recommended for persons receiving hemodialysis or cytotoxic or immunosuppressive therapy.

3. Behavioral Counseling to Prevent Skin Cancer (Reference: 62 – USPSTF)
   • Children and adolescents age 10 to 17 should be counseled about minimizing ultraviolet radiation to reduce risk for skin cancer.

4. Sexually Transmitted Infections (Reference: 16, 17, 18 – USPSTF)
   a) Gonorrhea - Screen for Gonorrhea in sexually active adolescent females.
   b) Chlamydia - Screen for Chlamydia in sexually active adolescent females.
   c) Behavioral Counseling - Intensive behavioral counseling is recommended for all sexually active adolescents

Preventive Health Guidelines for Adults 18 years and Older

Part I: Adults at Average Risk

1. History and Physical Examination (Reference: 28 - ACS)
   a) Height and Weight Measurement: Get baseline height at initial visit and weight at every visit (References: 29 – AHA; 30 - USPSTF)
   b) Calculation of Body Mass Index: At every visit (References: 30 – USPSTF; 29 - AHA)
   c) Blood Pressure Measurement: At every visit (References: 31 - USPSTF)
   d) Female clinical breast exam (Reference: 32 – ACS; also see reference 33 - USPSTF)
      o Age 20 to 39 every 3 years
      o Age ≥40: annually

2. Counseling
   Provide health counseling regarding the following topics: (Reference: 18, 30, 34, 35, 37, 62 – USPSTF, 38 - ACS)
   a) Avoidance of tobacco and/or tobacco cessation
   b) Weight loss for obese adults
   c) Promotion of healthy diet
   d) Benefits of physical activity
   e) Alcohol use
   f) Sexually transmitted infection prevention
g) Risks and symptoms of endometrial cancer to women of average risk at the time of menopause. Strongly encourage women to report and unexpected bleeding or spotting to their physicians.

h) Minimizing exposure to ultraviolet radiation to reduce risk for skin cancer

3. Screening Tests
   a) Cholesterol
      Note: Recommendations from different national entities vary. We encourage review of the detailed and nuanced language in the following references: (References: 39 – USPSTF; 40 - ADA; 70 - AHA).
      • Screen men age 35 and older for lipid disorders.
      • Screen women age 45 and older for lipid disorders if they are at increased risk for coronary heart disease.
      • Men age 20 to 35 and women age 20 to 45 that are at increased risk for coronary heart disease should be screened for lipid disorder.
      • Reasonable options for screening interval include: every 5 years; screening at <5 year intervals for people who have lipid levels close to those warranting therapy; and screening at intervals >5 years for low-risk people who have had low or repeatedly normal lipid levels.
      • For adult diabetics, perform a lipid profile at least annually. If lipid values are low-risk, the lipid profile may be performed every two years.

   b) Breast cancer screening (female only)
      Note: Recommendations from different national entities vary. We encourage review of the detailed and nuanced language in the following references: (References: 33, 41 – USPSTF; 32 – ACS)
      • Screen women aged 50 to 74 years for breast cancer with biennial mammography. Some entities recommend annual mammography in this age group.
      • The decision to start regular, biennial screening mammography before the age of 50 years should be an individual one and take patient context into account, including the patient’s values regarding specific benefit and harm. Some entities recommend annual mammography in the 40 to 49 age group.
      • Primary care providers should screen women who have family members with breast, ovarian, tubal, or peritoneal cancer with one of several screening tools designed to identify a family history that may be associated with an increased risk for potentially harmful mutations in breast cancer susceptibility genes (BRCA1 or BRCA2). Women with positive screening results should receive genetic counseling and, if indicated after counseling, BRCA testing.

   c) Cervical Cancer Screening (Pap) (female only) (References: 25 – USPSTF; 26 – ACS; also see Reference 27 – ACOG)
      • Cervical cytology alone should be used for women aged 21 to 29 years, and screening should be performed every three years.
      • Younger women younger than 21 should not be screened, with the exception of women who are infected with HIV. More frequent screening is appropriate for certain women, including those infected with HIV.
      • Cytology and human papillomavirus (HPV) co-testing every five years is preferred for women aged 30 to 65 years; cytology alone every three years is acceptable.
      • Women younger than 30 years should not undergo co-testing.
      • Screening should be discontinued after age 65 years in women with adequate negative prior screening test results.
      • Routine cytology and HPV testing should be discontinued and not restarted for women who have had a total hysterectomy and never had cervical intraepithelial neoplasia 2 or higher.
      • Acceptable screening methods include liquid-based and conventional methods of cervical cytology collection.

   d) Prostate Cancer Screening (male only) (Reference: 42 – ACS; also see references 43 – USPSTF and 44 – AUA)
      • Prostate cancer screening recommendations vary, and review of the detailed language in the references is recommended. While the USPSTF recommends against PSA-based screening for prostate cancer, the American Cancer Society (ACS) and the American Urological Association (AUA) recommend an informed decision making process for men age 50 and older (ACS) or men age 55-69 (AUA) who have at least a ten year life
expectancy. Among the potential considerations for informed decision making are the risks, benefits and uncertainties of screening, as well as individual values and preferences. ACS states that prostate cancer screening should not occur without an informed decision making process.

e) **Colorectal Cancer Screening** (Reference: 46 – USPSTF; also see References 45 – ACS and 47 - ACOG)
Screen men and women age 50-75 for colorectal cancer using:
- Fecal occult blood test annually; or
- Flexible sigmoidoscopy every 5 years; or
- Colonoscopy every 10 years
Individuals at increased risk or at high risk of colorectal cancer should start screening earlier and be tested more often.
Note: Single–panel gFOBT performed in the medical office using a stool sample collected during a digital rectal examination is not a recommended option for CRC screening due to its very low sensitivity for advanced adenomas and cancer.

f) **Screening for Alcohol Misuse** (Reference: 35– USPSTF)
- Screen adults 18 and over for alcohol misuse and provide persons engaged in risky or hazardous drinking with brief counseling interventions to reduce alcohol misuse.

g) **Screening for Depression** (Reference: 48 – USPSTF)
- Screening for depression in the general adult population, including pregnant and postpartum women. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.

h) **Screening for Tobacco Use** (Reference: 34 - USPSTF)
- Ask all adults, including pregnant women, about tobacco use.

i) **Screening for Obesity** (Reference: 30 - USPSTF)
- Screen all adults for obesity. Clinicians should offer or refer patients with a body mass index (BMI) of 30 kg/m2 or higher to intensive, multicomponent behavioral interventions.

j) **HIV Serology** (Reference: 56 – USPSTF)
- Screen for HIV infection in adults age 18 to 65 years. Older adults who are at increased risk should also be screened. Screen all pregnant women for HIV, including those who present in labor who are untested and whose HIV status is unknown. The evidence is insufficient to determine optimum time intervals for HIV screening.

k) **Screening for Intimate Partner Violence** (Reference: 59 – USPSTF)
- Screen women of childbearing age for intimate partner violence, such as domestic violence, and provide or refer women who screen positive to intervention services.

l) **Screening for Hepatitis C** (Reference: 64 – USPSTF)
- Screen for Hepatitis C (HCV) infection in persons at high risk for infection and offer one-time screening for HCV infection to adults born between 1945 and 1965.

m) **Screening for Lung Cancer** (Reference: 69 - USPSTF)
- Screen annually for lung cancer with low-dose computed tomography in adults ages 55 to 80 years who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 years. 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 or willingness to have curative lung surgery.
4. **Immunizations** (References: 49, 50, 19 – ACIP)
   - Administer immunizations in accordance with the ACIP Recommended Adult Immunization Schedule or in accordance with state law or regulations. See the ACIP Recommended Adult Immunization Schedule at the end of this document.

5. **Preventive Treatment**
   a) **Aspirin** (Reference: 51 – USPSTF)
      - Adults aged 50 to 59 years with a ≥10% 10-year CVD risk: The USPSTF recommends initiating low-dose aspirin use for the primary prevention of cardiovascular disease (CVD) and colorectal cancer (CRC) in adults aged 50 to 59 years who have a 10% or greater 10-year CVD risk, are not at increased risk for bleeding, have a life expectancy of at least 10 years, and are willing to take low-dose aspirin daily for at least 10 years.

b) **Folic acid** (Reference: 52 – USPSTF)
   - All women planning or capable of pregnancy should take a daily supplement containing 0.4 to 0.8 mg (400 to 800 µg) of folic acid.

c) **Chemoprevention of breast cancer** (Reference: 53 – USPSTF)
   - Engage in shared, informed decision making with women who are at increased risk for breast cancer about medications to reduce their risk. For women who are at increased risk for breast cancer and at low risk for adverse medication effects, clinicians should offer to prescribe risk-reducing medications.

**Part II: Recommendations for Select Adult Populations at Increased Risk**

1. **Screening for Diabetes** (References: 54 – USPSTF; 55 – ADA)
   - Screening for abnormal blood glucose as part of cardiovascular risk assessment in adults aged 40 to 70 years who are overweight or obese. Clinicians should offer or refer patients with abnormal blood glucose to intensive behavioral counseling interventions to promote a healthy diet and physical activity.

   a) **Prevention or Delay of Type 2 Diabetes**
      - Test all adults, beginning at age 45, regardless of weight.
      - Test asymptomatic adults of any age who are overweight, are obese, or have one or more additional risk factors for diabetes.
      - Consider metformin therapy to prevent type 2 diabetes for:
         - Prediabetes;
         - BMI > 35 kg/m²
         - Age > 60 years
         - Women who have had gestational diabetes
      - Refer patients with prediabetes to a program of intensive diet and physical activity with a behavioral counseling component:
         - Target 7% body weight loss
         - Encourage at least 150 minutes/week of moderate-intensity physical activity.
         - Offer follow-up, including counseling, diabetes self-management education, and ongoing support.

2. **Tuberculosis Testing test person at increased risk for TB, Which includes the following** (References: 23, 24 – CDC)
   - Persons with increased risk for developing TB include the following:
     - Persons who may have recent infection, including: close contacts of persons with infectious pulmonary TB; persons who have recently immigrated from areas of the world with high rates of TB; or groups of people with high rates of TB transmission (homeless persons, those with HIV infections, injection drug use, persons who reside or work in institutional settings).
     - Persons with clinical conditions that are associated with progression to active TB, including: HIV infection, injections drug use, pulmonary fibrotic lesions on CXR, underweight, silicosis, chronic renal failure on hemodialysis, diabetes, gastrectomy, jejunoileal bypass, renal and cardiac transplantation, head and neck cancer, other neoplasms, prolonged corticosteroid or immunosuppressive therapy.
3. **Syphilis Serology** (References: 57, 58 – USPSTF)
   - The USPSTF recommends screening for syphilis infection in persons who are at increased risk for infection
   - Perform for all pregnant women.

