

Immunization Update and ACIP Highlights – June 2019

July 3, 2019

The Advisory Committee on Immunization Practices (ACIP) of the CDC met on June 26-27 to provide guidance on vaccines. Key highlights include:

- Changing the recommendation for **PCV13** in persons ages 65+ from a full recommendation to a “shared clinical decision making” recommendation
- Harmonizing the catch-up recommendation for **HPV** vaccine up to 26 years for both males and females and approving a “shared clinical decision making” recommendation for persons ages 27 to 45 years
- Recommending a two-dose catch-up of **Hepatitis A** vaccine for ages two through 18 years, removing the Hepatitis A vaccine indication for clotting factor, and adding HIV as an indication for vaccination
- Approving **Meningococcal B** boosters one year following the primary series and every two to three years thereafter for persons at increased risk (e.g., complement component deficiency, complement inhibitor use, asplenia, or microbiologists)
- Approving the 2019-2020 season **influenza** vaccine recommendation statement
- Approving the new **hexavalent** childhood vaccine (DTaP5, IPV, Hep B, Hib) when it comes to market in 2021 for use in the Vaccines for Children (VFC) Program.

The committee also discussed a recommendation to be voted on at a future meeting for either Tdap or Td to be used as the decennial Td vaccine, for wound tetanus prophylaxis or for additional catch-up doses in persons ages seven years and older.

Vaccine evidence presented, committee discussion, and votes

Pneumococcal

The committee has been modifying the nomenclature for recommendations, which are not full recommendations due to lack of evidence of population impact, poor cost-effectiveness, or due to their applicability only to certain individuals based on behaviors or personal situations of risk and benefit. The previous “Category B” recommendation was changed at the February meeting to “Informed Decision Making” and revised again at this meeting to “Shared Clinical Decision Making.”

ACIP recommended PCV13 in series with PPSV23 in 2014 because at that time, there was still a significant burden of disease among older adults, particularly due to pneumococcal pneumonia. Due to indirect effects from pediatric PCV13, the long-term benefits were expected to be limited.

Since PCV7 was introduced in children in 2000, there has been a nine-fold reduction in PCV13-type invasive pneumococcal disease and a three-fold reduction after PCV13 was introduced in children in 2010 until 2014. That year, PCV13 was recommended for persons 65 and older; since then, the direct impact of PCV13 given to seniors has been minimal, and economic analyses do not favor continued use. The ACIP committee was split on the proposal to keep the recommendation for persons 65 and older. Those who favored keeping the recommendation stated that the vaccine can have some benefit at an individual level, a change of recommendation would incur a cost to systems to update EMRs and decision support tools, universal age-based strategies are easier to implement than risk-based strategies, and higher valency PCV vaccines (PCV15 and PCV20) are anticipated to be approved for adults in the next few years. Pfizer is in clinical trials of PCV20 and plans to submit the data to the FDA by the end of 2020. PCV20 will be licensed first in adults and will take three to five more years before it could potentially be approved for use in children.

Proposals to both keep and remove the PCV13 recommendation for persons 65 and older failed to pass. However, the committee approved a proposal to change the recommendation for PCV13 in immunocompetent persons 65 and older to a “shared clinical decision making” recommendation. Due to lack of consensus, the committee chose a recommendation that does not provide the advantages of either keeping or removing the recommendation and will be very difficult to administer on an individual level for clinicians and for automated systems such as EMRs, immunization forecasting, and other decision support tools. Hopefully, the CDC will provide additional guidance on how to implement this change in its published recommendation. Systems at Intermountain will not remove the PCV13 recommendation until further implementation guidance is provided.

The new recommendation states:

“ACIP recommends PCV13 based on shared clinical decision making for adults 65 years or older who do not have an immunocompromising condition and who have not previously received PCV13. All adults 65 years or older should receive a dose of PPSV23.”

Adults 65 and older who are immunocompromised and not previously vaccinated should continue to receive one dose of PCV13 followed one year later by a dose of PPSV23.

Human Papilloma Virus (HPV)

HPV vaccination has been highly successful in directly and indirectly decreasing population carriage of the human papilloma virus. Since the pre-vaccine era, prevalence of 4vHPV vaccine type has dropped 86% in females age 14-19, and 71% in these age 20-24 years. Only 22 females need to be vaccinated to prevent one case of CIN2/3.

