

DISCLAIMER

The information presented today is based on CDC's recent guidance and MAY change.

September 21, 2021

COVID-19 Vaccine Updates

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COVID-19 Vaccine Key Updates



COVID-19 Vaccines BLA Status (Biologics Licensure Application)

- August 23, 2021, the Food and Drug Administration (FDA) approved the first COVID-19 vaccine for ages 16 years and older.
 - Marketed as Comirnaty[™]
 - Emergency use authorized for 12-15 years of age
 - Emergency use authorized for an additional dose in immunocompromised persons
 - Emergency use authorized for a booster dose in persons <a>>65 years of age and those at severe risk of COVID-19?



COVID-19 Vaccines BLA Status *Full Approval (Biologics Licensure Application)*

- Moderna has also submitted a biologics licensure application with the FDA.
 - However, the FDA has not yet provided a PDUFA* date
- J&J/Janssen has not yet begun their submission of their BLA with the FDA. Tentative timeline 4Q21.



^{*} Prescription Drug User Fee Act (PDUFA) date: Once the FDA accepts a filing for the approval of a drug, the agency must complete its review process a specified time period. The date at the end of the review period is referred to as the PDUFA date.



Morbidity and Mortality Weekly Report

September 10, 2021

Interim Estimates of COVID-19 Vaccine Effectiveness Against COVID-19-Associated Emergency Department or Urgent Care Clinic Encounters and Hospitalizations Among Adults During SARS-CoV-2 B.1.617.2 (Delta) Variant Predominance — Nine States, June-August 2021

- CDC used the VISION Network* to examine medical encounters (32,867) from 187 hospitals and 221 emergency departments (EDs) and urgent care (UC) clinics across nine states during June—August 2021, beginning on the date the Delta variant accounted for >50% of sequenced isolates in each medical facility's state.
- Among fully vaccinated patients, the proportion who had received each vaccine product among hospitalizations and ED/UC encounters, respectively, were Pfizer-BioNTech, 55.3% and 53.6%; Moderna, 38.8% and 36.1%; and Janssen, 6.0% and 10.3%.
- The median interval from becoming fully vaccinated to the hospital admission or ED/UC encounter, respectively, were 110 and 93 days (Pfizer-BioNTech), 106 and 96 days (Moderna), and 94 and 94 days (Janssen).
- Overall, VE against COVID-19 hospitalization was 86% (95% CI = 82%–89%).
- VE was significantly lower among adults aged ≥75 years (76%) than among those aged 18–74 years (89%) (Table). The difference in VE point etimates between age groups was similar for Pfizer-BioNTech and Moderna vaccines.
- Across all ages, VE was significantly higher among Moderna vaccine recipients (95%) than among Pfizer-BioNTech (80%) or Janssen (60%) vaccine recipients.

*Columbia University Irving Medical Center (New York), HealthPartners (Minnesota and Wisconsin), Intermountain Healthcare (Utah), Kaiser Permanente Northern California (California), Kaiser Permanente Northwest (Oregon and Washington), Regenstrief Institute (Indiana), and University of Colorado (Colorado).

https://www.cdc.gov/mmwr/volumes/70/wr/mm7037e2.htm?s_cid=mm7037e2_e&ACSTrackingID=USCD_C_921-DM65565&ACSTrackingLabel=MMWR%20Early%20Release%20-%20Vol.%2070%2C%20September%2010%2C%202021&deliveryName=USCDC_921-DM65565_

TABLE. COVID-19 vaccine effectiveness* against laboratory-confirmed COVID-19–associated emergency department and urgent care clinic encounters and hospitalizations[†] among adults during SARS-CoV-2 B.1.617.2 (Delta) variant predominance, by outcome, age group, and vaccine — nine states, June–August 2021

Outcome	Total	No. of SARS-CoV-2–positive tests (row %)	VE, % (95% CI)
All adults (aged ≥18 yrs), any COVID-19 vaccine			
COVID-19 hospitalizations			
Unvaccinated (ref)	6,960	1,316 (18.9)	
Fully vaccinated** COVID-19 ED/UC encounters	7,676	235 (3.1)	86 (82–89)
Unvaccinated (ref)	10,872	3,145 (28.9)	_
Fully vaccinated**	7,359	512 (7.0)	82 (81-84)
COVID-19 hospitalizations, any COVID-19 vaccine, by age			
Age group = 18–74 yrs			
Unvaccinated (ref) Fully vaccinated**	5,708 4,551	1,185 (20.8) 134 (2.9)	— 89 (85–92)
Age group = ≥75 yrs	4,331	134 (2.9)	09 (03-92)
Unvaccinated (ref)	1,252	131 (10.5)	_
Fully vaccinated**	3,125	101 (3.2)	76 (64–84)
COVID-19 hospitalizations by COVID-19 vaccine			
BNT162b2 (Pfizer-BioNTech)			
Unvaccinated (ref)	6,960	1,316 (18.9)	
Fully vaccinated**	4,243	135 (3.2)	80 (73–85)
mRNA-1273 (Moderna) Unvaccinated (ref)	6,960	1,316 (18.9)	_
Fully vaccinated**	2,975	70 (2.4)	95 (92–97)
Ad26.COV2.S (Janssen)			
Unvaccinated (ref)	6,960	1,316 (18.9)	-
Fully vaccinated**	458	30 (6.5)	60 (31–77)
COVID-19 ED/UC encounters by COVID-19 vaccine			
BNT162b2 (Pfizer-BioNTech)			
Unvaccinated (ref) Fully vaccinated**	10,872 3,946	3,145 (28.9) 314 (8.0)	— 77 (74–80)
mRNA-1273 (Moderna)	3,340	314 (6.0)	77 (74-00)
Unvaccinated (ref)	10,872	3,145 (28.9)	_
Fully vaccinated**	2,656	98 (3.7)	92 (89–93)
Ad26.COV2.S (Janssen)			
Unvaccinated (ref)	10,872	3,145 (28.9)	-
Fully vaccinated**	757	100 (13.2)	-65 (56-72)