4. **Gonorrhea Screening** (References: 17 – USPSTF)
   - Screen for gonorrhea in sexually active women age 24 years and younger and in older women who are at increased risk for infection.

5. **Chlamydia Screening** (References: 16 – USPSTF)
   - Screen for chlamydia in sexually active women age 24 years and younger and in older women who are at increased risk for infection.

6. **Counseling and Interventions to Address Tobacco Use** (Reference: 34 – USPSTF).
   - Ask all adults about tobacco use and provide tobacco cessation interventions for those who use tobacco products. Provide augmented, pregnancy-tailored counseling for pregnant women who use tobacco.

7. **Healthful Diet and Physical Activity for Cardiovascular Disease Prevention in Adults With Cardiovascular Risk Factors: Behavioral Counseling** (Reference: 37 - USPSTF)
   - Offer or refer adults who are overweight or obese and have additional cardiovascular disease (CVD) risk factors to intensive behavioral counseling interventions to promote a healthful diet and physical activity for CVD prevention.

8. **Screening for Hepatitis B Virus Infection** (Reference: 68 - USPSTF)
   - Screen for Hepatitis B in adults at high risk for infection.
   - Risk factors include country of origin, HIV positive persons, Injection drug users, household contacts or sexual partners with HBV infection, and men who have sex with men.
   - Screening is also recommended for persons receiving hemodialysis or cytotoxic or immunosuppressive therapy.

9. **Sexually Transmitted Infections: Behavioral Counseling** (Reference: 18- USPSTF)
   - Intensive behavioral counseling for adults who are at increased risk for sexually transmitted infections (STIs).

**Part III: Additional Recommendations for Adults Age 65 and Older**

In addition to the services recommended in the guidelines for adults age 19 and older, the following services are recommended for individuals age 65 and older:

1. **Immunizations** (Reference: 49 – ACIP)
   - Administer immunizations in accordance with the ACIP Recommended Adult Immunization Schedule. A copy is attached.

2. **Osteoporosis Screening** (Reference: 60 – USPSTF)
   - Screen women age 65 and older routinely for osteoporosis, with screening to begin at age 60 for women at increased risk for osteoporotic fractures.

3. **Screening for Abdominal Aortic Aneurysm** (Reference: 61 - USPSTF)
   - Men ages 65 to 75 who have ever smoked should be screened one time for abdominal aortic aneurysm, using ultrasonography.

4. **Prevention of Falls In Community Dwelling Older Adults** (Reference: 63 - USPSTF)
Exercise or physical therapy and vitamin D Supplementation to prevent falls is recommended for community-dwelling adults aged 65 years or older who are at increased risk for falls.

Part IV: Women Receiving Perinatal Care (References: 49 - ACIP; 65 - ACOG; 71 - USPSTF)

The following summary addresses key aspects of the American College of Obstetricians and Gynecologists Guidelines for Preconception Care, Prenatal Care and Postpartum Care, as they apply in uncomplicated situations. However, it does not attempt to cover all details, and readers are encouraged to refer to the original source document for the comprehensive guidelines.

I. Preconception Care

Preconception care aims to optimize a woman’s health, health behaviors, and knowledge prior to conception. Recommended care includes:

- History
  - Gynecologic, obstetrical, medical, surgical and psychiatric histories
  - Family history and genetic history
  - Assessment of socioeconomic, educational and cultural context
  - Immunization status
  - Medications (prescription and nonprescription)
- Physical Exam
- Preconception counseling and interventions, including:
  - Substance use (tobacco, alcohol, and drugs)
  - Family planning
  - Sexually transmitted diseases including HIV
  - Nutritional counseling and folic acid use
  - Safety and social supports
  - Immunizations, as indicated
  - Evaluation of medications
  - Consideration of preconception genetic screening
- Management of medical conditions, including diabetes, hypertension, epilepsy, thyroid conditions, maternal phenylketonuria, asthma, history of bariatric surgery, hemoglobinopathies, inherited thrombophilias, obesity, and other chronic diseases

II. Prenatal Care

Prenatal care involves an ongoing process of risk identification, assessment and management. Prenatal care visits should begin in the first trimester. A typical visit schedule is every 4 weeks for the first 28 weeks of gestation, every 2 weeks until 36 weeks of gestation, and weekly thereafter. The visit schedule may be altered for women requiring close surveillance, such as those with medical or obstetric problems or at the extremes of reproductive age.

First Prenatal Visit
• History
  o Obstetrical and medical histories
  o Family history and genetic history
  o History of substance use and abuse, including tobacco, alcohol, drugs
  o Assessment of socioeconomic, educational and cultural context
  o Immunization status
  o Medications (prescription and nonprescription) and allergies
• Physical exam including pelvic exam
• Education about the expected course of pregnancy, nausea and vomiting, signs and symptoms to report to the physician, laboratory tests to be done, costs, physician/midwife coverage for labor and delivery
• Education and counseling about safety practices (lap and shoulder belt use, infection prevention), counseling about substance use and abuse, psychosocial issues, nutrition, exercise, air travel
• Documentation of Last Menstrual Period (LMP) and assignment of Estimated Date of Delivery (EDD) / Estimated Date of Confinement (EDC)
• Recommend prenatal vitamins with folic acid and iron

Each Subsequent Prenatal Visit
• Blood pressure
• Weight
• Uterine size for progressive growth and consistency with EDD
• Presence of fetal heart activity at appropriate gestational ages
• Ask about fetal movement (at appropriate gestational ages), leakage of fluid, vaginal bleeding
• Urine dipstick, as clinically indicated

Initial Testing
• Blood type, D(Rh) type, Antibody screen
• Complete blood count
• Urinalysis
• Hepatitis B (HBsAg)
• Syphilis (VDRL/RDR)
• Rubella titer
• HIV
• Chlamydia
• For women at higher risk:
  o Gonorrhea
  o Tuberculin skin test
• Ultrasound, as indicated to address specific clinical questions

Antepartum Genetic Screening and Diagnosis
• Family history and ethnic background are key considerations in the need for genetic testing. There are a variety of ways to screen for fetal birth defects or genetic abnormalities. Obstetric providers should provide recommended screening or establish referral sources for
screening. Patients should be educated about available options.
- Screening for aneuploidy should be offered to all women who seek prenatal care before 20 weeks gestation, regardless of maternal age, along with counseling to assist in informed decision-making.

**Recommended Subsequent Testing**

**Testing recommended for all pregnant women**
- Hematocrit or hemoglobin – early in third trimester
- Diabetes screening – usually at 24-28 weeks with a plasma glucose one hour after a 50 g oral glucose challenge. A 3 hour oral glucose tolerance test should be performed for those with an abnormal screening test.
- Screening for Group B streptococcal disease at 35-37 weeks
  - Women with group B streptococcal bacteriuria during the current pregnancy and those who have previously given birth to a neonate with early-onset group B streptococcal disease do not need to be screened, but should be treated with intrapartum prophylactic antibiotics.

**Testing recommended when indicated**
- Ultrasound
  - The timing and type of ultrasound should be based on the clinical question being asked. The optimal timing for a single ultrasound examination in the absence of specific indications for a first trimester exam is 18-20 weeks of gestation.
- Antepartum tests of fetal well-being are indicated when there is increased risk of fetal demise.
  - The type of test, when to start testing, and frequency of testing are dependent upon the clinical situation.

**Testing recommended only for women at increased risk**
- Antibody tests in unsensitized D-negative patients at 28-29 weeks
- Third trimester HIV, chlamydia, syphilis, gonorrhea
- Testing at time of hospital admission: Hepatitis B

**Education and Counseling (After Initial Prenatal Visit)**
- Working
- Childbirth education classes
- Newborn care provider
- Anticipating labor
- Preterm labor
- Trial of labor after Cesarean delivery
- Elective deliveries are not recommended prior to 39 weeks of gestation without medical indication and documentation of term gestation
- Breastfeeding
- Postpartum contraception/sterilization/tubal ligation
- Psychosocial issues, including substance use or abuse, depression, intimate partner violence

**Treatment**
- Anti-D immune globulin for unsensitized D-negative patients at 28-29 weeks and at the time of ectopic gestation, abortion, procedures associated with possible fetal-to-maternal bleeding, conditions associated with fetal-maternal hemorrhage, unexplained vaginal bleeding, delivery of a newborn who is D-positive.
- Immunizations:
  - Influenza vaccine for women who will be pregnant during the influenza season, using inactivated influenza vaccine.
  - Tdap – Administer one dose of Tdap during each pregnancy, preferably between 27 and 36 weeks gestation, regardless of the
interval since prior Td or Tdap vaccination.
  - Other vaccines when specifically indicated: Hepatitis A, Hepatitis B, pneumococcal, meningococcal
  - Use low-dose aspirin (81 mg/d) as preventive medication after 12 weeks of gestation in women who are at high risk for preeclampsia.

III. Postpartum Care

For women with a Cesarean section or complicated pregnancy, a visit 7-14 days after delivery may be recommended. A postpartum visit is recommended for all women approximately 4-6 weeks after delivery. Services at that visit should include:

<table>
<thead>
<tr>
<th>Postpartum Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interval History</strong></td>
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<tr>
<td><strong>Physical Exam</strong></td>
</tr>
<tr>
<td>• Weight, blood pressure, breasts, abdomen, pelvic exam (including examination of episiotomy repair and evaluation of uterine involution)</td>
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<tr>
<td>• Pap test if needed</td>
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<tr>
<td><strong>Testing</strong></td>
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<tr>
<td>• Women with gestational diabetes should be screened for diabetes 6-12 weeks postpartum</td>
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<tr>
<td><strong>Counseling</strong></td>
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<tr>
<td>• Breastfeeding</td>
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<tr>
<td>• Screen for postpartum depression, postpartum blues</td>
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<tr>
<td>• Discuss contraception and plans for future pregnancies</td>
</tr>
<tr>
<td>• Discuss implication of any pregnancy complications on future pregnancies</td>
</tr>
<tr>
<td>• Review immunizations and administer Tdap, rubella and/or varicella vaccines if indicated</td>
</tr>
<tr>
<td>• Counseling regarding behaviors, such as tobacco, alcohol, and other substance use, with referrals for follow up care if appropriate</td>
</tr>
</tbody>
</table>
Immunization Schedules 2016

Childhood: 0-18 Years

**Figure 1. Recommended immunization schedule for persons aged 0 through 18 years – United States, 2016.**

(For those who fall behind or start late, see the catch-up schedule [Figure 2]).