Currently, ACIP recommends, “... routine HPV vaccination at age 11 or 12 years; vaccination can be given starting at age 9 years.”

There are issues globally with an imbalance in the demand and supply of HPV vaccine, which is projected to last three to five years (until 2024) causing a delay in vaccine introduction in some countries. The World Health Organization (WHO) Strategic Advisory Group of Experts on Immunization has encouraged

countries to not expand their HPV vaccine recommendation. At this time, no shortage of the HPV vaccine is anticipated in the U.S.

In the U.S., The FDA has approved the HPV vaccine for male and female adults up to age 45. The ACIP voted to harmonize gender by recommending catch-up vaccination for both males and females up to age 26.

The committee voted to add this current language to the recommendation:

“ACIP recommends catch-up vaccination for persons through age 26 years who are not adequately vaccinated” as well as a footnote indicating “Definitions of persons considered adequately vaccinated are unchanged from prior recommendations.”

Text for special populations was revised to read:

“The above recommendations for routine and catch-up age groups and for individual older than the catch-up age group also apply to MSM, transgender people, and people with immunocompromising conditions”

Models predict that following the current recommendation for HPV vaccine would result in preventing 653,000 cervical cancers over 100 years; expanding the recommendation to age 45 would only prevent 3,000 more cervical cancers in that time frame. The cost/QALY for recommending HPV vaccine to those 27-45 years would be \$1-1.4 million/QALY and the number needed to vaccinate to prevent one case of disease is approximately 40 times higher for adults through age 45 than for the current program.

Focusing on adult vaccination has the potential to detract from adolescent vaccination, which is the main focus of the HPV vaccination program. The committee realizes that shared decision making is programmatically difficult, and they have concerns about equitable use of vaccine given the global vaccine shortage. That said, there are some people in the 27-45 age range who could benefit from the HPV vaccine, particularly those starting new sexual relationships, which could put them at risk for exposure.

The committee approved the following statement:

“ACIP recommends HPV vaccination based on shared clinical decision making for individuals ages 27 through 45 years who are not adequately vaccinated. HPV vaccines are not licensed for use in adults older than age 45 years.”

Hepatitis A

In 2018, there were 20,512 cases of hepatitis A in the U.S., with 57% of the cases hospitalized and 194 deaths. The hepatitis A vaccine is highly effective with protective antibodies in 94-100% of adults after a first dose and 100% after a second dose with at least 20 years of anti-HAV persistence. There has been a 95% decrease in cases since hepatitis A vaccine was first recommended. New cases are now mainly from person-to-person transmission in adults. To prevent outbreaks currently occurring in the adult population, the committee voted to create a fully vaccinated young adult population by recommending catch-up, two-dose hepatitis A vaccine for persons ages two thorough 18 years not previously vaccinated.

Forty percent of states already mandate hepatitis A vaccine for daycare or school entry or for both, and most state immunization information systems already routinely forecast the catch-up recommendation.

The committee voted to remove clotting factor disorder as a group at increased risk because of improved technology in the production of clotting factor. There have been no cases of clotting factor associated hepatitis A in the last 20 years.

The committee also voted to recommend hepatitis A vaccine for all persons with HIV ages one year or older. HIV-infected persons experience higher peak Hep A viral loads and duration of viremia. Post-vaccination testing should be done at least one month after vaccination. Revaccination is not recommended in non-responders, but they should be counseled about reducing their risk for hepatitis A exposure.

“ACIP recommends that all children and adolescents age 2 through 18 years who have not previously received Hepatitis A vaccine be vaccinated routinely at any age (i.e., children and adolescents are recommended for catch-up vaccination)”.

“ACIP recommends all persons with HIV age 1 year and older be routinely vaccinated with Hepatitis A vaccine.”

Meningococcal

Incidence of all meningococcal disease has dropped dramatically from > 4 per million to just over 1 per million from 2005 to 2017. While the meningococcal vaccine has a direct protective effect, it does not appear to have an impact on carriage or herd immunity.

The meningococcal Work Group (WG) reports that in adolescents MenB-FHbp (Trumenba) antibodies wane by 12 months post primary series vaccination, then remain stable for up to four years. After booster vaccination, MenB-FHbp antibodies persist at least two years and possibly longer.

