ACIP Updates & National Infant Immunization Month

With Tina Q. Tan, MD

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Tina Tan, MD	Faculty/Presenter	Yes	1. Up to Date - Royalties 2. Moderna, Merck, Pfizer, GSK, Sanofi-Pasteur, Illiad - Consulting Fees 3. GSK, Sanofi-Pasteur - Research Contract 4. Pfizer - Data Safety Monitoring Board
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Objectives

01

Summarize current Childhood and Adolescent Immunization Schedules

02

Review 2022 changes to individual vaccine footnotes on the schedule.

03

Describe importance of ensuring children who have missed routine vaccines get up to date.

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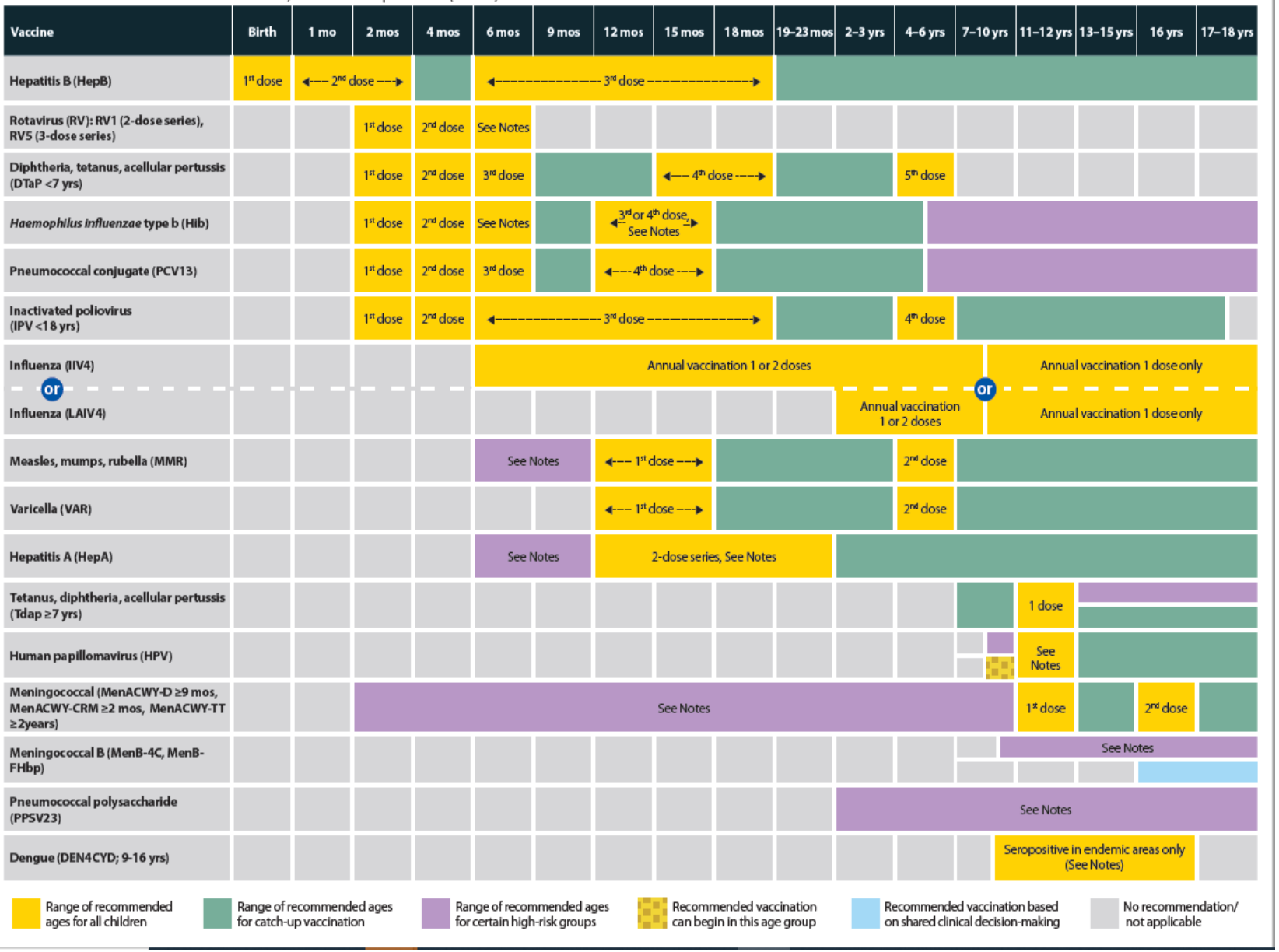
ACIP Recommendations

- The Recommended Child and Adolescent Immunization Schedule, United States, 2022 is now available on *Red Book Online* (RBO).
- Child and Adolescent Immunization Schedule Recommendations for Ages 18 Years or Younger, United States, 2022
  https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html

Table 1 Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger, United States, 2022

These recommendations must be read with the notes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars.
To determine minimum intervals between doses, see the catch-up schedule (Table 2).



Notable Changes to the Schedule

- The colors of the age columns 4-6 years, 11-12 years, and 16 years, which in the past were highlighted as specific vaccine platforms, have been changed so they are the same as the other columns.
- For the HPV vaccine row, in the column representing 9-10 years, the color was changed from blue with an asterisk to a checkered yellow. The legend at the bottom of the chart now reads that “Recommended vaccination can begin in this age group”.
- For the Tdap vaccine row, under the 11-12 year column, the text now reads 1 dose.
- The biggest change from the previous schedule has been the addition of a row at the bottom of the chart for Dengue Vaccine.

https://publications.aap.org/aapnews/news/19567/Immunization-schedule-updated-for-2022

Table 2 Recommended Catch-up Immunization Schedule for Children and Adolescents Who Start Late or Who Are More than 1 Month Behind, United States, 2022

The table 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 Table 1 and the Notes that follow.**

Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Children age 4 months through 6 years					
Hepatitis B	Birth	**4 weeks**	**8 weeks *and* at least 16 weeks after first dose** minimum age for the final dose is 24 weeks		
Rotavirus	6 weeks Maximum age for first dose is 14 weeks, 6 days.	**4 weeks**	**4 weeks** maximum age for final dose is 8 months, 0 days		
Diphtheria, tetanus, and acellular pertussis	6 weeks	**4 weeks**	**4 weeks**	**6 months**	**6 months**
Haemophilus influenzae type b	6 weeks	**No further doses needed** if first dose was administered at age 15 months or older. **4 weeks** if first dose was administered before the 1st birthday. **8 weeks (as final dose)** if first dose was administered at age 12 through 14 months.	**No further doses needed** if previous dose was administered at age 15 months or older **4 weeks** if current age is younger than 12 months ***and*** first dose was administered at younger than age 7 months ***and*** at least 1 previous dose was PRP-T (ActHib®, Pentacel®, Hiberix®), Vaxelis® or unknown **8 weeks *and* age 12 through 59 months (as final dose)** if current age is younger than 12 months ***and*** first dose was administered at age 7 through 11 months; OR if current age is 12 through 59 months ***and*** first dose was administered before the 1st birthday ***and*** second dose was administered at younger than 15 months; OR if both doses were PedvaxHIB® and were administered before the 1st birthday	**8 weeks (as final dose)** This dose only necessary for children age 12 through 59 months who received 3 doses before the 1st birthday.	
Pneumococcal conjugate	6 weeks	**No further doses needed** for healthy children if first dose was administered at age 24 months or older **4 weeks** if first dose was administered before the 1st birthday **8 weeks (as final dose for healthy children)** if first dose was administered at the 1st birthday or after	**No further doses needed** for healthy children if previous dose was administered at age 24 months or older **4 weeks** if current age is younger than 12 months and previous dose was administered at <7 months old **8 weeks (as final dose for healthy children)** if previous dose was administered between 7–11 months (wait until at least 12 months old); OR if current age is 12 months or older and at least 1 dose was administered before age 12 months	**8 weeks (as final dose)** This dose only necessary for children age 12 through 59 months who received 3 doses before age 12 months or for children at high risk who received 3 doses at any age.	
Inactivated poliovirus	6 weeks	**4 weeks**	**4 weeks** if current age is <4 years **6 months (as final dose)** if current age is 4 years or older	**6 months (minimum age 4 years for final dose)**	
Measles, mumps, rubella	12 months	**4 weeks**			
Varicella	12 months	**3 months**			
Hepatitis A	12 months	**6 months**			
Meningococcal ACWY	2 months MenACWY-CRM 9 months MenACWY-D 2 years MenACWY-TT	**8 weeks**	See Notes	See Notes	
Children and adolescents age 7 through 18 years					
Meningococcal ACWY	Not applicable (N/A)	**8 weeks**			
Tetanus, diphtheria; tetanus, diphtheria, and acellular pertussis	7 years	**4 weeks**	**4 weeks** if first dose of DTaP/DT was administered before the 1st birthday **6 months (as final dose)** if first dose of DTaP/DT or Tdap/Td was administered at or after the 1st birthday	**6 months** if first dose of DTaP/DT was administered before the 1st birthday	
Human papillomavirus	9 years	**Routine dosing intervals are recommended.**			
Hepatitis A	N/A	**6 months**			
Hepatitis B	N/A	**4 weeks**	**8 weeks *and* at least 16 weeks after first dose**		
Inactivated poliovirus	N/A	**4 weeks**	**6 months** A fourth dose is not necessary if the third dose was administered at age 4 years or older and at least 6 months after the previous dose.	A fourth dose of IPV is indicated if all previous doses were administered at <4 years or if the third dose was administered <6 months after the second dose.	
Measles, mumps, rubella	N/A	**4 weeks**			
Varicella	N/A	**3 months** if younger than age 13 years. **4 weeks** if age 13 years or older			
Dengue	9 years	**6 months**	6 months		

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Notable Changes to the Schedule

- In the *Haemophilus influenzae* type bb vaccine row, the minimal interval between dose 2 and 3 was edited to include Vaxelis.
- ActHIB, Hiberix, Pentacel, or Vaxelis*: 4-dose series (3 dose primary series at 2, 4,and 6 months, followed by a booster dose at age 12-15 months). *Vaxelis is not recommended for use as a booster dose. A different Hib-containing vaccine should be used for the booster dose.
- PedvaxHIB: 3 dose series (2-dose primary series at age 2 and 4 months, followed by a booster dose at age 12-15 months).
- Notice that catch-up recommendations for Dengue Vaccine has been added as a row at the bottom of the Table.

https://publications.aap.org/aapnews/news/19567/Immunization-schedule-updated-for-2022

Table 3 Recommended Child and Adolescent Immunization Schedule by Medical Indication, United States, 2022

Always use this table in conjunction with Table 1 and the Notes that follow.

VACCINE	INDICATION										
	Pregnancy	Immunocompromised status (excluding HIV infection)	HIV infection CD4+ count[1] <15% or total CD4 cell count of <200/mm³	HIV infection CD4+ count[1] ≥15% and total CD4 cell count of ≥200/mm³	Kidney failure, end-stage renal disease, or on hemodialysis	Heart disease or chronic lung disease	CSF leak or cochlear implant	Asplenia or persistent complement component deficiencies	Chronic liver disease	Diabetes
Hepatitis B										
Rotavirus		SCID[2]								
Diphtheria, tetanus, and acellular pertussis (DTaP)										
Haemophilus influenzae type b										
Pneumococcal conjugate										
Inactivated poliovirus										
Influenza (IIV4)										
or										
Influenza (LAIV4)						Asthma, wheezing: 2–4yrs[3]				
Measles, mumps, rubella	*									
Varicella	*									
Hepatitis A										
Tetanus, diphtheria, and acellular pertussis (Tdap)										
Human papillomavirus	*									
Meningococcal ACWY										
Meningococcal B										
Pneumococcal polysaccharide										
Dengue										

Vaccination according to the routine schedule recommended

Recommended for persons with an additional risk factor for which the vaccine would be indicated

Vaccination is recommended, and additional doses may be necessary based on medical condition or vaccine. See Notes.

Precaution—vaccine might be indicated if benefit of protection outweighs risk of adverse reaction

Contraindicated or not recommended—vaccine should not be administered

*Vaccinate after pregnancy

No recommendation/not applicable

1 For additional information regarding HIV laboratory parameters and use of live vaccines, see the *General Best Practice Guidelines for Immunization*, "Altered Immunocompetence," at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/immunocompetence.html and Table 4-1 (footnote J) at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html.
2 Severe Combined Immunodeficiency
3 LAIV4 contraindicated for children 2–4 years of age with asthma or wheezing during the preceding 12 months

Notable Changes to the Schedule

- Under the HIV infection column, the text for the subcolumn was edited so that it reads: CD4+ count <15% or total CD4 cell count of <200 mm^3
- In the legend at the bottom of the Table, the text of the checkered yellow box has been edited to include "or vaccine" in addition to the medical condition so that the text reads "Vaccination is recommended, and additional doses may be necessary based on medical condition or vaccine."
- Notice that a row for Dengue Vaccine was added to the bottom of the Table.

https://publications.aap.org/aapnews/news/19567/Immunization-schedule-updated-for-2022