These recommendations must be read with the footnotes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars in Figure 1. To determine minimum intervals between doses, see the catch-up schedule (Figure 2). School entry and adolescent vaccine age groups are shaded.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Birth</th>
<th>1 mo</th>
<th>2 mos</th>
<th>4 mos</th>
<th>6 mos</th>
<th>9 mos</th>
<th>12 mos</th>
<th>15 mos</th>
<th>18 mos</th>
<th>19-23 mos</th>
<th>2-3 yrs</th>
<th>4-6 yrs</th>
<th>7-10 yrs</th>
<th>11-12 yrs</th>
<th>13-15 yrs</th>
<th>16-18 yrs</th>
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<tbody>
<tr>
<td>Hepatitis B (HepB)</td>
<td>1st</td>
<td>2nd</td>
<td>2nd</td>
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<td>Rotavirus (RV)</td>
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<td>Diphtheria, tetanus, &amp; acellular pertussis (DTaP)</td>
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<td>Haemophilus influenza type b (Hib)</td>
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<td>2nd</td>
<td>3rd</td>
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<td>Pneumococcal conjugate (PCV13)</td>
<td>1st</td>
<td>2nd</td>
<td>3rd</td>
<td>4th</td>
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<tr>
<td>Inactivated poliovirus (IPV, &lt;18 yrs)</td>
<td>1st</td>
<td>2nd</td>
<td>3rd</td>
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<td>Influenza (IIV or LVV, NIV)</td>
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<td>Annual vaccination (IIV or LVV) 1 or 2 doses</td>
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<td>Varicella (VZV)</td>
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<tr>
<td>Tetanus, diphtheria, &amp; acellular pertussis (Tdap)</td>
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<td>Tdap</td>
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<td>Human papillomavirus (HPV, females only; 4xHPV, 9xHPV; males and females)</td>
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<td>3-dose series</td>
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<td>Meningococcal B (MenB)</td>
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</tbody>
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| Range of recommended ages for all children | Range of recommended ages for catch-up immunization | Range of recommended ages for certain high-risk groups | Range of recommended ages for non-high-risk groups | No recommendation |

This schedule includes recommendations in effect as of January 1, 2016. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Vaccination providers should consult the relevant Advisory Committee on Immunization Practices (ACIP) statement for detailed recommendations, available online at http://www.cdc.gov/vaccines/hcp/acip-recs/index.html. Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS) online (http://vaers.hhs.gov) or by telephone (800-822-7967). Suspected cases of vaccine-preventable diseases should be reported to the state or local health department. Additional information, including precautions and contraindications for vaccination, is available from CDC online (http://www.cdc.gov/vaccines/recs/vacc-admnlnt.html) or by telephone (800-232-4636).

This schedule is approved by the Advisory Committee on Immunization Practices (http://www.cdc.gov/vaccines/acip), the American Academy of Pediatrics (http://www.aap.org), the American Academy of Family Physicians (http://www.aafp.org), and the American College of Obstetricians and Gynecologists (http://www.acog.org).

**NOTE:** The above recommendations must be read along with the footnotes of this schedule.
**Catch-up Schedule: 4 Months to 18 Years**

Catch-up immunization schedule for persons aged 4 months through 18 years who start late or who are more than 1 month behind — United States, 2016.

The figure below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child’s age. Always use this table in conjunction with Figure 1 and the footnotes that follow.

![Catch-up Immunization Schedule](image)

**NOTE:** The above recommendations must be read along with the footnotes of this schedule.
Footnotes — Recommended immunization schedule for persons aged 0 through 18 years—United States, 2016
For further guidance on the use of the vaccines mentioned below, see: http://www.cdc.gov/vaccines/hcp/acip-recs/index.html.
For vaccine recommendations for persons 19 years of age and older, see the Adult Immunization Schedule.

Additional Information
- For contraindications and precautions to use of a vaccine and for additional information regarding that vaccine, vaccine providers should consult the relevant ACIP statement available online at http://www.cdc.gov/vaccines/hcp/acip-recs/index.html.
- For purposes of calculating intervals between doses, 4 weeks = 28 days. Intervals of 4 months or greater are determined by calendar months.
- Vaccine doses administered 4 days or less before the minimum interval are considered valid. Doses of any vaccine administered up to 5 days earlier than the minimum interval or minimum age should not be counted as valid doses and should not be reported to the recommended minimal interval. For further details, see MMWR, General Recommendations on Immunization and Reports / Vol. 60 / No. 2; Table 1. Recommended and minimum ages and intervals between vaccine doses available online at http://www.cdc.gov/mmwr/pd/mm6002.pdf.
- Information on travel vaccine requirements and recommendations is available at http://www.cdc.gov/travel/destinations/list.


1. Hepatitis B (HepB) vaccine. (Minimum age: birth)
   Routine vaccination:
   - At birth: Administer monovalent HepB vaccine to all newborns before hospital discharge.
   - For infants born to hepatitis B surface antigen (HBsAg)-positive mothers, administer HepB vaccine and 0.5 mL of hepatitis B immune globulin (HBIG) within 12 hours of birth. These infants should be tested for HBsAg and antibody to HBsAg (anti-HBs) at age 5 through 18 months (preferably at the next well-child visit) or 1 to 2 months after completion of the HepB series if the series was delayed. CDC recently recommended testing occur at age 9 through 12 months; see http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6449.htm.
   - If mother's HBsAg status is unknown, within 12 hours of birth administer HepB vaccine regardless of birth weight. For infants weighing less than 2,000 grams, administer HBIG in addition to HepB vaccine within 12 hours of birth. Determine mother's HBsAg status as soon as possible and, if mother is HBsAg positive, also administer HBIG for infants weighing less than or equal to 2,000 grams as soon as possible, but no later than age 7 days.
   - Doses following the birth dose:
     - The second dose should be administered at age 1 to 2 months. Monovalent HepB vaccine should be used for doses administered after age 6 weeks.
     - Infants who do not receive a birth dose should receive 3 doses of a HepB-containing vaccine on a schedule of 0, 1 to 2 months, and 6 months starting as soon as feasible. See Figure 2.
     - Administer the second dose 1 to 2 months after the first dose minimum interval of 4 weeks, administer the third dose at least 8 weeks after the second dose AND at least 16 weeks after the first dose. The final (third or fourth) dose in the HepB vaccine series should be administered no earlier than age 24 weeks.
     - Administration of a total of 4 doses of HepB vaccine is permitted when a combination vaccine containing HepB is administered after the birth dose.
   - Catch-up vaccination:
     - Unvaccinated persons should complete a 3-dose series.
     - A 2-dose series (doses separated at least 4 months) of adult formulation Recombivax HB is licensed for use in children aged 11 through 15 years.
     - For other catch-up guidance, see Figure 2.

2. Rotavirus vaccine. (Minimum age: 6 weeks for both RV1 [Rotarix] and RV5 [Rotavg])
   Routine vaccination:
   - Administer a series of RV vaccine to all infants as follows:
     1. If Rotarix is used, administer 2-dose series at 2 and 4 months of age.
     2. If Rotavg is used, administer 3-dose series at ages 2, 4, and 6 months.
     3. If any dose in the series was Rotarix or no product is unknown for any dose in the series, a total of 3 doses of RV vaccine should be administered.
   - Catch-up vaccination:
     - The maximum age for the first dose in the series is 14 weeks; 6 days; vaccination should not be initiated for infants aged 13 weeks, 0 days or older.
     - The maximum age for the final dose in the series is 8 months, 0 days.
   - For other catch-up guidance, see Figure 2.

3. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine. (Minimum age: 6 weeks. Exception: DTaP-IPV [Kinerase, Quadracel] 4 years.
   Routine vaccination:
   - Administer a 5-dose series of DTaP vaccine at ages 2, 4, 6, 15 through 18 months, and 4 through 6 years.
   - Thereafter, a single dose may be administered as early as age 12 months, provided at least 6 months have elapsed since the third dose.
   - Indwent administration of 4th DTaP dose early. If the fourth dose of DTaP was administered at least 4 months, but less than 6 months, after the third dose of DTaP, it need not be repeated.
   - Catch-up vaccination:
     - The birth dose of DTaP vaccine is not necessary if the fourth dose is administered at 4 years or older. For other catch-up guidance, see Figure 2.

4. Hemophilus influenzae type b (Hib) conjugate vaccine. (Minimum age: 6 weeks for PRP-T [ACIB, DTPa-IPV/Hib (Pentacel) and Hib-MenCY (MenHibrix), PRP-OMP [PedvaxHIB or COMVAX], 12 months for PRP-T [Nigeria]):
   Routine vaccination:
   - Administer a 2- or 5-dose Hib vaccine primary series and a booster dose (dose 5 or 4 depending on vaccine used in primary series) at age 12 through 18 months to complete a full Hib vaccine series.
   - The primary series with ACIB, MenHibrix, or Pentacel consists of 3 doses and should be administered at 2, 4, and 6 months of age. The primary series with PedvaxHIB or COMVAX consists of 2 doses and should be administered at 2 and 4 months of age at dose 6 months is not indicated.
   - One booster dose (dose 5 or 4 depending on vaccine used in primary series) of any Hib vaccine should be administered at age 1 through 15 months. An exception is indicated for the booster (third) dose in children aged 12 months through 15 months who have received at least 1 prior dose of Hib-containing vaccine.

Catch-up vaccination:
- If dose 1 was administered at ages 12 through 14 months, administer a second (final) dose at least 8 weeks after dose 1, regardless of Hib vaccine used in the primary series.
- If both doses were PRP-OMP (PedvaxHIB or COMVAX), and were administered before the first birthday, the third (and final) dose should be administered at age 12 through 15 months and at least 8 weeks after the second dose.
- If the first dose was administered at age 17 through 11 months, administer the second dose at least 4 weeks later and a third (and final) dose at age 12 through 15 months or 6 weeks after second dose, whichever is later.
- If first dose is administered before the first birthday and second dose administered at younger than 15 months, a third (and final) dose should be administered 8 weeks later.
- For unvaccinated children aged 15 months or older, administer only 1 dose.
- For other catch-up guidance, see Figure 2. For catch-up guidance related to MenHibrix, please see the meningococcal vaccine footnotes and see MMWR February 28, 2014 / 63(03):1-13, available at http://www.cdc.gov/mmwr/PDF/rn/mm6301.pdf.

