Please see the Emergency Use Authorization (EUA) Fact Sheet for Healthcare Providers Administering Vaccine (Vaccination Providers) including Full EUA Prescribing Information on important treatment considerations for the Pfizer-BioNTech COVID-19 Vaccine via the following link: https://www.pfizermedicalinformation.com/en-us/pfizer-biontech-covid-19-vaccine .In the event this link does not work, please access the product's approved Fact Sheet, including Prescribing Information, at www.pfizer.com .Note: select fact sheet or prescribing information is excerpted further in the document.

The Pfizer-BioNTech COVID-19 Vaccine has not been approved or licensed by FDA, but has been authorized for emergency use by FDA under an Emergency Use Authorization to prevent Coronavirus Disease 2019 (COVID-19) for use in individuals 16 years of age and older. The emergency use of this product is only authorized for the duration of the declaration that circumstances exist justifying the authorization of emergency use of the medical product under Section 564(b)(1) of the FD&C Act unless the declaration is terminated or authorization revoked sooner.

Literature Search

As of November 2, 2020, a search of the published medical literature failed to identify any data regarding the use of Pfizer-BioNTech COVID-19 Vaccine (also known as BNT162b2) in patients with COVID-19 or tested positive for COVID 19.

Pfizer Medical Information is not aware of any additional information available on this topic at this time.

Phase 1/2/3 Study Protocol

During the clinical development program for COVID-19 mRNA Vaccine BNT162b2, only healthy participants determined by medical history, physical examination (if required), and clinical judgment of the investigator were eligible for inclusion in the study [1]

Individuals with previous clinical (based on COVID-19 symptoms/signs alone, if a SARS-CoV-2 nucleic acid amplification test [NAAT] result was not available) or microbiological (based on COVID-19 symptoms/signs and a positive SARS-CoV-2 NAAT result) diagnosis of COVID-19 were excluded from the clinical trials for COVID-19 mRNA Vaccine BNT162b2. [1,2]

After initial screening, as noted above, participants were excluded if they had a clinical or microbiological diagnosis of COVID-19 before entry into the trial. However, enrolled subjects had a nasal swab taken before either dose of vaccine and a blood test for antibodies to a non-spike SARS-CoV-2 before each dose of vaccine. If those were positive and the participant was asymptomatic, the participant was defined as having evidence of prior SARS-CoV-2 infection and was excluded from the first primary efficacy[1,2] evaluation, but remained in the study and was included in the secondary efficacy evaluation against confirmed COVID-19 in participants with or without evidence of prior SARS-CoV-2 infection.[1,2]

RECOMMENDATIONS

In the United States, the CDC's Advisory Committee on Immunization Practices (ACIP) provides recommendations regarding the routine administration of vaccines to children and adults.

On December 12, 2020, the Advisory Committee on Immunization Practices (ACIP) issued an interim recommendation for use of the Pfizer-BioNTech COVID-19 vaccine for the prevention of COVID-19 in persons aged 16 years and older.[3] You can refer to this information at the following address: https://www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/clinical-considerations.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fvaccines%2Fcovid-19%2Finfo-by-manufacturer%2Fpfizer%2Fclinical-considerations.html#vaccination-infected-exposed

In the interim recommendations, the following information is mentioned:

Persons with a current or prior history of SARS-CoV-2 infection

Pfizer is independent of these recommendations

Pfizer is unable to make any recommendations regarding the [management/treatment] of individual patients who may receive the Pfizer-BioNTech COVID-19 Vaccine; clinical judgment based on the medical history and the clinical status of a specific patient should dictate the appropriate actions to be taken.

> *Data from clinical trials indicate that mRNA COVID-19 vaccines are safe in persons with evidence of a prior SARS-CoV-2 infection. Vaccination should be offered to persons regardless of history of prior symptomatic or asymptomatic SARS-CoV-2 infection. Viral testing to assess for acute SARS-CoV-2 infection or serologic testing to assess for prior infection solely for the purposes of vaccine decision-making is not recommended.*
>
> *Vaccination of persons with known current SARS-CoV-2 infection should be deferred until the person has recovered from the acute illness (if the person had symptoms) and criteria have been met for them to discontinue isolation. This recommendation applies to persons who develop SARS-CoV-2 infection before receiving any vaccine doses as well as those who develop SARS-CoV-2 infection after the first dose but before receipt of the second dose. While there is otherwise no recommended minimum interval between infection and vaccination, current evidence suggests that reinfection is uncommon in the 90 days after initial infection. Thus, persons with documented acute SARS-CoV-2 infection in the preceding 90 days may delay vaccination until near the end of this period, if desired.*

Select Emergency Use Authorization Prescribing Information

Dosage and Administration

For intramuscular injection only.[4]

Clinical Trials Results and Supporting Data for EUA

CLINICAL TRIAL RESULTS AND SUPPORTING DATA FOR EUA

Efficacy in Participants 16 Years of Age and Older Study 2 is a multicenter, multinational, Phase 1/2/3, randomized, placebo-controlled, observer-blind, dose finding, vaccine candidate–selection, and efficacy study in participants 12 years of age and older. Randomization was stratified by age: 12 through 15 years of age, 16 through 55 years of age, or 56 years of age and older, with a minimum of 40% of participants in the ≥56-year stratum. The study excluded participants who were immunocompromised and those who had previous clinical or microbiological diagnosis of COVID 19. Participants with preexisting stable disease, defined as disease not requiring significant change in therapy or hospitalization for worsening disease during the 6 weeks before enrollment, were included as were participants with known stable infection with human immunodeficiency virus (HIV), hepatitis C virus (HCV), or hepatitis B virus (HBV).[4]

