Each year, the California Medi-Cal Drug Use Review (DUR) program issues an annual summary of updates on immunization guidelines, products, and/or research in collaboration with the California Department of Public Health (CDPH) Immunization Branch. For reference, the recommended immunization schedules for 2017 in the United States can be accessed on the Centers for Disease Control and Prevention (CDC) website:

- **Persons aged 0 through 18 years**
- **Persons aged 19 years or older**

**Influenza Vaccine**
As in prior years, all individuals 6 months of age and older are recommended to be immunized this season with either inactivated influenza vaccine (IIV) or recombinant influenza vaccine (RIV).

Vaccine viruses in 2017 – 2018 U.S. trivalent influenza vaccines include:

- An A/Michigan/45/2015 (H1N1) pdm09-like virus (different strain from last season).
- An A/Hong Kong/4801/2014 (H3N2)-like virus (same as last season).
- A B/Brisbane/60/2008-like virus (Victoria lineage) (in quadrivalent vaccines last season).

In addition to these viruses, quadrivalent influenza vaccines contain a B/Phuket/3073/2013-like virus (Yamagata lineage), which was available in both trivalent and quadrivalent vaccines last season.

For the second year, the federal Advisory Committee on Immunization Practices (ACIP) recommended that the live attenuated influenza vaccine (LAIV), also known as the “nasal spray” flu vaccine, should not be used during the 2017 – 2018 season due to concerns about its effectiveness against influenza A(H1N1) pdm09-like viruses in the U.S. during the 2013 – 2014 and 2015 – 2016 influenza seasons.

Pregnant women may receive any licensed, recommended, and age-appropriate influenza vaccine.

Health care providers should offer vaccination by the end of October, if possible. Children who require 2 doses should receive their first dose as soon as possible after vaccine becomes available to allow the second dose (which must be administered ≥4 weeks later) to be received by the end of October.

For additional information about available formulations of influenza vaccine and recommendations for dosing in children, older adults, and among persons with a history of egg allergy, see the complete ACIP recommendations for the 2017 – 2018 influenza season, which can be accessed on the Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report on the CDC website.

**Hepatitis A Vaccine**
Outbreaks of hepatitis A disease are currently ongoing in two California counties in persons who are homeless and/or using illicit drugs. At least 400 cases and 15 deaths have been reported in San Diego County since November 2016. In Santa Cruz County at least 67 cases have been reported since April 2017.
Cases due to the same strain of hepatitis A virus (HAV) have been identified in both counties, as well as in Arizona and Utah. Based on current information, all populations who are homeless or using injection and non-injection illicit drugs can be considered at risk of outbreaks if exposed to HAV. In response to these outbreaks, CDPH distributed the July 13 2017 Clinical Advisory – “Immunize to Prevent and Control Hepatitis A Outbreaks.” CDPH is recommending that health care providers statewide implement several strategies in their practices to help prevent and control hepatitis A outbreaks, including the following:

- Offer HAV vaccine to persons statewide who are homeless or might be using illicit injection or non-injection drugs.
- In jurisdictions with hepatitis A outbreaks, also offer HAV vaccine to persons who have frequent close contact with persons who are homeless or using illicit drugs (for example, in homeless shelters, jails, food pantries, drug rehabilitation programs, etc.).

For complete information, please review Strategies to Help Contain the Current Hepatitis A Outbreak, available on the California Vaccines for Children Program website.

**Meningococcal Vaccine**

At its June 2016 meeting, ACIP recommended meningococcal conjugate vaccine (serogroups A, C, W, and Y), including booster doses, for everyone with human immunodeficiency virus (HIV) infection ≥ 2 months of age due to growing evidence supporting an increased risk for contracting the meningococcal disease in HIV-infected people. Complete recommendations can be accessed on the Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report on the CDC website.

Two serogroup B meningococcal (MenB) vaccines are currently licensed in the U.S. for use in people between 10 and 25 years of age: MenB-FHbp and MenB-4C. In April 2016, the U.S. Food and Drug Administration (FDA) approved changes to the dosing and administration of MenB-FHbp to include both a 3-dose series (administered at 0, 1 – 2, and 6 months) and a 2-dose series (administered at 0 and 6 months). At its October 2016 meeting, ACIP recommended the 3-dose series of MenB-FHbp for people at increased risk for meningococcal disease and for use during MenB disease outbreaks and the 2-dose series for healthy adolescents and people who are not at an increased risk for meningococcal disease. Recommendations for MenB-4C remained unchanged (2-dose series, administered at 0 and ≥ 1 month). Of note, while either MenB vaccine can be used as indicated, they are not interchangeable and the same product must be used for all doses in a series. Complete recommendations can be accessed on the Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report on the CDC website.

**Human Papillomavirus (HPV) Vaccine**

Routine HPV vaccination at 11 or 12 years of age has been recommended by ACIP since 2006 for females and since 2011 for males. ACIP now recommends 2-dose schedule for girls and boys who initiate the vaccination series between 9 and 14 years of age. The 3-dose schedule is still recommended for anyone between 15 and 26 years of age and in younger patients with immunocompromising conditions. Complete recommendations for the HPV vaccine can be accessed on the Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report on the CDC website.

**Adult Immunizations in the Medi-Cal Fee-for-Service Population**

Effective February 1, 2016, the Medi-Cal fee-for-service list of contract drugs included all ACIP-recommended adult immunizations as a pharmacy benefit. In order to determine the frequency of vaccine administration in the pharmacy setting since access was expanded, a review was conducted of all medical and pharmacy claims with dates of service between February 1, 2016, and June 30, 2017, for Medi-Cal fee-for-service beneficiaries between 18 and 64 years of age (Figure 1).
Any beneficiary who received the vaccine for both hepatitis A and B was counted in both the hepatitis A and hepatitis B totals. These data included any Medi-Cal fee-for-service beneficiary with at least one dose during the timeframe, not just those who completed the entire series of a vaccine requiring multiple doses. Vaccines that averaged <10 immunizations in the pharmacy during this timeframe (for example, rabies) were excluded from Figure 1 due to data confidentiality issues.

Figure 1. Vaccine Location of Medi-Cal Fee-for-Service Beneficiaries Between 18 and 64 Years of Age (with Dates of Service Between February 1, 2016, and June 30, 2017).

As shown in Figure 1, the herpes zoster virus vaccine had the highest percentage of vaccinations in the pharmacy setting (77%) among Medi-Cal fee-for-service beneficiaries between 18 and 64 years of age, while the hepatitis B virus vaccine and varicella virus vaccine had the lowest (both were 7%).