Vaccination of persons with high-risk conditions:
- Children aged 12 through 59 months are at increased risk for Hib disease, including chemotherapy recipients and those with anatomic or functional asplenia (including sickle cell disease), human immunodeficiency virus (HIV) infection, immunoglobulin deficiency, or other component complement deficiency, who have received no doses or only 1 dose of Hib vaccine before 12 months of age, should receive 2 additional doses of Hib vaccine 8 weeks apart; children who received 2 or more doses of Hib vaccine before 12 months of age should receive 1 additional dose.
- For patients younger than 5 years of age undergoing chemotherapy or radiation treatment who received a Hib vaccine dose(s) within 14 days of starting therapy or during therapy, repeat the dose(s) at least 3 months following therapy completion.
- Recipients of hematopoietic stem cell transplant (HSCT) should be reimmunized with a 3-dose regimen of Hib vaccine starting 6 to 12 months after successful transplant, regardless of vaccination history; doses should be administered at least 4 weeks apart.
- A single dose of any Hib-containing vaccine should be administered to unimmunized children and adolescents 15 months of age and older undergoing an elective splenectomy. If possible, vaccine should be administered at least 14 days before procedure.

Divisions of Health Care Service Corporation, a Mutual Legal Reserve Company, an Independent Licensee of the Blue Cross and Blue Shield Association
For further guidance on the use of the vaccines mentioned below, see: http://www.cdc.gov/vaccines/hcp/acip-recs/index.html.

4. *Haemophilus influenzae* type b (Hib) conjugate vaccine (cont’d)

* Either OPV and IPV are not recommended as part of a series for children 4 years of age or older. However, 1 dose of Hib vaccine should be administered to all infants aged 2 years or older who have not received a previous Hib vaccine dose and who are at least 18 years of age with the last OPV dose.

* Patients who have not received a primary series and booster dose at least 1 dose of Hib vaccine after 14 months of age, are not considered immunized.

5. Pneumococcal vaccines. (Minimum age: 6 weeks for PCV13, 2 years for PPV23)

Routine vaccination with PCV13:

- Administer a 4-dose series of PCV13 vaccine at ages 2, 4, and 6 months and at age 12 through 15 months.
- For children aged 4 through 59 months who have received an age-appropriate series of 7-valent PCV (PCV7) or a 2-dose series of PPV23, administer a single supplemental dose of 13-valent PCV (PCV13).

Catch-up vaccination with PCV13:

- Administer 1 dose of PCV13 to all healthy children aged 24 through 59 months who are not completely vaccinated for their age.
- For children aged 6 through 11 years who have not been vaccinated for their age, see Figure 2.

Vaccination of persons with high-risk conditions with PCV13 and PPV23:

- All recommended PCV13 doses should be administered prior to PPV23 vaccination if possible.
- For children aged 2 through 11 years of age with any of the following conditions: chronic heart disease (particularly cyanotic congenital heart disease and cardiac failure); chronic lung disease (including asthma); diabetes mellitus; meningitis; chronic renal failure; neoplastic diseases; diseases associated with treatment with immunosuppressive drugs or radiation therapy, including malignancies, leukaemias, lymphomas, and Hodgkin disease; congenital malformation; solid organ transplantation; or multiple myeloma.

6. Inactivated poliovirus vaccine (IPV). (Minimum age: 6 weeks) (cont’d)

- For children aged 2 through 12 years, IPV should be administered only after age 4 years, provided at least 6 months have elapsed since the first dose.

- For persons aged 9 years and older:
  -Administer 1 dose.

7. Influenza vaccine. (Minimum age: 6 months for inactivated influenza vaccine [IIV], 2 years for live, attenuated influenza vaccine [LAIV])

Routine vaccination:

- Administer influenza vaccine annually to all children at age beginning at 6 months of age. For most healthy, nonpregnant persons aged 2 through 49 years, either IIV or LAIV may be used. However, LAIV should not be administered to some persons, including (1) persons who have experienced severe allergic reactions to LAIV, any of its components, or to a previous dose of any other influenza vaccine; (2) persons aged 2 through 12 years receiving aspirin or aspirin-containing products; (3) persons who are allergic to eggs; (4) pregnant women; (5) immunosuppressed persons; and (6) children 2 through 4 years of age with asthma or who had wheezing in the past 12 months or 7 days who have taken influenza antiviral medications in the previous 48 hours. For all other contraindications and precautions to use of IIV, see MMWR August 7, 2015 / 64(08):18-25, available at http://www.cdc.gov/mmwr/pdf/wk/mm6403.pdf.

- For the 2015-16 season, administer 3 doses of IIV for children who are receiving influenza vaccine for the first time. Some children in this age group who have been vaccinated previously will also need 2 doses. For additional guidance, follow dosing guidelines in the 2015-16 ACPA influenza vaccine recommendations, MMWR July 8, 2015 / 64(26):588-595, available at http://www.cdc.gov/mmwr/pdf/wk/mm6426.pdf.

- For the 2016-17 season, follow dosing guidelines in the 2016 ACPA influenza vaccine recommendations.

- For persons aged 9 years and older:
  -Administer 1 dose.

8. Measles, mumps, and rubella (MMR) vaccine. (Minimum age: 12 months for routine vaccination)

Routine vaccination:

- Administer a 2-dose series of MMR vaccine at ages 12 through 15 months and 4 through 6 years. The second dose may be administered before age 4 years, provided at least 4 weeks have expired since the first dose.

- Administer 1 dose of MMR vaccine to infants aged 6 through 11 months before departure from the United States for international travel. These children should be revaccinated with 2 doses of MMR vaccine, the first at age 12 through 15 months (if the child remains in an area where disease risk is high, and the second dose at least 4 weeks later.

- Administer 2 doses of MMR vaccine to children aged 12 months and older before departure from the United States for international travel. The first dose should be administered on or after age 12 months and the second dose at least 4 weeks later.

Catch-up vaccination:

- Ensure that all school-aged children and adolescents have had 2 doses of MMR vaccine, the minimum interval between the 2 doses is 4 weeks.

9. Varicella (VAR) vaccine. (Minimum age: 12 months)

Routine vaccination:

- Administer a 2-dose series of VAR vaccine at ages 12 through 15 months and 4 through 6 years. The second dose may be administered before age 4 years, provided at least 3 months have elapsed since the first dose. If the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid.

Catch-up vaccination:

- Ensure that all persons aged 7 through 18 years without evidence of immunity (see MMWR 2007 / 56[No. RR-8]) are offered 2 doses of VAR vaccine (administered at least 4 weeks apart) after age 18 years. For children aged 7 through 12 years, the recommended minimum interval between doses is 3 months (if the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid); for persons aged 13 years and older, the minimum interval between doses is 4 weeks.

10. Hepatitis A (HepA) vaccine. (Minimum age: 12 months)

Routine vaccination:

- Initiate the 2-dose HepA vaccine series at 12 through 23 months; separate the doses by 6 to 18 months.

- Children who have received 1 dose of HepA vaccine before age 24 months should receive a second dose 6 to 18 months after the first dose.

- For any person aged 2 years and older who has not already received the HepA vaccine series, 2 doses of HepA vaccine separated by 6 to 18 months may be administered if immunity against hepatitis A virus infection is desired.

Catch-up vaccination:

- The minimum interval between the 2 doses is 6 months.
For further guidance on the use of the vaccines mentioned below, see: http://www.cdc.gov/vaccines/hcp/acip-recs/index.html.

10. Hepatitis A (HepA) vaccine (cont’d)

Special populations:
- Administer 2 doses of HepA vaccine at least 6 months apart to previously unvaccinated persons who live in or travel to hepatitis A vaccination programs target older children, or who are at increased risk for infection. This includes persons traveling to or working in countries that have high or intermediate endemicity of infection; men having sex with men; users of injection and non-injection illicit drugs; persons who work with HIV-infected primates or with HIV in a research laboratory; persons with clotting factor disorders; persons with chronic liver disease; and persons who have undergone a liver transplant.
- Administer two doses of HepA vaccine, with the first dose at least 12 weeks apart and the second dose at least 24 weeks after the first dose, to persons with chronic liver disease, including those who are hepatitis C virus (HCV) or hepatitis B virus (HBV) infected, persons with cirrhosis, persons with chronic hepatitis B, persons who have undergone a liver transplant, and persons who have undergone a liver transplant and are hepatitis C virus (HCV) infected.

11. Meningococcal vaccines. (Minimum age: 6 weeks for Hib-MenCY [MenHib], 9 months for MenACWY-D [Menactra], 2 months for MenACWY-CRM [Menveo], 10 years for serogroup B meningococcal [MenB] vaccines; MenB-AC [Bexsero] and MenB-Pf [Trumenda]).

Routine vaccination:
- Administer a single dose of MenA/C or MenC vaccine at age 11 through 16 years, with a booster dose at age 16 years.
- Adolescents aged 11 through 18 years with human immunodeficiency virus (HIV) infection should receive a 2-dose primary series of MenA/C or MenC vaccine at least 8 weeks apart.
- Administer 2 doses of Bexsero to children aged 2 months through 18 years, with a 1-month interval between doses.
- For children aged 2 months through 18 years with high-risk conditions, see below.

Catch-up vaccination:
- Administer MenA/C or MenC vaccine at age 12 through 18 years if not previously vaccinated.
- If the first dose is administered at age 13 through 15 years, a booster dose should be administered at age 16 through 18 years with a minimum interval of at least 6 weeks between doses.
- If the first dose is administered at age 16 years or older, a booster dose is not needed.

For other catch-up guidance, see Figure 2.

Clinical discretion:
- Young adults aged 16 through 23 years (preferred age range is 16 through 18 years) may be vaccinated with either a 2-dose series of Bexsero or a 3-dose series of Trumenda vaccine to provide short-term protection against most strains of serogroup B meningococcal disease. The two MenB vaccines are not interchangeable; the same vaccine product must be used for all doses.

