Pfizer Logo

FDA Advisory Committee Votes Unanimously in Favor Of COMIRNATY® Booster for Emergency Use in People 65 and Older and Certain High-risk Populations

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- *Committee reviewed clinical data showing a booster dose of COMIRNATY® elicits high neutralization titers against SARS-CoV-2 and all currently tested variants*
- *Reactogenicity profile within seven days of the booster dose was typically mild to moderate, with frequency of reactions similar to or lower than after the primary vaccination series*
- *Real-world data presented by Israel Ministry of Health show additional protection after receiving a booster translated to vaccine effectiveness comparable to levels seen early in the country's vaccine rollout*
- *FDA expected to make its decision in the coming days*

NEW YORK & MAINZ, Germany--(BUSINESS WIRE)-- Pfizer Inc. (NYSE: PFE) and BioNTech SE (Nasdaq: BNTX) announced today that the U.S. Food and Drug Administration's (FDA) Vaccines and Related Biological Products Advisory Committee (VRBPAC) voted unanimously to recommend the FDA grant Emergency Use Authorization (EUA) for a booster dose of COMIRNATY® (COVID-19 Vaccine, mRNA) in individuals 65 years of age and older and individuals at high risk of severe COVID-19. The committee recommended that the additional dose be administered at least six months after the two-dose series. The panel also agreed that healthcare workers and others at high risk for occupational exposure should be included in this EUA.

This press release features multimedia. View the full release here: https://www.businesswire.com/news/home/20210917005545/en/

VRBPAC is made up of independent experts who advise the FDA on scientific and regulatory matters, including the evaluation of vaccine safety and efficacy.

At this time, VRBPAC did not vote in favor of approval of a booster dose for the full population for which Pfizer and BioNTech submitted their supplemental Biologics License Application, which was individuals 16 and older. The same data have recently been submitted to the European Medicines Agency (EMA) and will be filed with other regulatory authorities in the coming weeks. The companies remain vigilant and continue to generate relevant COMIRNATY booster dose data for evaluation for future licensure in further groups as well as to address emerging variants of concern.

The FDA is expected to make its decision in the coming days. This decision could allow COMIRNATY to be the first COVID-19 vaccine with a booster authorized in the U.S.

"Today the VRBPAC reviewed data from our clinical program showing a favorable safety profile and strong immune responses against SARS-CoV-2 after a booster dose of our vaccine. These data, and the larger body of

scientific evidence presented at the meeting, underscore our belief that boosters can be a critical tool in the ongoing effort to control the spread of this virus," said Kathrin U. Jansen, Ph.D., Senior Vice President and Head of Vaccine Research & Development, Pfizer. "We thank the committee for their thoughtful review of the data and will work with the FDA following today's meeting to address the committee's questions, as we continue to believe in the benefits of a booster dose for a broader population."

"We are committed to support the ongoing efforts to reduce infections and COVID-19 cases. The data we submitted to the FDA, EMA and other regulatory authorities underline that a booster induces a strong immune response against all tested variants of concern and may contribute to address a public health need," said Özlem Türeci, M.D., Co-founder and Chief Medical Officer of BioNTech.

VRBPAC based its recommendation on the totality of scientific evidence shared by the companies, including data from their clinical program evaluating the safety, tolerability and immunogenicity of a booster dose of COMIRNATY. A booster dose of the vaccine elicited significantly higher neutralizing antibody titers against the initial SARS-CoV-2 virus (wild type), as well as the Beta and Delta variants, when compared with the levels observed after the two-dose primary series. The reactogenicity profile within seven days after the booster dose was typically mild to moderate, and the frequency of reactions was similar to or lower than after dose two. The adverse event profile was generally consistent with other clinical safety data for COMIRNATY.