The WG reports that in adolescents and adults, MenB-4C (Bexero) antibodies wane by two years post primary series vaccination and may wane earlier. After a booster dose of MenB-4C/MenABCWY, antibodies persist for over one year, and modeling suggests that antibody protection could last several years.

“For persons age 10 years and older with complement deficiency, complement inhibitor use, asplenia, or who are microbiologists: ACIP recommends a MenB booster dose 1 year following completion of a primary series followed by MenB booster doses every 2-3 years thereafter for as long as increased risk remains.”

“For persons age 10 years and older determined by public health officials to be at increased risk during an outbreak: ACIP recommends a one-time booster dose if it has been ≥ 1 year since completion of a MenB primary series. A booster dose interval of ≥ 6 months may be considered by public health officials depending on the specific outbreak, vaccination strategy, and projected duration of elevated risk.”

The CDC will also provide the following additional clinical guidance with the booster recommendation:

- “This recommendation does not apply to persons who previously completed a MenB primary series as an adolescent based on shared clinical decision-making and who are not at increased risk for serogroup B meningococcal disease.”
- “Men B vaccines are not interchangeable. The same vaccine product must be used for all doses, including booster doses.”

Influenza

The 2018-2019 influenza season was reviewed. Ninety-six percent of cases were Influenza type A manifested by two waves of influenza A of similar magnitude, first A/H1N1 followed by a wave of A/H3N2. The A/H3N2 predominantly was a drifted variant 3C.3a that was not covered by the vaccine but is now included in the strain selection for the 2019-2020 season vaccine. The season was of moderate severity for all age groups with influenza activity above baseline for the longest duration in a decade. There were an estimated 37.4-42.9 million illnesses, 17.3-20.1 million medical visits, 531,000 -647,000 hospitalizations and 36,000-61,200 deaths. Vaccine Effectiveness (VE) dropped as the season progressed and cases shifted toward the novel A/H3N2 strain with a current overall VE estimate of 29%.

The committee voted to approve the 2019-2020 season influenza vaccine recommendation statement with a few new clarifications of note:

- In terms of vaccine timing, the recommendation states, “For those requiring only one dose for the season, early vaccination (i.e., in July and August) is likely to be associated with suboptimal immunity before the end of the influenza season, particularly among older adults”.
- To harmonize with AAP guidance, when 2 doses are needed in a season for children age six months to eight years, they should receive the second dose even if they turn nine years of age between dose one and dose two.
- Although there is limited safety data on the concomitant receipt of two vaccines containing novel adjuvants (such as adjuvanted influenza and Shingrix®), it is acceptable to give both vaccines together if non-adjuvanted influenza vaccine is unavailable.

Hexavalent

Hexavalent vaccine (DTaP5, IPV, Hep B, Hib PRP-OMP reduced amount) VAXELIS™, provided as a three-dose primary series for ages two, four, and six months, is approved up to age four years and for use with the [Vaccine for Children \(VFC\) Program](#). It is not anticipated to be commercially available before 2021. A hepatitis B birth dose should still be administered when using this product; VAXELIS cannot be used as a booster dose.

Future Recommendation - Tdap

Adacel® Tdap was approved by the FDA in January 2019 as a repeat tetanus dose in ages 10 through 64 years as long as there has been an 8-year separation between doses or at least 5 years between doses for wound management. There is evidence that repeat use of Tdap rather than Td is a widespread practice. There is insufficient evidence of benefit in pertussis control to recommend that Tdap replace Td for all decennial boosters, and there is insufficient evidence to recommend a Tdap boosters differently for health care personnel than for the general population. Data are lacking on safety of multiple doses of

Tdap during a single pregnancy, but the Pertussis Work Group believes the recommendation for catch-up tetanus vaccination during pregnancy should be the same as for the general population.

The Work Group has recommended to the ACIP for future vote that:

- “Either Tdap or Td can be used for the decennial Td”
- “Either Tdap or Td can be used for tetanus prophylaxis in the setting of wound protection”
- “Either Tdap or Td can be used for additional doses of the catch-up immunization schedule for persons ≥ 7 years”

If you have any questions regarding immunization, feel free to contact Tamara Sheffield, MD, MPA, MPH, Medical Director, Community Health and Prevention, Intermountain Healthcare, at (801) 442-3946.