Vaccination of persons with high-risk conditions and other persons at increased risk of disease:

Children with anatomic or functional asplenia (including sickle cell disease):
Meningococcal conjugate ACWY vaccines:
- MenACWY:
  - Children who initiate vaccination at 6 weeks: Administer 2 doses at 2, 4, and 6 months of age.
  - Children who initiate vaccination at 7 through 23 months: Administer 2 doses, with the second dose at least 12 weeks after the first dose.
- MenHib:
  - Children who initiate vaccination at 6 weeks: Administer 2 doses at 2, 4, and 6 through 15 months of age.
  - If the first dose of MenHib is given at or after 12 months of age, a total of 2 doses should be given at 8 weeks apart to ensure protection against serogroups C and Y meningococcal disease.

Meningococcal B vaccines:
- Bexsero:
  - Persons 10 years or older who have not received a complete series: Administer 2 doses of Bexsero, at least 1 month apart, or a 3-dose series, at 0, 1, and 6 months.
- Bexsero:
  - Children who initiate vaccination at 6 weeks: Administer 2 doses at 2, 4, and 6 months of age.
- Trumenda:
  - Unvaccinated children who initiate vaccination at 7 through 23 months: Administer 2 doses, with the second dose at least 12 weeks after the first dose.
- MenC:
  - Children 24 months and older who have not received a complete series: Administer 2 primary doses at least 8 weeks apart.

For other catch-up guidance, see Figure 2.

12. Tetanus and diphtheria toxoids and acellular pertussis (Tdap) vaccine. (Minimum age: 10 years for both Boostrix and Adacel).

Routine vaccination:
- Administer Tdap vaccine to all adolescents aged 11 through 12 years.
- Tdap vaccine may be administered regardless of the interval since the last tetanus and diphtheria toxoid-containing vaccine.
- Administer Tdap vaccine to pregnant adolescents during each pregnancy (preferred at least 24 through 35 weeks gestation) regardless of time since prior Td or Tdap vaccination.

Catch-up vaccination:
- Persons aged 7 years and older who are not fully immunized with DTaP vaccine should receive Tdap vaccine at 1 (preferably the first) dose in the catch-up series if additional doses are needed, using Td vaccine for children 7 through 10 years who receive a dose of Tdap as part of the catch-up series, an adolescent Tdap vaccine dose at age 11 through 12 years should NOT be administered, 10 to 18 years to be administered.
- Persons aged 11 through 18 years who have not received Tdap vaccine should receive a dose followed by tetanus and diphtheria toxoids (Td) booster doses every 10 years thereafter.

Inactivated doses of DTaP vaccine:
- If administered inadvertently to a child aged 7 through 10 years to be administered instead of the adolescent Tdap dose.
- If administered inadvertently to a child aged 11 through 12 years, the dose should be counted as the adolescent Tdap booster.
- For other catch-up guidance, see Figure 2.

13. Human papillomavirus (HPV) vaccines. (Minimum age: 9 years for Cervarix (4-HPV [Gardasil]) and 9vHPV [Gardasil] and 9vHPV [Gardasil 9]).

Routine vaccination:
- Administer a 3-dose series of HPV vaccine on a schedule of 0, 2, and 6 months to all adolescents aged 11 through 12 years. 4vHPV, 9vHPV, and 16vHPV may be used for males, and only 9vHPV or 4vHPV may be used for females.
- The vaccine series may be started at age 9 years.
- Administer the second dose 1 to 2 months after the first dose (minimum interval of 4 weeks).
- The vaccine series may be started at age 9 years.
- Administer the second dose 1 to 2 months after the first dose (minimum interval of 12 weeks).
- 24 weeks after the first dose.
- Administer HPV vaccine beginning at age 9 years to children and youth with any history of sexual abuse or assault who have not initiated or completed the 3-dose series.

Catch-up vaccination:
- Administer the vaccine series to females 24vHPV or 4vHPV of (HPV16) and 9vHPV or 4vHPV at 13 through 18 years if not previously vaccinated.
- Use recommended routine dosing intervals (see Routine vaccination above) for vaccine series catch up.

CSL20202-A
**Childhood: Optimized “Done By One” Schedule (NM)**

The New Mexico Optimized “Done BY One” Schedule takes advantage of the fact that childhood immunizations can be completed by the first birthday. Research has shown that this increase the likelihood children will get their full set of immunizations. The 2014 schedule is the most current version available at the time of publication. More Information is at: [http://nmhealth.org/publication/view/general/450](http://nmhealth.org/publication/view/general/450)

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‘DOB’ indicates the earliest ages for routine administration of currently licensed childhood vaccines, as of July 22, 2014 for children aged 0 through 6 years. Additional information is available at [www.cdc.gov/vaccines/recs/schedules](http://www.cdc.gov/vaccines/recs/schedules). Any dose not administered at the recommended age should be administered at any subsequent visit, when indicated and feasible. Additional vaccines may be licensed and recommended during the year. Licensed combination vaccines are recommended whenever any components of the combination are indicated and other components of the vaccine are not contraindicated and if approved by the Food and Drug Administration for that dose of the series. Providers should consult the respective Advisory Committee on Immunization Practices statement for detailed recommendations, including for high risk conditions: [http://www.cdc.gov/vaccines/pubs/ACIP-list.htm](http://www.cdc.gov/vaccines/pubs/ACIP-list.htm). Clinically significant adverse events that follow immunization should be reported to the Vaccine Adverse Event Reporting System (VAERS). Guidance about how to obtain and complete VAERS form is available at [www.vaers.hhs.gov](http://www.vaers.hhs.gov) or by telephone, 800-822-7967.

*New Mexico 2014*
1. Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP).
   (Minimum age: 6 weeks)
   • The fourth dose of DTaP may be administered as early as age 12 months, provided 6 months have elapsed since the third dose.
   • Administer the final dose in the series at age 4–6 years.

2. Hepatitis A vaccine (HepA).
   (Minimum age: 12 months)
   • HepA is recommended for all children aged 1 yr (i.e., aged 12–23 months). The 2 doses in the series should be administered at least 6 months apart.
   • Children not fully vaccinated by age 2 years can be vaccinated at subsequent visits.

3. Hepatitis B vaccine (HepB).
   (Minimum age: birth)
   At birth:
   • Administer monovalent HepB vaccine to all newborns weighing more than 2 kg (4 lb 6 oz) or prior to hospital discharge. Delay giving HepB vaccine until smaller infants reach 2 kg except that all infants with Hepatitis B surface antigen (HBsAg)-positive mothers must be given HepB vaccine and 0.5 ml of hepatitis B immune globulin (HBIg) within 12 hours of birth.
   • If mother’s HBsAg status is unknown, administer HepB within 12 hours of birth. Determine the HBsAg status as soon as possible and if HBsAg positive, administer HBIg (no later than age 1 week).
   • If mother is HBsAg negative, the birth dose can be delayed, in rare cases, with a provider’s order and a copy of the mother’s negative HBsAg laboratory report in the infant’s medical record.

   After the birth dose:
   • The HepB series should be completed with either monovalent HepB or a combination vaccine containing HepB. The second dose should be administered at age 1–2 months. The series should be administered no earlier than age 24 weeks. Infants born to HBsAg-positive mothers should be tested for HBsAg and antibody to HBsAg after completion of at least 3 doses of a licensed HepB series, at age 9–18 months (generally at the next well-child visit).

   4-month dose:
   • If it is permissible to administer 4 doses of HepB when combination vaccines are administered after the birth dose. If monovalent HepB is used for the birth dose, a dose at age 4 months is not needed.

4. Haemophilus influenzae type b conjugate vaccine (Hib).
   (Minimum age: 6 weeks)
   • Pedvax-Hib or Connavax are recommended for Native American patients.
   • If PRP-OMP (Pedvax/Hib or Comvax/Hib) is administered at both 2 and 4 months, a dose at age 6 months is not indicated.
   • Td/HbB (D TaP/Hib) should not be used for doses at ages 2, 4, or 6 months but can be used as the final dose in children 12 months or older.

5. Influenza vaccine. (Minimum age: 6 months for inactivated influenza vaccine [IIV]; 2 years for live, attenuated influenza vaccine [LAIV])
   • Administer annually to all over 6 months of age.
   • For healthy nonpregnant persons (i.e., those who do not have underlying medical conditions that predispose them to influenza complications) aged 2 through 49 years, either LAIV or IIV may be used.
   • Children receiving IIV should receive 0.25 mL if aged 6 through 35 months or 0.5 mL if aged 3 years or older.
   • Administer 2 doses (separated by at least 4 weeks) to children aged younger than 9 years who are receiving influenza vaccine for the first time. Most children who are 9 years or older who have not received at least 2 doses in the past 2 years may also need 2 doses. Check current influenza season immunization information at www.cdc.gov for algorithm to see who needs a second dose.

   (Minimum age: 12 months)
   • Administer the second dose of MMR at age 4–6 years. MMR may be administered before age 1 year, provided 4 weeks or more have elapsed since the first dose.
   • Where children may be exposed to measles during travel, the first dose may be given as early as 8 months, but any dose delivered before 12 months does not count toward the 2 doses needed at the regularly scheduled ages.

7. Meningococcal vaccine. (Minimum age: 9 months for meningococcal conjugate vaccine [MCV]; 2 years for meningococcal polysaccharide vaccine [MPSV])
   • MCV is recommended for children aged 9 months to 10 years with terminal complement deficiencies or anatomic or functional asplenia and certain other high-risk groups. Use of MPSV is also acceptable.
   • Persons who received MPSV 3 or more years prior and remain at increased risk for meningococcal disease should be vaccinated with MCV.

8. Pneumococcal vaccine. (Minimum age: 6 weeks for pneumococcal conjugate vaccine [PCV]; 2 years for pneumococcal polysaccharide vaccine [PPSV])
   • Administer one dose of PCV 13 to all healthy children aged 24–59 months who are not completely vaccinated for their age.
   • Administer PPSV to children aged 2 years and older with underlying medical conditions. The definition of qualifying medical conditions causing a need for a PPSV dose is contained in the ACP statement available at http://www.cdc.gov/mmwr/preview/mmwrhtml/mmr4804a1.htm

8. Rotavirus vaccine (RV).
   (Minimum age: 6 weeks)
   • Administer the first dose at age 6 through 14 weeks (maximum age: 14 weeks – 6 days).
   • Vaccination should not be initiated for infants aged 15 weeks or older (i.e., 15 weeks 0 days or older).
   • Administer the final dose in the series by age 8 months 0 days.
   • Only two doses of Rotavirus are needed, the first no later than 14 weeks 0 days, and the second no later than 8 months.