Real-world surveillance data also were presented to the VRBPAC by the Israel Ministry of Health, providing further support for the public health impact of boosters. The data presented from Israel included an analysis published this week in *The New England Journal of Medicine*. The analysis comprised approximately 1.1 million individuals ages 60 years and older who were eligible for a booster dose of the vaccine between July 30 through August 31, 2021. No new safety signals were observed, and reported adverse events were lower than those observed after dose two. The analysis showed that a booster dose restored very high levels of protection against COVID-19 infections and severe disease in this period when Delta was the dominant strain. Individuals who received the booster dose were less likely by a factor of 11.3 (95% CI: 10.4, 12.3) to develop a confirmed infection and less likely by a factor of 19.5 (95% CI: 12.9, 29.5) to develop severe illness compared to those who were previously fully vaccinated but did not receive a booster dose. The additional protection after receiving a booster translated to vaccine effectiveness comparable to levels seen early in the country's vaccine rollout (an estimated 95%), when the Alpha variant was predominant.

Under the EUA of the Pfizer-BioNTech vaccine in the U.S., a third dose was previously authorized for individuals at least 12 years of age who have undergone solid organ transplant, or who are diagnosed with conditions that are considered to have an equivalent level of immunocompromise. This authorization of a third dose for immunocompromised individuals is separate and distinct from the booster dose reviewed by VRBPAC today. The third dose for immunocompromised individuals is meant to address the fact that these individuals sometimes do not build enough protection after two doses of the vaccine. In contrast, the booster dose recommended today by VRBPAC for EUA refers to an additional dose of the vaccine that is given to those who have built enough protection after the primary two-dose vaccination series, but may have decreased protection over time due to waning of immunity.

COMIRNATY, which is based on BioNTech's proprietary mRNA technology, was developed by both BioNTech and Pfizer. BioNTech is the Marketing Authorization Holder in the United States, the European Union, the United Kingdom, Canada and the holder of emergency use authorizations or equivalents in the United States (jointly with Pfizer) and other countries. Submissions to pursue regulatory approvals in those countries where emergency use authorizations or equivalent were initially granted are planned.

U.S. Indication & Authorized Use

COMIRNATY® (COVID-19 Vaccine, mRNA) is an FDA-approved COVID-19 vaccine made by Pfizer for BioNTech.

- It is approved as a 2-dose series for prevention of COVID-19 in individuals 16 years of age and older
- It is also authorized under Emergency Use Authorization (EUA) to be administered for emergency use to:
  - prevent COVID-19 in individuals 12 through 15 years, and
  - provide a third dose to individuals 12 years of age and older who have been determined to have certain kinds of immunocompromise

The Pfizer-BioNTech COVID-19 Vaccine has received EUA from FDA to:

- prevent COVID-19 in individuals 12 years of age and older, and
- provide a third dose to individuals 12 years of age and older who have been determined to have certain kinds of immunocompromise

The FDA-approved COMIRNATY® (COVID-19 Vaccine, mRNA) and the EUA-authorized Pfizer-BioNTech COVID-19 Vaccine have the same formulation and can be used interchangeably to provide the COVID-19 vaccination series. An individual may be offered either COMIRNATY® (COVID-19 Vaccine, mRNA) or the Pfizer-BioNTech COVID-19 Vaccine to prevent coronavirus disease 2019 (COVID-19) caused by SARS-CoV-2.

EUA Statement

This emergency use of the product has not been approved or licensed by FDA, but has been authorized by FDA under an Emergency Use Authorization (EUA) to prevent Coronavirus Disease 2019 (COVID-19) for use in individuals 12 years of age and older; and 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.

Important Safety Information

Individuals should **not** get the Pfizer-BioNTech COVID-19 Vaccine if they:

- had a severe allergic reaction after a previous dose of this vaccine
- had a severe allergic reaction to any ingredient of this vaccine

Individuals should tell the vaccination provider about all of their medical conditions, including if they:

- have any allergies
- have had myocarditis (inflammation of the heart muscle) or pericarditis (inflammation of the lining outside the heart)
- have a fever
- have a bleeding disorder or are on a blood thinner
- are immunocompromised or are on a medicine that affects the immune system
- are pregnant, plan to become pregnant, or are breastfeeding
- have received another COVID-19 vaccine
- have ever fainted in association with an injection

The vaccine may not protect everyone.