Dengue

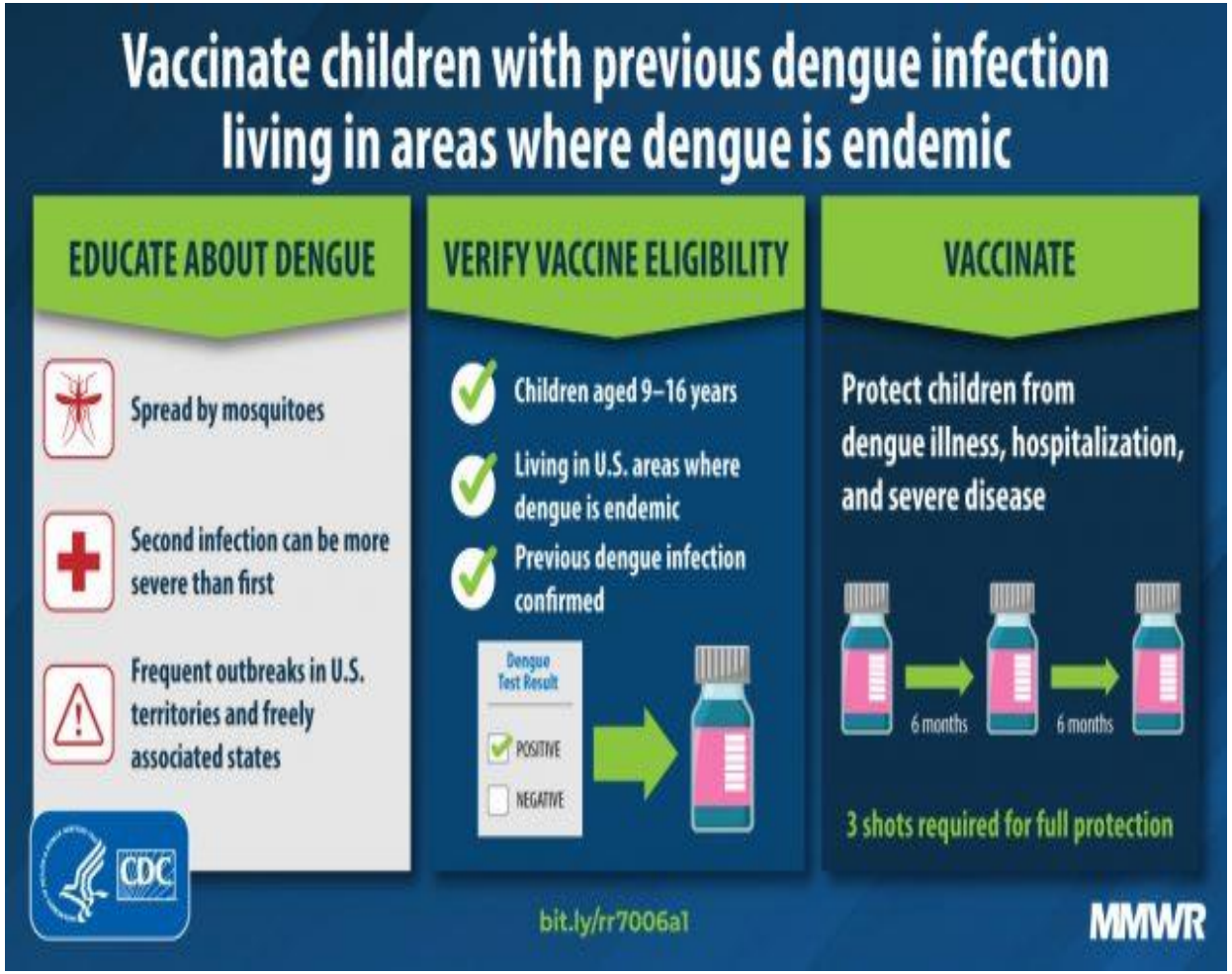
- Almost half of the world's population, about 4 billion people, live in areas with a risk of dengue (primarily tropical and subtropical).
- It is a vector borne infectious disease caused by dengue viruses (DENV 1-4) which are transmitted by *Aedes aegypti* and *Aedes albopictus* **mosquitos.**
- Those who become infected with the virus a second time are at a significantly greater risk of developing severe disease.
- Currently Brazil is in the midst of a massive dengue outbreak with over 863,650 cases and 700 deaths being reported.
- Endemic areas in the United States and its territories include: Puerto Rico, American Samoa, US Virgin Islands, Federated States of Micronesia, Republic of Marshall Islands, and the Republic of Palau.
- Early symptoms of COVID-19 and dengue are similar so that diagnosis may be difficult resulting in a delay of care.

Dengue

- At a time of continuous lockdowns, when public health staff are diverted to control COVID-19 transmission and community engagement focused on the pandemic, routine mosquito vector surveillance and control programs are discontinued or paused in many countries, which impairs dengue control and prevention.
- A study in India found that the density of *Aedes* mosquitos drastically increased during the COVID-19 lockdown due to paused vector control programs, and an increased density of vectors was also reported in Malaysia during the COVID-19 lockdown, which has led to increased dengue incidence.
- During the lockdowns, when human movement is limited, human–vector contact may be enhanced, resulting in an increased risk of exposure and virus transmission. This impact is likely to be even more pronounced in settings where dengue virus transmissions primarily occur in or between households, rather than an occupational setting.

Lu X, et al. PLOS Neglected Tropical Diseases. Oct 8, 2021. https://doi.org/10.137/journal.pntd.0009778

Dengue Vaccine



- The rationale for the recommendations for Dengue vaccine is that Dengue is a **serious and ongoing** public health problem in US territories and freely associated states. Sustainable mosquito control strategies and compliance with personal protective measures is difficult.
- Age 9–16 years living in dengue endemic areas AND have laboratory confirmation of previous dengue infection. Prior natural infection is important because Dengue vaccine is associated with an increased risk for severe dengue in those who get their initial Dengue infection after vaccination.
- Endemic areas for the US, its territories, and freely associated states include: Puerto Rico, American Samoa, US Virgin Islands, Federated States of Micronesia, Republic of Marshall Islands, and the Republic of Palau
- Dengvaxia is safe and effective in reducing dengue-related hospitalizations and severe dengue among persons who have had dengue infection in the past.

Dengue Vaccine

- Dengvaxia is a live, attenuated chimeric tetravalent vaccine built on a yellow fever 17D backbone
- 3-dose series administered at 0, 6, and 12 months
- Vaccine efficacy ranges from 67% to 82% against the 4 different serotypes in the vaccine
- The most frequently reported adverse reactions include injection site pain, malaise, myalgia, and HA
- Dengue vaccine may be coadminstered with other routinely recommended vaccines with no impact on immunogenicity of any of the vaccines. Clinical trials studying coadministration with HPV vaccine are ongoing.

Paz-Bailey G et al. MMWR Dec 17, 2021;70(6):1-16

Vaxelis

- Hexavalent vaccine (DTaP-IPV-Hib-HepB) that is joint effort between Sanofi-Pasteur and Merck & Co.
- Licensed by the US FDA in December 2018 – now available in US and is included in the Vaccines for Children (VFC) program.
- Vaccine contains: DTaP (5-antigen Sanofi Pasteur vaccine)-IPV (Sanofi Pasteur)-Hib (Meningococcal Protein Conjugate (PRP-OMP) – Merck)-HepB (Merck)
- Fully liquid formulation that requires no reconstitution
- Administered as a 3-dose series at 2, 4, and 6 months of age
- Licensed for use in infants and children 6 weeks through 4 years of age (prior to 5th birthday)

CDC. MMWR Morb Mortal Wkly Rep 2020;69:136-139

Vaxelis

- Should not be used for the fourth (DTaP, Hib, IPV) or fifth booster (DTaP) doses, however, if inadvertently given for either booster dose, the doses DO NOT need to be repeated.

- Vaxelis may be administered to infants that have received 1 to 2 doses of other DTaP, HepB, Hib, and IPV containing vaccines, however, there is limited data on the safety and immunogenicity of interchanging vaccines from different manufacturers. Whenever, feasible, the same manufacturer's product should be used to complete the primary series, however, vaccination should not be deferred if the specific vaccine product previously administered is unavailable or unknown.