8. Varicella vaccine. (Minimum age: 12 months)
   • Administer second dose of age 4–6 years; may be administered 3 months or more after first dose.
   • Don’t repeat second dose if administered 28 or more after first dose.

The NM “Done by One” Childhood Immunization Schedule is consistent with the schedule approved by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/recs/acip), the American Academy of Pediatrics (http://www.aap.org), and the American Academy of Family Physicians (http://www.aafp.org).

New Mexico Department of Health & New Mexico Medical Society, IPAC (Immunization Practices Advisory Council), July 2014
The figure above shows the recommended vaccinations indicated for adults based on medical and other indications.
Footnotes — Recommended Immunization Schedule for Adults Aged 19 Years or Older: United States, 2016

1. Additional information
   - Additional guidance for the use of the vaccines described in this supplement is available at www.cdc.gov/vaccines/hcp/acip-recs/index.html.
   - Information on vaccination recommendations when a pregnancy status is uncertain is available in the Maternal, Infant, and Child Health Clinical Immunization Schedule. Additional information can be found in the General Recommendations on Immunization at www.cdc.gov/mmwr/preview/mmwrhtml/rr6003a1.htm.
   - Information on travel vaccine requirements and recommendations (e.g., for Hepatitis A and B, meningococcal, and other vaccines) is available at wwwnc.cdc.gov/travel/destinations/list.

2. Influenza vaccination
   - Annual vaccination against influenza is recommended for all persons aged ≥6 months. A list of currently available influenza vaccines can be found at www.cdc.gov/flu/prof/vaccine/vaccines.htm.
   - For persons aged ≥65 years, who have not been vaccinated in previous years, can receive the inactivated influenza vaccine (IIV). An age-appropriate formulation should be used.
   - Inactivated influenza vaccine (IIV) is approved for persons aged ≥15 years.
   - Live attenuated influenza vaccine (LAIV) is only approved for healthy, non-pregnant persons aged ≥18 years.
   - Reombinant influenza vaccine (Flublok) is approved for persons aged ≥18 years.
   - IIV, which does not contain any egg protein, may be administered to persons aged ≥18 years with egg allergy of any severity. IIV may be used with additional safety measures for persons with hives only allergy to eggs.
   - Health care personnel who care for severely immunocompromised persons who require care in a protected environment should receive IIV or Flublok. Health care personnel who receive LAIV should avoid providing care for severely immunocompromised persons for 10 days after administration.

3. Tetanus, diphtheria, and acellular pertussis (Tdap) vaccination
   - All persons aged ≥11 years who have not received Tdap vaccine or for whom vaccine status is unknown should receive a dose of Tdap followed by tetanus and diphtheria toxoids (Td) booster doses every 10 years thereafter. Tdap can be administered regardless of internal since the most recent tetanus or diphtheria toxoid-containing vaccine.
   - Adults with an unknown or incomplete history of completing a 3-dose primary vaccination series with Tdap-containing vaccines should begin or complete a primary vaccination series including a Tdap dose.
   - For unvaccinated adults, administer the first 2 doses at least 4 weeks apart and the third dose ≥12 months after the second dose.
   - For adults who are completely vaccinated (i.e., less than 3 doses) adults, administer remaining doses.

4. Meningococcal vaccination
   - All adults without evidence of immunity to meningococcal disease (as defined below) should receive 2 doses of a meningococcal conjugate vaccine or a second dose of a meningococcal polysaccharide vaccine if they received only 1 dose.
   - Vaccination should be emphasized for those who have close contact with persons at high risk for severe disease (e.g., health care personnel and family contacts of persons with immunocompromising conditions) or are at high risk for exposure or transmission (e.g., teachers, child care employees; residents and staff members of institutional settings, including correctional institutions; college students; military personnel; adolescents and adults living in households with children, nonpregnant women of childbearing age, and international travelers).
   - Persons who have had meningococcal meningitis or meningococcemia who do not have evidence of immunity should receive the first dose of meningococcal conjugate vaccine followed by a second dose of meningococcal conjugate vaccine at least 8 weeks after the first dose.
   - The second dose should be administered 4-6 weeks after the first dose.
   - Evidence of immunity to meningococcal disease includes any of the following:
     - Seropositivity of 2 doses of meningococcal vaccine at age 4 years or older.
     - Seropositivity of 1 dose of meningococcal vaccine at age 4 years or older and seronegativity of 2 doses of meningococcal vaccine at age 4 years or older.
     - A history of meningococcal disease.
     - A history of meningococcal disease based on diagnosis or vaccination of herpes zoster disease by a health care provider.

5. Human papillomavirus (HPV) vaccination
   - 3 HPV vaccines are licensed for use in females, bivalent HPV vaccine (bHPV; Gardasil, Gardasil 9) and quadrivalent HPV vaccine (qHPV; Gardasil) and two HPV vaccines are licensed for use in males (4vHPV and 9vHPV).
   - For males, ≥4 years: 4vHPV is recommended in a 3-dose series at ages 11 through 12 years, and for those aged 13 through 26 years, if not previously vaccinated.
   - For females, ≥9 years: 4vHPV is recommended in a 3-dose series at ages 11 through 12 years, and for those aged 13 through 26 years, if not previously vaccinated. Males aged ≥22 years may be vaccinated.
   - HPV vaccination is recommended for men who have sex with men aged ≥26 years who did not get any or all doses when they were younger.
   - Vaccination is recommended for immunocompromised persons (including those with HIV infection) through age 26 years who did not get any or all doses when they were younger.
   - The second dose should be administered 4-8 weeks (minimum interval of 4 weeks) after the first dose; the third dose should be administered 12 months after the first dose (minimum interval of 12 weeks).
   - HPV vaccines are not recommended for use in pregnant women. However, pregnancy testing is not necessary before vaccination. If a woman is found to be pregnant during the vaccination series, no intervention is needed, and the completion of the 3-dose series is indicated. Consider deferring vaccination until after the pregnancy when possible.
   - Males aged ≥19 years who have sex with men and whose last HPV vaccination occurred before age 21 years should receive one more dose of HPV vaccine after age 21 years. The second dose should be administered 4-8 weeks (minimum interval of 4 weeks) after the first dose; the third dose should be administered 12 months after the first dose (minimum interval of 12 weeks).
   - HPV vaccines are not recommended for use in pregnant women. However, pregnancy testing is not necessary before vaccination. If a woman is found to be pregnant during the vaccination series, no intervention is needed, and the completion of the 3-dose series is indicated. Consider deferring vaccination until after the pregnancy when possible.

6. Zoster vaccination
   - Live attenuated zoster vaccine is recommended for adults aged ≥60 years regardless of whether they report a prior episode of herpes zoster. Although the vaccine is licensed for use in people aged ≥50 years, it is not recommended to be administered to persons aged ≥65 years. ACIP recommends that the completion of the 3-dose series is recommended. Persons aged ≥60 years with chronic medical conditions may be vaccinated unless their condition constitutes a contraindication, such as pregnancy or severe immunocompromise.

7. Measles, mumps, rubella (MMR) vaccination
   - Adults born before 1957 are generally considered immune to measles and mumps.
   - Adults born on or after 1957 should have received 2 doses of MMR vaccine if any prior vaccine(s) were not documented. Documentation of provider-diagnosed disease is not considered acceptable evidence of immunity for measles, mumps, or rubella.
   - A routine second dose of MMR vaccine, administered a minimum of 28 days after the first dose, is recommended for adults who are students in a postsecondary educational institution, students in a health care facility or school health center, or plan to travel internationally.
   - Persons who received irradiated (killed) measles vaccine or measles vaccine of unknown type during 1963–1967 should be reimmunized with 2 doses of MMR vaccine.

Mumps component
   - A routine second dose of MMR vaccine, administered a minimum of 28 days after the first dose, is recommended for adults who are students in a postsecondary educational institution, students in a health care facility or school health center, or plan to travel internationally.

Rubella component
   - For women of childbearing age, regardless of birth year, rubella immunity should be documented. If there is no documentation, a second dose of the rubella component should be administered regardless of history.
   - For women who do not have evidence of immunity, a second dose of rubella vaccine should be administered upon completion of pregnancy and before discharge from the health care facility.

Rubella screen
   - For women who lack laboratory evidence of immunity, rubella laboratory confirmation of disease, health care facility should consider vaccinating pregnant women with 2 doses of MMR vaccine at the 1st and 2nd trimesters of pregnancy and 1st trimester of pregnancy.

8. Pneumococcal vaccination
   - General recommendation
     - Adults are recommended to receive 1 dose of 13-valent pneumococcal conjugate vaccine (PCV13) and 1 dose of 23-valent pneumococcal polysaccharide vaccine (PPSV23) at separate visits.
     - PCV13 should be administered at least 1 year after PPSV23.
     - PPSV23 should be administered at least 2 years after PCV13, except among adults with immunocompromising conditions who have received PCV13 at any time.
     - PPSV23 should be administered at least 5 years after PCV13.
     - No additional dose of PPSV23 is recommended for adults vaccinated with PPSV23.

     When both PCV13 and PPSV23 are indicated, PCV13 should be administered first from 70 years and PPSV23 should be administered second to the same vaccine.

     When indicated, PCV13 and PPSV23 should be administered to adults whose health care provider has determined that they are at high risk for pneumococcal disease.

     Adults aged ≥65 years (immunocompetent)
     - PCV13 is recommended for adults who have not received PCV13 or PPSV23 administered at least 8 weeks prior to the first dose of PPSV23, then 1 year after the first dose of PPSV23, and at least 5 years after the most recent dose of PPSV23.

     Adults aged ≥19 years (immunocompromising conditions or anatomical or functional asplenia (defined below)
     - PCV13 is recommended for adults who have not received PCV13 or PPSV23 administered at least 8 weeks prior to the first dose of PPSV23, then 1 year after the first dose of PPSV23, and at least 5 years after the most recent dose of PPSV23.