Side effects reported with the vaccine include:

- There is a remote chance that the vaccine could cause a severe allergic reaction
    - A severe allergic reaction would usually occur within a few minutes to one hour after getting a dose of the vaccine. For this reason, vaccination providers may ask individuals to stay at the place where they received the vaccine for monitoring after vaccination
    - Signs of a severe allergic reaction can include difficulty breathing, swelling of the face and throat, a fast heartbeat, a bad rash all over the body, dizziness, and weakness
    - If an individual experiences a severe allergic reaction, they should call 9-1-1 or go to the nearest hospital
- Myocarditis (inflammation of the heart muscle) and pericarditis (inflammation of the lining outside the heart) have occurred in some people who have received the vaccine. In most of these people, symptoms began within a few days following receipt of the second dose of the vaccine. The chance of having this occur is very low. Individuals should seek medical attention right away if they have any of the following symptoms after receiving the vaccine:
    - chest pain
    - shortness of breath
    - feelings of having a fast-beating, fluttering, or pounding heart
- Side effects that have been reported with the vaccine include:
    - severe allergic reactions; non-severe allergic reactions such as rash, itching, hives, or swelling of the face; myocarditis (inflammation of the heart muscle); pericarditis (inflammation of the lining outside the heart); injection site pain; tiredness; headache; muscle pain; chills; joint pain; fever; injection site swelling; injection site redness; nausea; feeling unwell; swollen lymph nodes (lymphadenopathy); diarrhea; vomiting; arm pain
- These may not be all the possible side effects of the vaccine. Serious and unexpected side effects may occur. The vaccine is still being studied in clinical trials. Call the vaccination provider or healthcare provider about bothersome side effects or side effects that do not go away

There is no information on the use of the vaccine with other vaccines.

Patients should always ask their healthcare providers for medical advice about adverse events. Individuals are encouraged to report negative side effects of vaccines to the US Food and Drug Administration (FDA) and the Centers for Disease Control and Prevention (CDC). Visit http://www.vaers.hhs.gov or call 1-800-822-7967. In addition, side effects can be reported to Pfizer Inc. at www.pfizersafetyreporting.com or by calling 1-800-438-1985.

Please click here for full Prescribing Information (16+ years of age). Please click here for Fact Sheet for Vaccination Providers (12+ years of age).

About Pfizer: Breakthroughs That Change Patients' Lives

At Pfizer, we apply science and our global resources to bring therapies to people that extend and significantly improve their lives. We strive to set the standard for quality, safety and value in the discovery, development and manufacture of health care products, including innovative medicines and vaccines. Every day, Pfizer colleagues work across developed and emerging markets to advance wellness, prevention, treatments and cures that challenge the most feared diseases of our time. Consistent with our responsibility as one of the world's premier innovative biopharmaceutical companies, we collaborate with health care providers, governments and local communities to support and expand access to reliable, affordable health care around the world. For more than 170 years, we have worked to make a difference for all who rely on us. We routinely post information that may be important to investors on our website at www.Pfizer.com. In addition, to learn more, please visit us on www.Pfizer.com and follow us on Twitter at @Pfizer and @Pfizer News, LinkedIn, YouTube and like us on

Facebook at Facebook.com/Pfizer.

Pfizer Disclosure Notice

The information contained in this release is as of September 17, 2021. Pfizer assumes no obligation to update forward-looking statements contained in this release as the result of new information or future events or developments.