CDC. MMWR Morb Mortal Wkly Rep 2020;69:136-139

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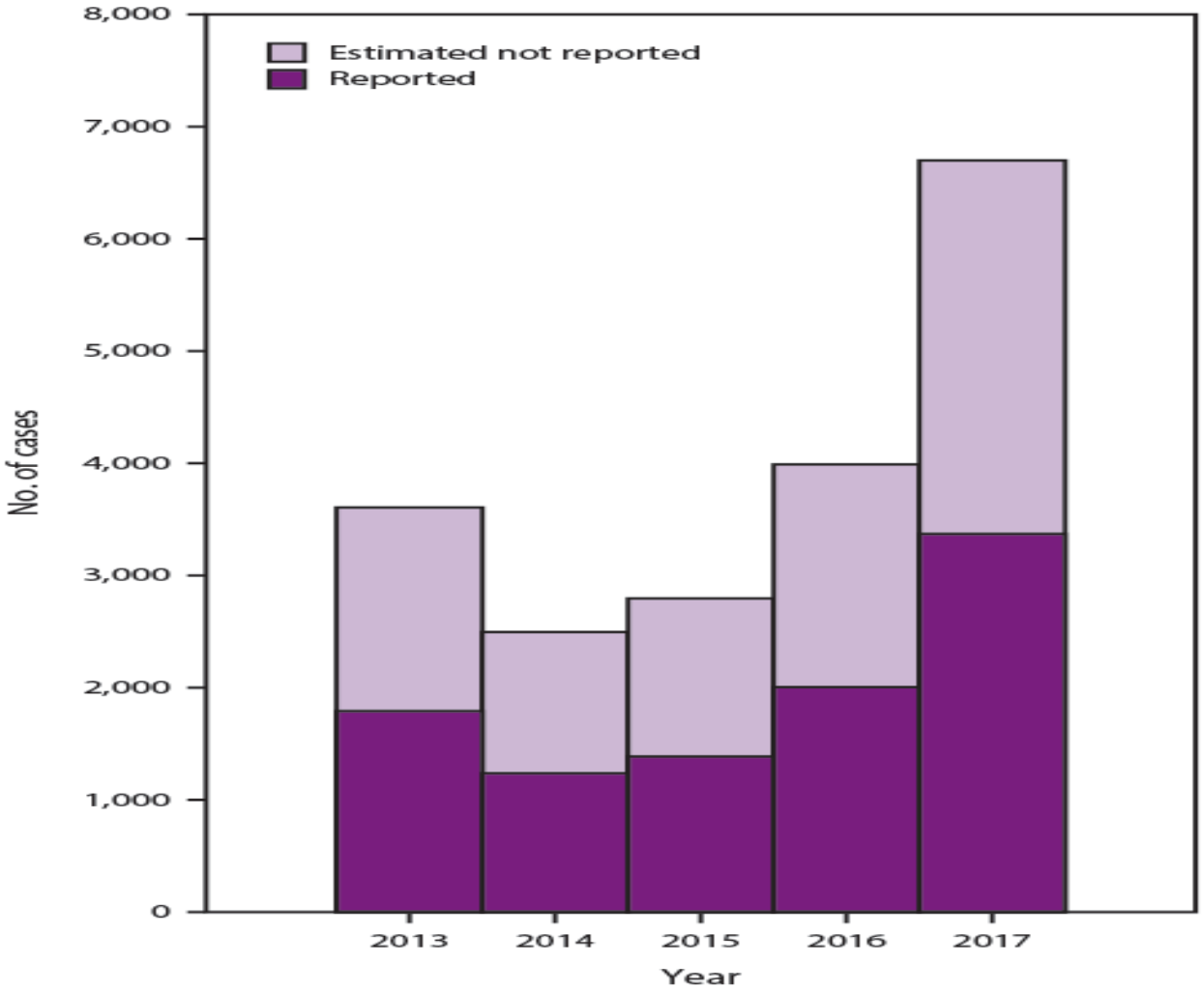
Hepatitis A

- Vaccine preventable disease of the liver caused by Hepatitis A virus (HAV)
- It is an acute, self-limited disease that does not result in chronic infection; however, prolonged or relapsing disease has been reported
- Transmitted via the fecal-oral route, usually through direct person-to-person contact, or consumption of contaminated food or water
- Disease severity increases in persons who are older or immunocompromised, have chronic liver disease, or have other underlying health conditions
- Routine vaccination of all children aged 12-23 months of age with Hepatitis A vaccine was recommended in 2006

Number of reported and estimated Hepatitis A cases, US, 2013-2017



- Since 2016, there has been a significant increase in Hep A cases
- In 2018, preliminary data indicate that there were an estimated 12,500 cases of Hep A reported to the CDC which is a substantial increase compared to 2017

MMWR 2020;69(5):1-38

New and Updated Hepatitis A Vaccine Recommendations

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- Vaccination of infants 6 to 11 months of age who will be traveling outside of the United States. This dose DOES NOT count toward the 2-dose series
- Vaccination of all children and adolescents, aged 2-18 years who have not previously received HepA vaccine are recommended for catchup vaccination
- Vaccination of all persons aged ≥ 1 year with HIV
- Vaccination of persons with chronic liver disease including: persons with HBV infection, HCV infection, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, or an ALT or AST level persistently greater than 2X the upper limit of normal

MMWR 2020;69(5):1-38

New and Updated Hepatitis A Vaccine Recommendations

- Vaccination of pregnant women who are at risk for HAV infection during pregnancy (e.g. international travelers, persons who use injection or non-injection illicit drugs, persons with occupational risk for infection, persons who anticipate close personal contact with an international adoptee or persons experiencing homelessness), or persons at risk for having severe outcome from HAV infection
- Vaccination during hepatitis A outbreaks of persons aged ≥ 1 year who are at risk for HAV infection
- Vaccination in settings providing services to adults in which a high proportion of persons have risk factors for HAV infection (e.g. health care settings with a focus on those who use injection or noninjection drugs, group homes, and nonresidential daycare facilities for developmentally disabled persons)
- Vaccination of persons who receive blood products for clotting disorders (e.g. hemophilia) is NO LONGER a specific recommendation

MMWR 2020;69(5):1-38

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Human Papillomavirus Vaccine

- HPV vaccination routinely recommended at age 11–12 years (can start at age 9 years) and catch-up HPV vaccination recommended for all persons through age 18 years if not adequately vaccinated.
- 2- or 3-dose series depending on age at initial vaccination:
  - Age 9 –14 years: 2-dose series at 0, 6–12 months (minimum interval: 5 months; repeat dose if administered too soon). History of sexual abuse or assault – start at age 9 years.
  - Age 15 years or older: 3-dose series at 0, 1–2 months, 6 months (minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 12 weeks / dose 1 to dose 3: 5 months; repeat dose if administered too soon)
- Interrupted schedules: If vaccination schedule is interrupted, the series does not need to be restarted.
- No additional dose recommended when any HPV vaccine series has been completed using the recommended dosing intervals. Immunocompromising conditions, including HIV infection: 3-dose series, even for those who initiate vaccination at age 9 through 14 years.
- Pregnancy: Pregnancy testing not needed before vaccination; HPV vaccination not recommended until after pregnancy; no intervention needed if vaccinated while pregnant