     (continued on next page)
Footnotes—Recommended Immunization Schedule for Adults Aged 19 Years or Older: United States, 2016

- Administer meningococcal vaccine to a single dose of PCV13 and at least 5 years after the first dose. The second dose should be administered at least 1 month after the first dose. The third dose should be administered at least 2 months after the second dose and at least 1 month after the first dose. If the combined hepatitis A and B vaccine (Hepatitis A and B vaccine) is used, give 3 doses at 0, 1, and 6 months, alternately, at least 6 months apart, not to be administered concurrently with hepatitis A vaccine. If the combined Hepatitis A and B vaccine is used, children and adolescents should receive the combined Hepatitis A and B vaccine at the appropriate age and the hepatitis B vaccine at 2, 3, and 4 months.

11. Meningococcal vaccination

- General Information

Serogroup A, C, Y, and W135 meningococcal vaccine is available as a conjugate (MenACWY, Meningitec, Menveo) or a polysaccharide vaccine (MenA, MenB, MenC, and MenW135 vaccine).

Serogroup B meningococcal (MenB) vaccine is available as a 2-dose series of MenB(4C) vaccine (given at least 6 months apart) or as a 3-dose series of MenB(4C) vaccine (given at least 1 month apart).

All adults should receive two doses of MenB(4C) vaccine at least 1 year apart, first dose PCV13 and at least 5 years after the first dose of PCV13.

Footnotes on meningococcal vaccination are no longer required for American Indians/Alaska Natives or other adults unless they have a medical condition as above, however, public health authorities may consider recommending the use of pneumococcal vaccines for American Indians/Alaska Natives or other adults who live in areas with increased risk for invasive pneumococcal disease.

9. Hepatitis A vaccination

Vaccines only provide protection against hepatitis A virus (HAV) infection and persons with any of the following indications:

- Persons who use injection or noninjection drug abuse
- Persons with chronic liver disease and persons who receive clotting factor concentrates
- Persons traveling or working in countries where there is high or intermediate endemicity of hepatitis A (or as seroconversion test to hepatitis A)
- Unimmunized persons who anticipate close personal contact (e.g., household or regular babysitting) with an international adoptee during the first 60 days after arrival in the United States from a country with a high or intermediate endemicity of hepatitis A
- Persons who develop chronic liver disease and persons who receive clotting factor concentrates
- Persons traveling or working in countries where there is high or intermediate endemicity of hepatitis A (or as seroconversion test to hepatitis A)

Single-dose vaccine formulations should be administered in a 2-dose schedule at least 1 month apart or in a 3-dose schedule at least 2 months apart.

10. Hepatitis B vaccination

- Administer a single dose of Hepatitis B vaccine to all adults at least 16 years of age who have not previously received a single dose of Hepatitis B vaccine. If the hepatitis A vaccine is given concurrently, at least 6 months apart, the hepatitis B vaccine should be given after the booster dose.

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TABLE. Contraindications and precautions to commonly used vaccines in adults

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Contraindications</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza, trivalent (RV)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine or to a vaccine component, including egg protein</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Influenza, recombinant (RV)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after previous dose of RV or to a vaccine component. RV does not contain any eggs</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Influenza, live attenuated (LAV)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) to any component of the vaccine; or a proven or prior dose of any influenza vaccine for which a severe reaction occurred in the past</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis (Hdap)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Varicella</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Zoster</td>
<td>Severe allergic reaction (e.g., anaphylaxis) to any component of the vaccine</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Pneumococcal conjugate (PCV)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Pneumococcal polysaccharide (PPSV23)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Meningococcal conjugate (MenB)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Meningococcal serogroup B (MenB)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
<tr>
<td>Haemophilus influenzae type b (Hib)</td>
<td>Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component</td>
<td>Moderate or severe acute illness with or without fever</td>
</tr>
</tbody>
</table>

1. Vaccine package inserts and the full ACP recommendations for these vaccines should be consulted for additional information on vaccine-related communications and precautions and for more information on vaccine recipients. Events or conditions listed as contraindications should be considered individually. Benefits of and risks for administering a specific vaccine to a person under these circumstances should be considered. If the risk from the vaccine is balanced, the vaccine should be administered. A communication should be provided to the patient stating that the vaccine was administered despite the presence of one or more contraindications.
2. For more information on use of influenza vaccines among persons with egg allergies and a complete list of conditions that CDC considers to be reasons to avoid using AIV, see CDC Prevention and control of seasonal influenza with vaccine recommendations of the Advisory Committee on Immunization Practices (ACIP). United States, 2015–16 Influenza Season. MMWR. 2015; Extra Page 2.
3. LAV, MMR, vaccines, or other vaccines should be administered on the same day if not administered on the same day, the vaccine should be administered.
4. Immunocompromised dose is considered to be 4-8 weeks after the receipt of control at the first month after discontinuation of such therapy. Provider should consult ACP recommendations for additional information on vaccine-related communications and precautions and for more information on vaccine recipients. Events or conditions listed as contraindications should be considered individually. Benefits of and risks for administering a specific vaccine to a person under these circumstances should be considered. If the risk from the vaccine is balanced, the vaccine should be administered. A communication should be provided to the patient stating that the vaccine was administered despite the presence of one or more contraindications.
5. The Guillain-Barré syndrome is a disorder of the peripheral nervous system. It can occur after certain infections. It typically affects the nerves that control muscle movement. It can also affect the nerves that control sensation, vision, and breathing. The symptoms usually begin within 1 to 4 weeks after the onset of a viral or bacterial infection.
6. Meningococcal vaccination may cause systemic reactions. These reactions may occur at any time after vaccination. The most common reactions are fever, chills, and headache. Other reactions include skin rash, muscle aches, and fatigue. Most reactions are mild to moderate and resolve within 24 hours. Some reactions may require medical attention. These reactions are more likely to occur in children under the age of 5 years and in individuals with a history of severe reactions to previous meningococcal vaccination.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

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References and Links to Websites


8. Texas Department of State Health Services. All Texas newborns are screened for these disorders. Available at: http://www.babysfirsttest.org/newborn-screening/states/texas#first-section. Accessed June 30, 2016. A list of the disorders for which Texas newborns are screened is provided.

9. Oklahoma State Department of Health. Newborn Screening. Accessed March 10, 2016. Available at: http://www.ok.gov/health/Child_and_Family_Health/Screening_and_Special_Services/Newborn_Screening_Program/Disorders_screened/index.html. Every baby born in Oklahoma is required to have a blood test in the first week of life; a link is provided to the list of disorders included in the testing.


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15. U.S. Preventive Services Task Force. Screening and supplementation for iron deficiency anemia May 2006. Available at: http://www.uspreventiveservicestaskforce.org/Page/Topic/recommendation-summary/iron-deficiency-anemia-screening. Accessed July 5, 2016. USPSTF concludes that evidence is insufficient to recommend for or against routine screening for iron deficiency anemia in asymptomatic children aged 6 to 12 months, but recommends routine iron supplementation for asymptomatic children aged 6 to 12 months who are at increased risk for iron deficiency anemia. The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for iron deficiency anemia in children ages 6 to 24 months.


20. New Mexico Department of Health. NM “Done By One” childhood immunization schedule. Available at: http://nmhealth.org/publication/view/general/450. Accessed March 03, 2016. The rationale for the New Mexico Done By One Childhood immunization is discussed and the schedule is provided.

22. U.S. Preventive Services Task Force. Depression in Children and Adolescents: Screening February 2016. Available at:
The USPSTF recommends screening for major depressive disorder (MDD) in adolescents aged 12 to 18 years. Screening should be implemented with adequate systems in place to ensure accurate diagnosis, effective treatment, and appropriate follow-up.


25. U.S. Preventive Services Task Force. Screening for cervical cancer March 2012. Available at:
http://www.uspreventiveservicestaskforce.org/uspstf11/cervcancer/cervcancerrs.htm. Accessed March 04, 2016. The USPSTF recommends screening for cervical cancer in women ages 21 to 65 years with cytology (Pap smear) every 3 years or, for women ages 30 to 65 years who want to lengthen the screening interval, screen with a combination of cytology and human papillomavirus (HPV) testing every 5 years. The USPSTF recommends against screening for cervical cancer in women younger than age 21 years. The USPSTF recommends against routine screening women older than 65 for cervical cancer and recommends against routine Pap smear screening in women who have had a hysterectomy with removal of the cervix and who do not have a history of a high-grade precancerous lesion or cervical cancer. The USPSTF recommends against screening for cervical cancer with HPV testing, alone or in combination with cytology, in women younger than age 30 years.

26. Saslo D, Soloman D, Lawson, HW et al. American Cancer Society, American Society for Colposcopy and Cervical Pathology, and American Society for Clinical Pathology. Screening guidelines for the prevention and early detection of cervical cancer. CA cancer J Clin 2012; 62:147-172. Available at: http://onlinelibrary.wiley.com/doi/10.3322/caac.21139/pdf. Accessed March 04, 2016. ACS and its partners recommend no screening for cervical cancer before 21 years of age. For women aged 21-29 years, cervical cytology alone is recommended every 3 years with HPV testing not recommended for screening in this age group. For women aged 30-65 years, options include HPV and cytology “cotesting” every 5 years (preferred) or cytology alone every 3 years (acceptable). Screening by HPV testing alone is not recommended for most clinical settings. For women age >65 years, no screening is recommended following adequate negative prior screening and are not otherwise at high risk for cervical cancer. Women who have received HPV vaccine should be screened in the same manner as women who have not been vaccinated.


- Younger women should not be screened, with the exception of women who are infected with HIV. More frequent screening is appropriate for certain women, including those infected with HIV.
- Cervical cytology alone should be used for women aged 21 to 29 years, and screening should be performed every three years.
- Women younger than 30 years should not undergo co-testing.
- Cytology and human papillomavirus (HPV) co-testing every five years is preferred for women aged 30 to 65 years; cytology alone every three years is acceptable.
- Screening should be discontinued after age 65 years in women with adequate negative prior screening test results.
- Routine cytology and HPV testing should be discontinued and not restarted for women who have had a total hysterectomy and never had cervical intraepithelial neoplasia 2 or higher.
Accepted screening methods include liquid-based and conventional methods of cervical cytology collection.


30. U.S. Preventive Services Task Force. Screening for and management of obesity of adults, June 2012. Available at: http://www.uspreventiveservicestaskforce.org/uspstf/uspsobes.htm. Accessed March 04, 2016. The USPSTF recommends screening all adults for obesity. Body mass index is calculated from the measured weight and height of an individual. No evidence was found about appropriate intervals for screening. Clinicians should offer or refer patients with a body mass index (BMI) of 30 kg/m² or higher to intensive, multicomponent behavioral interventions.