This release contains forward-looking information about Pfizer's efforts to combat COVID-19, the collaboration between BioNTech and Pfizer to develop a COVID-19 vaccine, the BNT162 mRNA vaccine program and COMIRNATY (COVID-19 Vaccine, mRNA) (BNT162b2) (including a potential booster (third) dose and a supplemental Biologics License Application (sBLA) for a potential booster (third) dose of BNT162b2 in individuals 16 years of age and older in the U.S., qualitative assessments of available data, potential benefits, expectations for clinical trials, the anticipated timing of regulatory submissions, regulatory approvals or authorizations and anticipated manufacturing, distribution and supply) involving substantial risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements. Risks and uncertainties include, among other things, the uncertainties inherent in research and development, including the ability to meet anticipated clinical endpoints, commencement and/or completion dates for clinical trials, regulatory submission dates, regulatory approval dates and/or launch dates, as well as risks associated with preclinical and clinical data (including the Phase 3 data), including the possibility of unfavorable new preclinical, clinical or safety data and further analyses of existing preclinical, clinical or safety data; whether and when our Phase 3 clinical trial will demonstrate protection from infection or disease following a booster (third) dose, which is the subject of ongoing study; the ability to produce comparable clinical or other results, including the rate of vaccine effectiveness and safety and tolerability profile observed to date, in additional analyses of the Phase 3 trial and additional studies or in larger, more diverse populations following commercialization; the ability of BNT162b2 to prevent COVID-19 caused by emerging virus variants; the risk that more widespread use of the vaccine will lead to new information about efficacy, safety, or other developments, including the risk of additional adverse reactions, some of which may be serious; the risk that preclinical and clinical trial data are subject to differing interpretations and assessments, including during the peer review/publication process, in the scientific community generally, and by regulatory authorities; whether and when additional data from the BNT162 mRNA vaccine program will be published in scientific journal publications and, if so, when and with what modifications and interpretations; whether regulatory authorities will be satisfied with the design of and results from these and any future preclinical and clinical studies; whether and when applications for a potential booster (third) dose will be filed in any other jurisdictions and whether and when other biologics license and/or emergency use authorization applications or amendments to any such applications may be filed in particular jurisdictions for BNT162b2 or any other potential vaccines that may arise from the BNT162 program, and if obtained, whether or when such emergency use authorization or licenses will expire or terminate; whether and when any applications that may be pending or filed for BNT162b2 (including the sBLA for a potential booster (third) dose in the U.S., applications that may be pending or filed for a potential booster (third) dose in other jurisdictions or any requested amendments to the emergency use or conditional marketing authorizations) or other vaccines that may result from the BNT162 program may be approved by particular regulatory authorities, which will depend on myriad factors, including making a determination as to whether the vaccine's benefits outweigh its known risks and determination of the vaccine's efficacy and, if approved, whether it will be commercially successful; decisions by regulatory authorities impacting labeling or marketing, manufacturing processes, safety and/or other matters that could affect the availability or commercial potential of a vaccine, including development of products or therapies by other companies; disruptions in the relationships between us and our collaboration partners, clinical trial sites or third-party suppliers; the risk that demand for any products may be reduced or no longer exist; risks related to the availability of raw materials to manufacture a vaccine; challenges related to our vaccine's ultra-low temperature formulation, two-dose schedule

and attendant storage, distribution and administration requirements, including risks related to storage and handling after delivery by Pfizer; the risk that we may not be able to successfully develop other vaccine formulations, booster doses or new variant-specific vaccines; the risk that we may not be able to create or scale up manufacturing capacity on a timely basis or maintain access to logistics or supply channels commensurate with global demand for our vaccine, which would negatively impact our ability to supply the estimated numbers of doses of our vaccine within the projected time periods as previously indicated; whether and when additional supply agreements will be reached; uncertainties regarding the ability to obtain recommendations from vaccine advisory or technical committees and other public health authorities and uncertainties regarding the commercial impact of any such recommendations; challenges related to public vaccine confidence or awareness; uncertainties regarding the impact of COVID-19 on Pfizer's business, operations and financial results; and competitive developments.