MMR and MMRV Vaccines

- 2-dose series at age 12–15 months and age 4–6 years, either MMR and varicella vaccines or MMRV may be administered
- For dose 1 in children aged 12–47 months, it is recommended to administer MMR and varicella vaccines separately. However, MMRV may be used if parents or caregivers express a preference.
- The maximum age for use of MMRV is 12 years. And the minimum interval between MMRV doses: 3 months

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Meningococcal Vaccines

- Menactra® should be administered either before or at the same time as DTaP in infants.
- Menactra® will be phased out by the summer of this year and replaced by MenQuadfi.
- MenACWY vaccines may be administered simultaneously with MenB vaccines if indicated, but at a different anatomic site, if feasible.
- Dosing schedule for Menveo use in infants was clarified

MenQuadfi (MenACWY-TT)

- Conjugated to tetanus toxoid protein
- Vaccine indicated for active immunization for the protection of invasive meningococcal disease caused by serogroups A, C, W, Y.
- Given as single dose intramuscularly
- May be used in persons 2 years of age and older
- May be given as booster dose to individuals 15 years of age and older if at least 4 years have elapsed since a prior dose of meningococcal (Groups A, C, W, Y) conjugate vaccine was given
- In clinical trials, MenQuadfi produced greater immunogenicity (higher antibody titers and greater precent seroresponse) compared to Menactra and Menveo
- May be given concomitantly with other routine vaccinations with no interference in development of immunogenicity to any of the vaccines

Tick Borne Encephalitis Vaccine

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- Tick borne encephalitis (TBE) is caused by a flavivirus related to Powassan virus that is transmitted by Ixodes species ticks
- Infections are usually acquired in wooded areas during:
  -Recreational activities (e.g., camping, hiking, fishing, hunting)
  -Outdoor occupations (e.g., forestry service, farming)
- Focally endemic in parts of Central and Eastern Europe and Northern Asia
- ~5,000–10,000 cases reported annually
- - Seasonal risk from April through November
- Very low numbers of cases among U.S. persons - 11 cases in U.S. civilian travelers, 2001–2020 and 9 cases in military personnel, 2006–2020

Tick Borne Encephalitis Vaccine

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- TBE is associated with a high fatality and sequelae rates with neuroinvasivedisease sequelae rates of 10% to 50% that may include permanent physical disabilities or cognitive impairment.
- It has case fatality rates of 1% to 20%.
- TBE vaccine (TICOVAC) was approved by FDA in 2021 for use in persons aged ≥1 year. It is an I.M. vaccine.
- The vaccine demonstrated high seropositivity rates after the primary series and after the booster dose.
- TBE vaccine is given as a 3-dose series on day 0, 1-3 months, and 5-12 months after the 2nd dose. Booster doses every 3 years if remain at risk for infection.
- TBE vaccine is recommended for persons who are moving abroad or traveling to a TBE-endemic area and will have extensive exposure to ticks based on their planned outdoor activities and itinerary.

Cholera Vaccine

- According to WHO and CDC, there are 2.9 million cases and 95,000 deaths that occur each year due to cholera.
- Poverty, war, and natural disasters are major risk factors given that this leads to poor sanitation and crowded living conditions which facilitates spread of the disease.
- Countries that are experiencing large cholera outbreaks include: DRC, Yemen, Cameroon, Nigeria, Bangladesh, and Somalia.
- Campaigns to improve sanitation, provide oral cholera vaccines, and identify and treat cholera cases more rapidly have been placed on hold during the COVID-19 pandemic increasing the risk for the spread of the disease.

WHO.int

Cholera Vaccine (Vaxchora)

- Lyophilized CVD 103 HgR - Single dose, live, attenuated oral vaccine derived from Vibrio cholerae O1.
- CVD 103 HgR is recommended for children and adolescents aged 2 to 17 years traveling to an area with active cholera transmission, however, most travelers will not need this vaccine unless actually in area with active cholera.
- This includes:
  - African countries of Benin, Cameroon, DRC, Ethiopia, Kenya, Mozambique, Niger, Nigeria, Somalia and Uganda
  - Asian countries of Afghanistan, Bangladesh, India, Nepal and Yemen
- CVD 103 HgR be prepared and consumed in a medical office to minimize potential dosing errors – vaccine dose volume is 50 cc in children 2-5 years and 100 cc for those 6 years and older. Recipients should avoid consuming food or drinks for 60 minutes before and after vaccine administration

Cholera Vaccine

- The most common side effects within 7 days of CVD 103 HgR are: abdominal pain, nausea/vomiting, lack of appetite, diarrhea, fatigue, and HA.
- Duration of protection beyond a 3 month period is unknown.
- CVD 103 HgR should be administered 14 days after completion of any antibiotics (oral or IV).
- At this time no booster doses of the vaccine are recommended..

National Infant Immunization Week 2022

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- This year, National Infant Immunization Week is from April 25 to May 2, 2022 in the United States.
- In 2019 (pre-COVID-19), 14 million infants were not reached by vaccination services. This **significantly worsened** during the pandemic.
- National Infant Immunization Week is observed annually and highlights the need for protecting children of ages two years and under from vaccine-preventable diseases.

Background

- Since COVID-19 was officially declared a global pandemic and with the spread of the more highly transmissible Delta variant of SARS-CoV-2 and the emergence of the even more transmissible Omicron variant and subvariants, the way we practice medicine has been completely changed.
- As of April 11, 2022:
  - Globally, there have been almost 500 million cases and 6.18 million deaths
- Persons of any age can be infected with COVID-19 with infants and children generally presenting with mild symptoms or are asymptomatic; studies have shown that infants under 1 year of age and children with underlying conditions are at greater risk for developing severe COVID-19 disease or complications if they get the infection.
- An unintended consequence of the pandemic worldwide has been the significant decline in vaccination rates in all age groups across the life span.

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Factors Contributing to Decreasing Vaccination Rates During the COVID-19 Pandemic

- Early in the pandemic, “Stay at home orders” issued by governments with strict social distancing, isolation and quarantine policies, and profound travel restrictions – limited movement outside the home
- Fear of going out in public to avoid potential exposure, especially in at risk populations (e.g. infants, elderly, those with underlying conditions)
- Medical offices, clinics, and other facilities closing or having very limited hours and only seeing specific types of patients in person
- Healthcare staffing shortages with redeployment to COVID-19 related activities and lack of PPE
- Disruption in vaccine supply chain, especially of government-funded vaccines
- Patient decrease access to vaccines in pharmacies and other venues