33. U. S. Preventive Services Task force. Breast Cancer: Screening. January 2016. Available at: http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/breast-cancer-screening1. Accessed March 24, 2016. The USPSTF recommends biennial screening mammography for women aged 50 to 74 years. The decision to start regular, biennial screening mammography before the age of 50 years should be an individual one and take patient context into account, including the patient’s values regarding specific benefits and harms. The USPSTF concluded that the current evidence is insufficient to assess the additional benefits and harms of screening mammography in women 75 years or older. The USPSTF recommends against teaching breast self-examination (BSE) and concludes that the current evidence is insufficient to assess the additional benefits and harms of clinical breast examination (CBE) beyond screening mammography in women 40 years or older.

USPSTF recommends that clinicians ask all adults about tobacco use and provide tobacco cessation interventions for those who use tobacco products. Pregnant woman should be asked about tobacco use, and augmented pregnancy-tailored counseling should be provided for those who smoke.


39. U.S. Preventive Service Task Force. Screening for lipid disorders in adults June 2008. Available at: http://www.uspreventiveservicestaskforce.org/uspstf/uspschol.htm. Accessed March 04, 2016. The USPSTF strongly recommends screening men age 35 and older for lipid disorders. The USPSTF strongly recommends screening women age 45 and older for lipid disorders if they are at increased risk for coronary heart disease. The USPSTF recommends screening men age 20-35 and women age 20-45 if they are at increased risk for coronary heart disease. The optimal interval for screening is uncertain. Reasonable options include every 5 years, shorter intervals for people who have lipid levels close to those warranting therapy, and longer intervals for those not at increased risk who have had repeatedly normal lipid levels.

40. American Diabetes Association. Standards of Medical Care in Diabetes 2016. Available at: Rchcls1hcmdatalhcmdata\QIP\Preventive Guidelines 2015-2017\Resources 2016\2016-DM Standards-of-Care.pdf. Accessed June 28, 2016. In adults not taking statins, it is reasonable to obtain a lipid profile at the time of diabetes diagnosis, at an initial medical evaluation, and every 5 years thereafter, or more frequently if indicated.

41. U.S. Preventive Services Task Force. Risk assessment, genetic counseling, and genetic testing for BRCA-related cancer in women December 2013. Available at: http://www.uspreventiveservicestaskforce.org/uspstf/uspsbrgen.htm. Accessed March 04, 2016. The USPSTF recommends that primary care providers screen women who have family members with breast, ovarian, tubal, or peritoneal cancer with one of several screening tools designed to identify a family history that may be associated with an increased risk for potentially harmful mutations in breast cancer susceptibility genes (BRCA1 or BRCA2). Women with positive screening results should receive genetic counseling and, if indicated after counseling, BRCA testing.


44. American Urological Association. Early detection of prostate cancer. Available at: http://www.auanet.org/common/pdf/education/clinical-guidance/Prostate-Cancer-Detection.pdf. Accessed March 03, 2016. The AUA recommends against screening for prostate cancer in men under age 40 years, does not recommend routine screening in men age 40-54 years at average risk, and recommends shared decision making for men age 55-69 years that are considering PSA screening, and proceeding based on a man’s values and preferences. A routine screening interval of two years or more may be preferred over annual screening in those who have decided on screening. Routine PSA screening is not recommended in men over 70 years of age or in any man with less than a 10-15 year life expectancy.


46. U.S. Preventive Services Task Force. Screening for colorectal cancer October 2008. Available at: http://www.uspreventiveservicestaskforce.org/uspstf/uspscolo.htm. Accessed June 28, 2016. The USPSTF recommends screening for colorectal cancer starting at age 50 years and continuing until age 75 years. This is an update of the 2008 USPSTF recommendation. In 2008, the USPSTF recommended screening with colonoscopy every 10 years, annual FIT, annual high-sensitivity FOBT, or flexible sigmoidoscopy every 5 years combined with high-sensitivity FOBT every 3 years. In the current recommendation, instead of emphasizing specific screening approaches, the USPSTF has instead chosen to highlight that there is convincing evidence that colorectal cancer screening substantially reduces deaths from the disease among adults aged 50 to 75 years and that not enough adults in the United States are using this effective preventive intervention. The reasons for this gap between evidence and practice are multifaceted and will require sustained effort among clinicians, policy makers, advocates, and patients to overcome.


50. Centers for Disease Control and Prevention. Prevention and control of influenza with vaccines, August 07, 2015. Recommendations of the Advisory Committee on Immunizations Practice 2015-2016. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6430a3.htm. Accessed March 8, 2016. Routine annual influenza vaccination of all persons aged ≥6 months continues to be recommended. No preferential recommendation is made for one influenza vaccine product over another for persons for whom more than one product is otherwise appropriate.

51. U.S. Preventive Services Task Force. Aspirin Use to Prevent Cardiovascular Disease and Colorectal Cancer: Preventive Medication April 2016. Available at: http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/aspirin-to-prevent-cardiovascular-disease-and-cancer. Adults aged 50 to 59 years with a ≥10% 10-year CVD risk: The USPSTF recommends initiating low-dose aspirin use for the primary prevention of cardiovascular disease (CVD) and colorectal cancer (CRC) in adults aged 50 to 59 years who have a 10% or greater 10-year CVD risk, are not at increased risk for bleeding, have a life expectancy of at least 10 years, and are willing to take low-dose aspirin daily for at least 10 years.

52. U.S. Preventive Services Task Force. Folic acid to prevent neural tube defects, May 2009. Available at: http://www.uspreventiveservicestaskforce.org/uspsft/uspsnrfol.htm. Accessed March 07, 2016. The USPSTF recommends that all women planning or capable of pregnancy take a daily supplement containing 0.4 to 0.8 (400 to 800 µg) of folic acid.

53. U.S. Preventive Services Task Force. Medications for risk reduction of primary breast cancer in women, September 2013. Available at: http://www.uspreventiveservicestaskforce.org/uspsft/uspsbrpv.htm. Accessed March 07, 2016. The USPSTF recommends that clinicians engage in shared, informed decision making with women who are at increased risk for breast cancer about medications to reduce their risk. For women who are at increased risk for breast cancer and at low risk for adverse medication effects, clinicians should offer to prescribe risk-reducing medications.

54. U.S. Preventive Services Task Force. Abnormal Blood Glucose and Type 2 Diabetes Mellitus: Screening. Adults aged 40 to 70 years who are overweight or obese: http://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/screening-for-abnormal-blood-glucose-and-type-2-diabetes. Accessed May 23, 2016. The USPSTF recommends screening for abnormal blood glucose as part of cardiovascular risk assessment in adults aged 40 to 70 years who are overweight or obese. Clinicians should offer or refer patients with abnormal blood glucose to intensive behavioral counseling interventions to promote a healthful diet and physical activity.

55. American Diabetes Association. Standards of medical care in diabetes 2016. Available at http://care.diabetesjournals.org/content/diacare/suppl/2015/12/21/39.Supplement_1_DC2/2016-Standards-of-Care.pdf. Accessed March 7, 2016. Testing should be considered in all adults who are overweight (BMI≥25 kg² or ≥23 kg/m² in Asian Americans) and have additional risk factors: Prevention or Delay of Type 2 Diabetes

- Test all adults, beginning at age 45, regardless of weight.
- Test asymptomatic adults of any age who are overweight, are obese, or have one or more additional risk factors for diabetes.
- Consider metformin therapy to prevent type 2 diabetes for:
  - Prediabetes;
  - BMI > 35 kg/m²;
  - Age > 60 years;
  - Women who have had gestational diabetes.
- Refer patients with prediabetes to a program of intensive diet and physical activity with a behavioral counseling component:
  - Target 7% body weight loss;
  - Encourage at least 150 minutes/week of moderate-intensity physical activity;
56. U.S. Preventive Services Task Force. Screening for human immunodeficiency virus infection. April 2013. Available at: http://www.uspreventiveservicestaskforce.org/uspstf/uspsshiv.htm. Accessed March 07, 2016. The USPSTF recommends that clinicians screen for HIV infections in adolescents and adults aged 15 to 65 years. Younger adolescents and older adults who are at risk should also be screened. The USPSTF recommends that clinicians screen all pregnant women for HIV. The evidence is insufficient to determine optimum time intervals for HIV screening.


59. U.S. Preventive Services Task Force. Screening for intimate partner violence and abuse of elderly and vulnerable adults. January 2013. Available at: http://www.uspreventiveservicestaskforce.org/uspstf/uspsipv.htm. Accessed March 07, 2016. The USPSTF recommends that clinicians screen women of childbearing age for intimate partner violence, such as domestic violence, and provide or refer women who screen positive to intervention services. The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening all elderly or vulnerable adults (physically or mentally dysfunctional) for abuse and neglect.

60. U.S. Preventive Services Task Force. Screening for osteoporosis January 2011. Available at: http://www.uspreventiveservicestaskforce.org/uspstf10/osteoporosis/osteors.htm. Accessed March 07, 2016. The USPSTF recommends screening for osteoporosis in women aged 65 years or older and in younger women whose fracture risk is equal to or greater than that of a 65-year-old white woman who has no additional risk factors. The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for osteoporosis in men.


69. U.S. Preventive Services Task Force. Screening for Lung Cancer December 2013. Available at http://www.uspreventiveservicestaskforce.org/uspstf/uspslung.htm. Accessed March 07, 2016. The USPSTF recommends annual screening for lung cancer with low-dose computed tomography in adults ages 55 to 80 years who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 years. 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 or willingness to have curative lung surgery.

70. American Heart Association. American College of Cardiology/American Heart Association Task Force on Practice 2013 ACC/AHA Guideline on the Assessment of Cardiovascular Risk: A report of The American College of Cardiology/American Heart Association task force on practice guidelines. Available at: http://content.onlinejacc.org/article.aspx?articleid=1879711 Accessed March 04, 2016. The AHA recommends it is reasonable to assess traditional ASCVD risk factors every 4 to 6 years in adults 20 to 79 year of age who are free from ASCVD and estimate 10-year ASCVD risk every 4 to 6 years in adults 40 to 79 years of age who are free from ASCVD. The race- and sex-specific Pooled Cohort Equations to predict 10-year risk for a first hard ASCVD* event should be used in non-Hispanic African Americans and non-Hispanic Whites, 40 to 79 years of age