In the Phase 2/3 portion approximately 44,000 participants 12 years of age and older were randomized equally and received 2 doses of Pfizer BioNTech COVID-19 Vaccine or placebo separated by 21 days. Participants are planned to be followed for up to 24 months, for assessments of safety and efficacy against COVID-19. [4]

The population for the analysis of the primary efficacy endpoint included, 36,621 participants 12 years of age and older (18,242 in the Pfizer BioNTech COVID-19 Vaccine group and 18,379 in the placebo group) who did not have evidence of prior infection with SARS-CoV-2 through 7 days after the second dose. [4]

Efficacy Against COVID-19

The population in the primary efficacy analysis included all participants 12 years of age and older who had been enrolled from July 27, 2020, and followed for the development of COVID-19 through November 14, 2020. Participants 18 to 55 years of age and 56 years of age and older began enrollment from July 27,2020, 16 to 17 years of age began enrollment from September 16, 2020 and 12 to 15 years of age began enrollment from October 15, 2020. [4]

The vaccine efficacy information is presented in Table 1.

Table 1 - Vaccine Efficacy – First COVID-19 Occurrence From 7 Days After Dose 2, by Age Subgroup – Participants Without Evidence of Infection and Participants With or Without Evidence of Infection Prior to 7 Days After Dose 2 – Evaluable Efficacy (7 Days) Population[4]

First COVID-19 occurrence from 7 days after Dose 2 in participants without evidence of prior SARS-CoV-2 infection*			
Subgroup	**Pfizer-BioNTech COVID-19 Vaccine N†=18,198 Cases n1‡ Surveillance Time§ (n2d)**	**Placebo N†=18,325 Cases n1‡ Surveillance Time§ (n2d)**	**Vaccine Efficacy % (95% CI)**
All subjects¶	8 2.214 (17,411)	162 2.222 (17,511)	95.0 (90.3, 97.6) #
16 to 64 years	7 1.706 (13,549)	143 1.710 (13,618)	95.1 (89.6, 98.1) **
65 years and older	1 0.508 (3848)	19 0.511 (3880)	94.7 (66.7, 99.9) **
First COVID-19 occurrence from 7 days after Dose 2 in participants with or without evidence of prior SARS-CoV-2 infection			
Subgroup	**Pfizer-BioNTech COVID-19 Vaccine Na=19,965 Cases n1‡ Surveillance Time§ (n2‖)**	**Placebo Na=20,172 Cases n1‡ Surveillance Time§ (n2‖)**	**Vaccine Efficacy % (95% CI)**
All subjects¶	9 2.332 (18,559)	169 2.345 (18,708)	94.6 (89.9, 97.3) #
16 to 64 years	8 1.802 (14,501)	150 1.814 (14,627)	94.6 (89.1, 97.7) **
65 years and older	1 0.530 (4044)	19 0.532 (4067)	94.7 (66.8, 99.9) **

Note: Confirmed cases were determined by Reverse Transcription-Polymerase Chain Reaction (RT-PCR) and at least 1 symptom consistent with COVID-19 (symptoms included: fever; new or increased cough; new or increased shortness of breath; chills; new or increased muscle pain; new loss of taste or smell; sore throat; diarrhea; vomiting).

* Participants who had no evidence of past SARS-CoV-2 infection (i.e., N-binding antibody [serum] negative at Visit 1 and SARS-CoV-2 not detected by NAAT [nasal swab] at Visits 1 and 2), and had negative NAAT (nasal swab) at any unscheduled visit prior to 7 days after Dose 2 were included in the analysis.

†. N = number of participants in the specified group.

‡. n1 = Number of participants meeting the endpoint definition.

§ Total surveillance time in 1000 person-years for the given endpoint across all participants within each group at risk for the endpoint. Time period for COVID-19 case accrual is from 7 days after Dose 2 to the end of the surveillance period.

|| n2 = Number of participants at risk for the endpoint.

¶ . No confirmed cases were identified in participants 12 to 15 years of age.

#. Credible interval for VE was calculated using a beta-binomial model with a beta (0.700102, 1) prior for θ=r(1-VE)/(1+r(1-VE)), where r is the ratio of surveillance time in the active vaccine group over that in the placebo group.

**. Confidence interval (CI) for vaccine efficacy is derived based on the Clopper and Pearson method adjusted to the surveillance time.

For further information regarding the authorized use under the Emergency Use Authorization (EUA), please refer to the Fact Sheet for Vaccination Providers Administering Vaccine or EUA Prescribing Information for the Pfizer-BioNTech COVID-19 Vaccine

REFERENCES

1. Pfizer-BioNTech COVID-19 vaccine. Data on File (19). Pfizer Inc.
2. ClinicalTrials.gov [Internet]. Bethesda (MD): National Library of Medicine (US). 2000 (Identifier NCT04368728). Available at: http://clinicaltrials.gov/ (Cited November 2, 2020)
3. Advisory Committee on Immunization Practices (ACIP). Interim Clinical considerations for use of Pfizer-BioNTech COVID-19 vaccine. Centers for Disease Control and Prevention website (Page last updated December 20, 2020). Available at: https://www.cdc.gov/vaccines/covid-19/info-by-

product/pfizer/clinicalconsiderations.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fvaccines%2Fcovid-19%2Finfo-bymanufacturer%2Fpfizer%2Fclinical-considerations.html

4 . Emergency Use Authorization (EUA) Fact Sheet for Healthcare Providers Administering Vaccines including the Full EUA Prescribing Information. Pfizer/BioNTech