Impact of COVID-19 on Vaccination Rates

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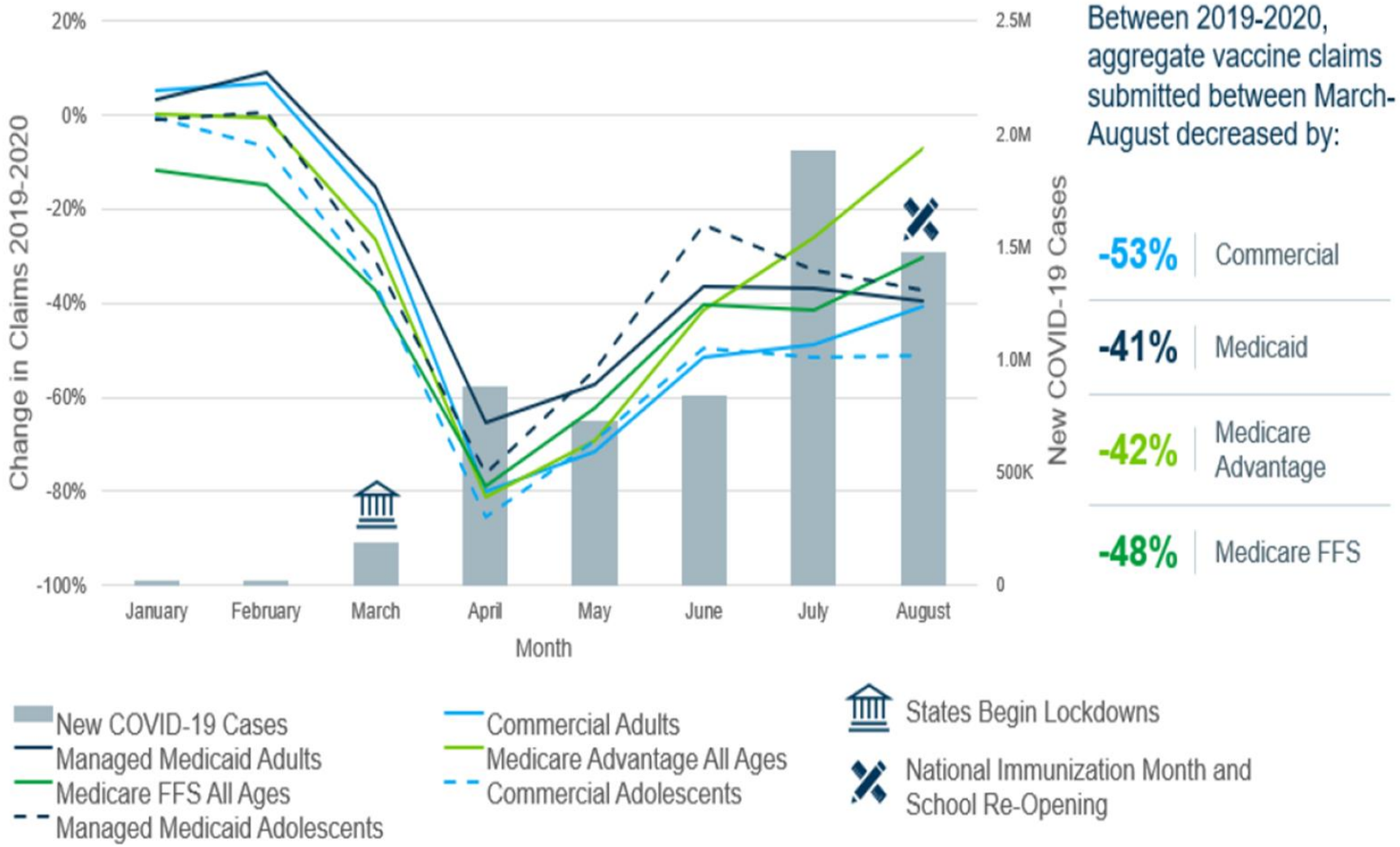
- Data represents over 240,000 doses of noninfluenza vaccines administered across 1,146 ambulatory care offices, including 231 health departments – comparing percent vaccine doses administered in March – May 2019 vs. March – May 2020

Sampling of Year-Over-Year Changes (%) of Doses per Age Group

Week Start Date	0-24 months	2-10 years	11-18 years	19-49 years	50-64 years	≥ 65 years	All
3/2/20	- 4.4	- 5.7	0.1	-10.9	35	31.3	0.6
4/6/20	- 31.0	- 71.6	- 76.3	- 74.7	- 70.2	- 83.1	- 55.9
5/11/20	1.6	- 41.8	- 46.4	- 60.5	- 56.0	- 46.3	- 30.1

Figure 1: Aggregate Changes in Claims for All Vaccine Products Across Markets*

Adolescents and Adults, January-August 2019 vs January-August 2020

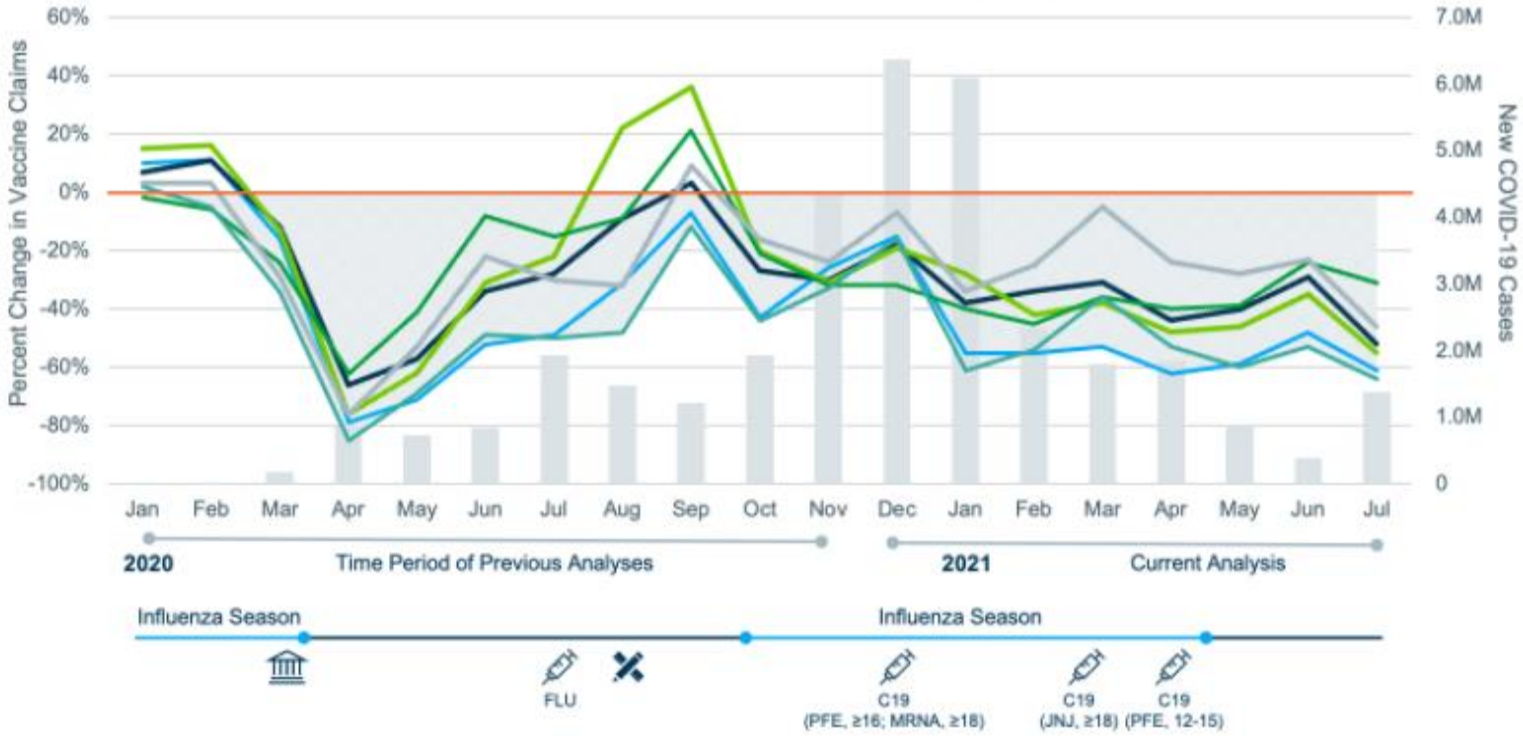


Between 2019-2020, aggregate vaccine claims submitted between March-August decreased by:

