U.S. FOOD & DRUG ADMINISTRATION

Vaccines and Related Biological Products Advisory Committee Meeting

Application for Licensure of a Booster Dose of COMIRNATY, COVID-19 Vaccine, mRNA

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Purpose of VRBPAC meeting

- COMIRNATY (COVID-19 Vaccine, mRNA) is approved for active immunization to prevent coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in individuals 16 years of age and older administered as a 2 dose series 3 weeks apart (08/23/2021).

- Pfizer/BioNTech submitted a Supplement to their Biologics License Application (BLA) for COMIRNATY seeking approval for administration of a booster dose approximately 6 months after dose 2 in individuals 16 years of age and older (08/25/2021).

- The VRBPAC is convened to determine whether the data submitted are sufficient to support approval of a booster dose of COMIRNATY administered at least 6 months after completion of the primary series for use in individuals 16 years of age and older.

Rationale for COVID-19 Vaccine Booster Doses

- The emergence of the highly transmissible DELTA (B.1.617.2) variant of SARS-CoV-2 has led to considerations of the potential need for booster doses for fully vaccinated individuals.
- Data from post-authorization effectiveness studies conducted suggest that the currently U.S. authorized or licensed vaccines remain effective in protecting against severe disease, however, some data suggest that effectiveness may be waning.
- Concerns have been raised that declining neutralizing antibody titers or reduced effectiveness against symptomatic disease may herald significant declines in effectiveness against severe disease.

Approval Requirements

- For a licensed COVID-19 vaccine a change in dosing regimen to include a booster dose requires approval of a supplemental BLA.
- This supplemental BLA must include data demonstrating the safety and effectiveness of the additional dose.
- Expectation that demonstration of effectiveness of the additional dose is based on adequate and well-controlled clinical studies.
- Findings of effectiveness of the additional dose is necessary but not sufficient for FDA approval.
- A determination that the additional dose is safe for the intended use is also required.

Risk/Benefit Considerations

- Evaluation whether the additional dose is “safe” involves weighing whether its benefits outweigh its risks.
- Available data should support the effectiveness of a booster dose, specifically against currently circulating SARS-CoV-2 variants, and the benefit of the booster dose should be considered relative to the benefit provided by previous vaccination with the primary series.
- Considering risks, available data should at minimum characterize the most common adverse reactions associated with the booster dose.
- Uncertainties regarding benefits and risks are also considered.

Risk/Benefit Considerations

- Post-authorization data demonstrate increased risks of myocarditis and pericarditis, particularly within 7 days following the second dose of COMIRNATY. The observed risk is higher among males under 40 years of age than among females and older males. The observed risk is highest in males 16 to 17 years of age.
- It is not known whether there will be an increased risk of myocarditis/ pericarditis or other adverse reactions after a booster dose of COMIRNATY.
- Thus, risk/benefit considerations to determine whether to approve a booster dose will need to be informed by the known and potential risks of the vaccine.

Regulatory Approach

- Benefit/risk evaluations should take into account whether the booster dose will prevent severe cases of COVID-19, including those caused by currently circulating variants, in addition to those prevented by the primary series. The safety profile of the additional dose will also be considered.
- FDA's evaluation, supported by VRBPAC, of the safety and effectiveness data of a booster dose of COMIRNATY in the age groups for which it is currently licensed is thus essential.