A further description of risks and uncertainties can be found in Pfizer's Annual Report on Form 10-K for the fiscal year ended December 31, 2020 and in its subsequent reports on Form 10-Q, including in the sections thereof captioned "Risk Factors" and "Forward-Looking Information and Factors That May Affect Future Results", as well as in its subsequent reports on Form 8-K, all of which are filed with the U.S. Securities and Exchange Commission and available at www.sec.gov and www.pfizer.com.

About BioNTech

Biopharmaceutical New Technologies is a next generation immunotherapy company pioneering novel therapies for cancer and other serious diseases. The Company exploits a wide array of computational discovery and therapeutic drug platforms for the rapid development of novel biopharmaceuticals. Its broad portfolio of oncology product candidates includes individualized and off-the-shelf mRNA-based therapies, innovative chimeric antigen receptor T cells, bi-specific checkpoint immuno-modulators, targeted cancer antibodies and small molecules. Based on its deep expertise in mRNA vaccine development and in-house manufacturing capabilities, BioNTech and its collaborators are developing multiple mRNA vaccine candidates for a range of infectious diseases alongside its diverse oncology pipeline. BioNTech has established a broad set of relationships with multiple global pharmaceutical collaborators, including Genmab, Sanofi, Bayer Animal Health, Genentech, a member of the Roche Group, Regeneron, Genevant, Fosun Pharma, and Pfizer. For more information, please visit www.BioNTech.de.

BioNTech Forward-looking Statements

This press release contains "forward-looking statements" of BioNTech within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements may include, but may not be limited to, statements concerning: BioNTech's efforts to combat COVID-19; the collaboration between BioNTech and Pfizer including the program to develop a COVID-19 vaccine and COMIRNATY (COVID-19 Vaccine, mRNA) (BNT162b2) (including a booster (third) dose of BNT162b2 in individuals 16 years of age or older in the U.S., a definite submission of a supplemental BLA for a potential booster dose of a variation of BNT162b2 having a modified mRNA sequence in the U.S., a BLA to support potential full FDA approval of BNT162b2 in individuals 12 through 15 years in the U.S., whether and when applications for a potential booster (third) dose will be filed in any other jurisdictions, qualitative assessments of available data, potential benefits, expectations for clinical trials, the anticipated timing of regulatory submissions, regulatory approvals or authorizations and anticipated manufacturing, distribution and supply); our expectations regarding the potential characteristics of BNT162b2 in our clinical trials and/or in commercial use based on data observations to date; the ability of BNT162b2 to prevent COVID-19 caused by emerging virus variants; the expected time point for additional readouts on efficacy data of BNT162b2 in our clinical trials; the nature of the clinical data, which is subject to ongoing peer review, regulatory review and market interpretation; the timing for submission of data

for, or receipt of, any marketing approval or Emergency Use Authorization; our contemplated shipping and storage plan, including our estimated product shelf life at various temperatures; and the ability of BioNTech to supply the quantities of BNT162 to support clinical development and market demand, including our production estimates for 2021. Any forward-looking statements in this press release are based on BioNTech current expectations and beliefs of future events, and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to: the ability to meet the pre-defined endpoints in clinical trials; competition to create a vaccine for COVID-19; the ability to produce comparable clinical or other results, including our stated rate of vaccine effectiveness and safety and tolerability profile observed to date, in the remainder of the trial or in larger, more diverse populations upon commercialization; the ability to effectively scale our productions capabilities; and other potential difficulties.

For a discussion of these and other risks and uncertainties, see BioNTech's Annual Report as Form 20-F for the Year Ended December 31, 2020, filed with the SEC on March 30, 2021, which is available on the SEC's website at www.sec.gov. All information in this press release is as of the date of the release, and BioNTech undertakes no duty to update this information unless required by law.

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