-53%	Commercial
-41%	Medicaid
-42%	Medicare Advantage
-48%	Medicare FFS

Trost A et al. https://avalere.com/insights/how-covid-19-has-impacted-us-adolescent-and-adult-vaccine-utilization

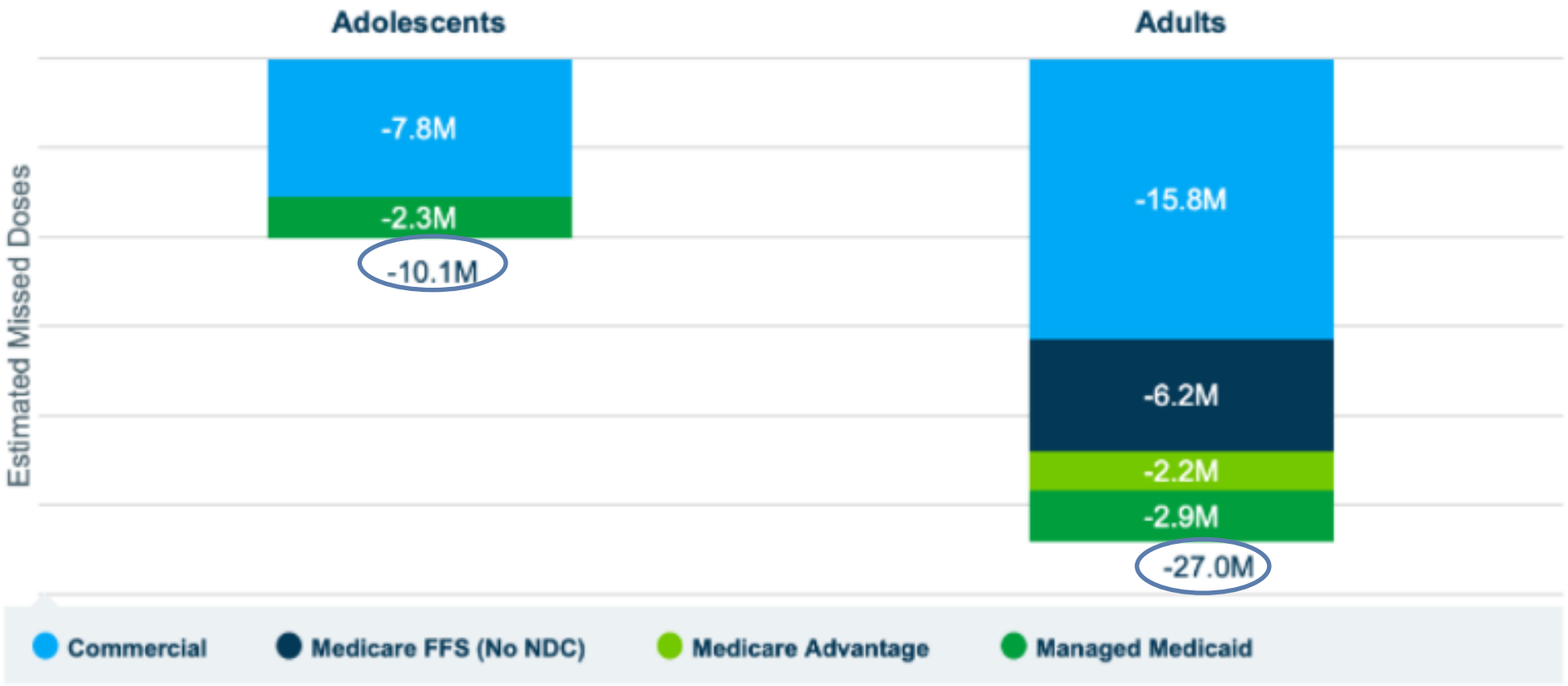
Figure 1. Changes in Claims for All ACIP-Recommended Adolescent and Adult Vaccines Across Markets January 2020–July 2021 Compared to the Same Months in 2019



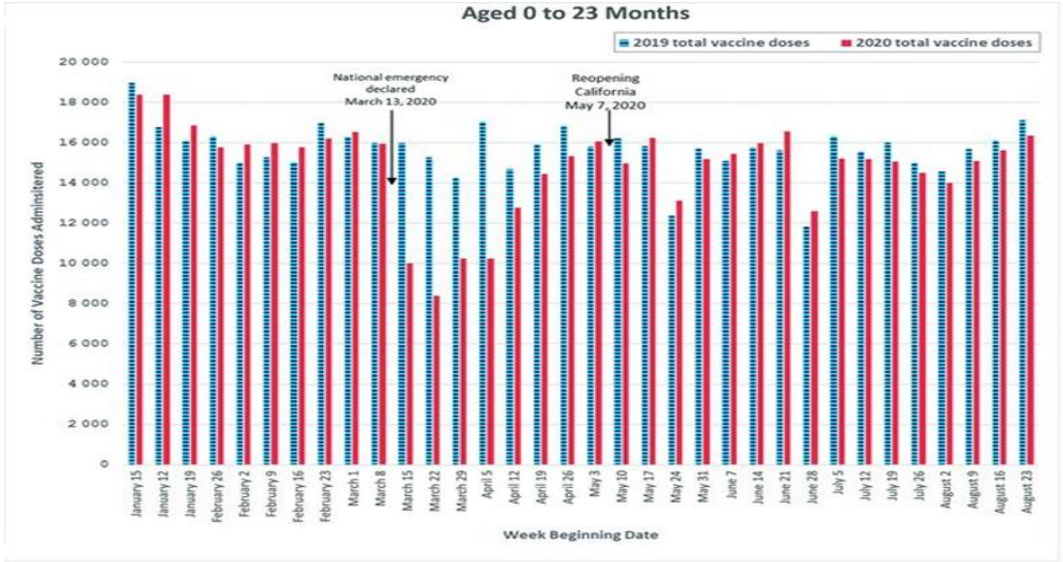
- The percent vaccine Claims among adolescents and adults still remain significantly decreased between 45% to over 60% across markets from Jan 2020 to July 2021.