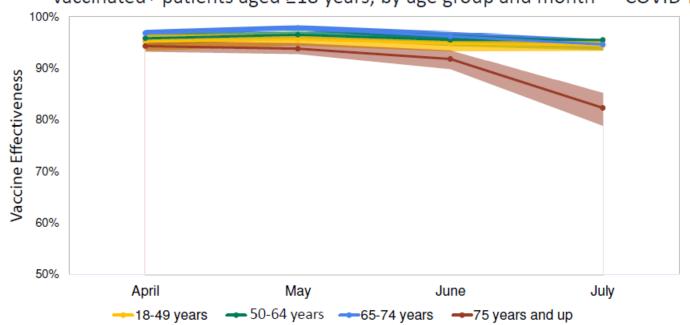
COVID-19 Vaccine Boosters



Booster doses of COVID-19 vaccines: Adults ≥65 years of age

Public Health Problem

Preliminary VE against COVID-19—associated <u>hospitalization</u> among fully vaccinated† patients aged ≥18 years, by age group and month — COVID-NET



 Preliminary VE against hospitalization in adults ≥75 years of age decreased in July, but remains >80%

Source: Unpublished COVID-NET data

†Fully vaccinated patients received both doses of Moderna or Pfizer-BioNTech vaccine, with second dose received ≥14 days before hospitalization, or a single dose of Janssen (Johnson & Johnson) vaccine ≥14 days before hospitalization

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Path to Booster Dose Recommendation

Manufactures Submit Data to FDA

FDA Review / Authorization

CDC (ACIP) Recommendation

- Pfizer has completed submission of COMIRNATY booster data (sBLA).
 - The exact same dose as the primary series
- Moderna also has submitted booster data.
 - The booster dose is half-dose of the primary series vaccine.
- Today, Janssen announced submission of booster data.

- VRBPAC met on September 17, 2021, to review the SBLA for COMIRNATY.
 - Voted for a booster dose in persons ≥65 years of age and those at high risk of severe COVID
 - FDA has not formally authorized a booster yet.

 ACIP meeting is scheduled for September 22 & 23, 2021 to discuss booster recommendations.

sBLA: supplemental Biologics License Application

VRBPAC: Vaccines and Related Biological Products Advisory Committee

ACIP: Advisory Committee on Immunization Pratices

COVID-19 Vaccine for Pediatric Population



Background

 COVID-19 vaccination of children is important to reduce transmission of SARS-CoV-2 and reduce disruptions to in-person learning.

- Focused efforts needed to vaccinate children aged 5-11 years
 - Emergency Use Authorization (EUA) of Pfizer-BioNTech COVID-19 vaccine in this age group is uncertain
 - For planning purposes, projecting as early as Q4/2021
 - Additional planning may be needed for <5-year population in the coming months



Approach for Reaching Children

Augment existing public health infrastructure and add new channels

•	Category	Approach
	Providers serving children & primary care	 Utilize primary care and health department sites as trusted providers to notify, schedule, and vaccinate their patients, including managing routine immunizations
	Pharmacies and HRSA sites ¹	 Leverage broad pharmacy footprint to administer COVID-19 vaccine to children, as feasible
	School-based vaccination	 Partner with Federally Qualified Health Centers, pharmacies, public health, and pediatric provider networks to hold targeted programs to ensure equity and coverage



1. Health Resources and Services Administration (HRSA) sites including: Federally Qualified Health Centers (FQHCs), Rural Health Clinics, Community Health Centers

COVID-19 Vaccine Updates *Children Younger than 11 Years of Age*

- September 10th, 2021, the FDA issued a statement outlining the status and the steps it will take to authorize COVID-19 vaccine for this age group.
 - A follow-up period of at least about two months, to allow for proper safety monitoring following the administration of vaccine doses for at least half of the clinical trial vaccine recipients.
 - After manufacturers analyze their clinical trial data, they will compile the information and may request an emergency use authorization (EUA) or submit for approval a biologics license application (BLA), as appropriate, for this young population to the FDA.
 - When a completed request for EUA or approval has been received by the FDA, the agency will carefully, thoroughly and independently examine the data to evaluate benefits and risks and be prepared to complete its review as quickly as possible, likely in a matter of weeks rather than months.



COVID-19 Vaccine UpdatesChildren Younger than 11 Years of Age

- Yesterday, Pfizer announced results from their Phase 2/3 study in children 5-11 years of age
 - The dose for 5-11 years being evaluated is 10 mcg (versus 30 mcg for adults), 2-dose series given 21 days apart
 - 2,268 participants randomized 2:1 (active vaccine:placebo)
 - "Showing a favorable safety profile and robust neutralizing antibody response"
 - "Plan to submit them to the FDA and other regulators with urgency"
- Pfizer is also studying the vaccine in children ages 6 months to 5 years of age.
 - The dose for this younger age cohort being evaluated is 3 mcg.
 - Anticipate timeline by 4Q21



COVID-19 Vaccine Updates *Children Younger than 11 Years of Age*

- Moderna COVID-19 vaccine (mRNA-1273) study in young children ages 6 months to 11 years is ongoing.
 - The 6 years to <12 years old cohort is fully enrolled.
 - Dose selection studies are still underway for 2 years to < 6 years old and 6mos to <2 years of age groups.



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Thank you!



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