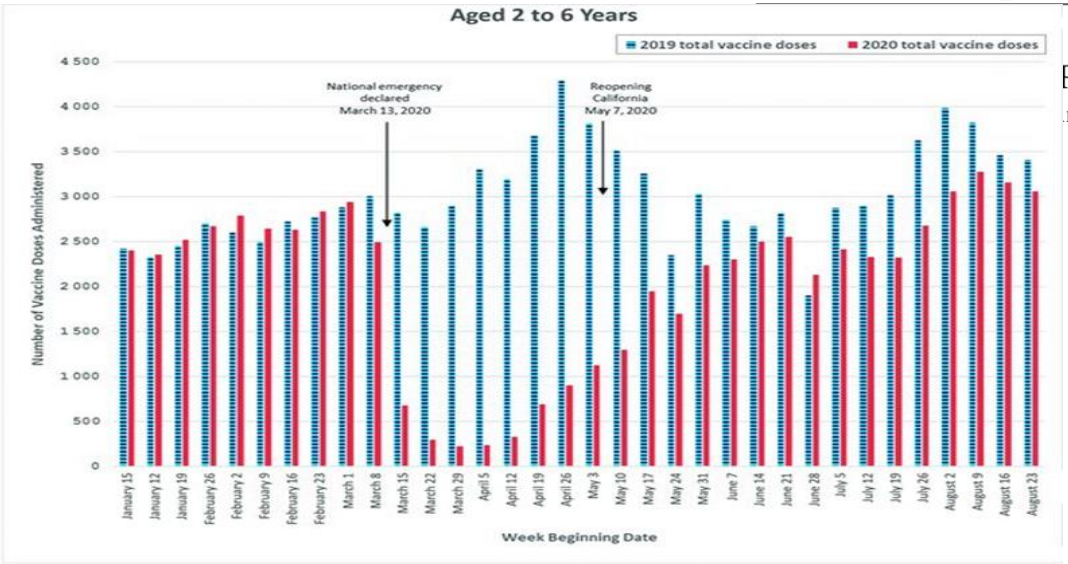
https://avalere.com/insights/declines-in-routine-adult-and-teen-vaccinations-continued-in-2021

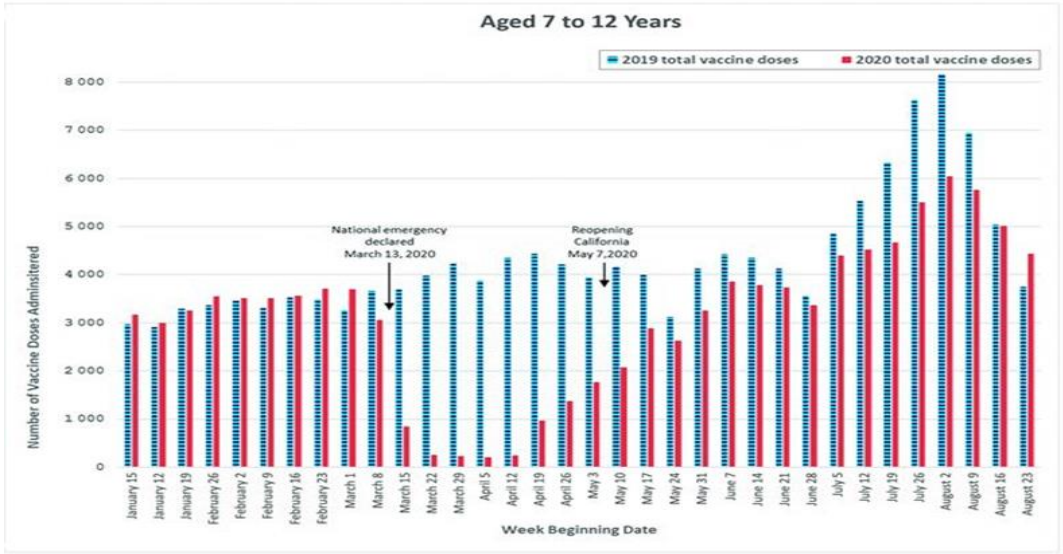
Figure 2. Estimated Missed Doses for All Vaccine Claims Across Markets, January 2020–July 2021

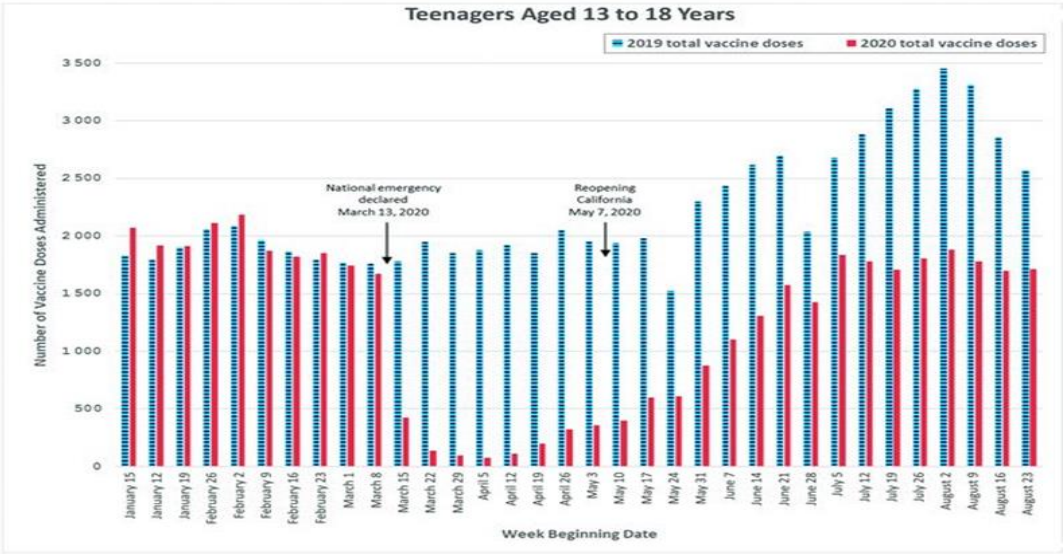


https://avalere.com/insights/declines-in-routine-adult-and-teen-vaccinations-continued-in-2021









Pediatrics. 2021;148(1):e2020047092

Importance of Getting Patients Caught Up on Vaccinations

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- COVID-19 has and continues to cause a significant decrease in vaccination rates in all age groups
- It is critical to normalize the administration of routine vaccines for all age groups and get patients caught up. This is especially important for the pediatric population, because as the pool of un-immunized children expands, herd immunity rapidly decreases, raising the risk for outbreaks of vaccine preventable diseases and the associated morbidity and mortality.
- Healthcare providers need to communicate actively with caregivers to explain how services have been reconfigured to ensure patient safety.

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Additional Resources

- *AAP News* article: Immunization Schedule Updated for 2022
- AAP Policy Statement: Recommended Childhood and Adolescent Immunization Schedule: United States, 2022
- CDC: 2022 Child and Adolescent Immunization Schedule

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National Infant Immunization Week Toolkit

- https://illinoisaap.org/wp-content/uploads/2022/03/National-Infant-Immunization-Week-.pdf

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Upcoming Webinars

5/11/2022	Half-day FREE educational conference: tackles trending topics on adolescent health including trauma-informed care, a mental health panel discussion, strategies for engaging with youth through social media and more!
5/17/2022	Social Determinants of Health and Vaccines
6/21/2022	Where We Are Now with Routine Pediatric Vaccination Coverage
7/19/2022	Maximize Vaccine Uptake in Your Practice
8/16/2022	Back to School
10/18/2022	How to Have Conversations About Vaccines Without Bias

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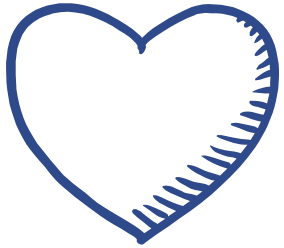

THANK YOU!