An age-appropriate additional dose of Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula) may be administered at least 2 months following the last dose of a COVID-19 vaccine (2023-2024 Formula).[8,9] Age-appropriate additional doses of Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula) may be administered at the discretion of the healthcare provider, taking into consideration the individual's clinical circumstances. The timing of the additional doses may be based on the individual's clinical circumstances.

3 DOSAGE FORMS AND STRENGTHS

Pfizer-BioNTech COVID-19 Vaccine is a suspension for injection.

A single dose is 0.3 mL.

4 CONTRAINDICATIONS

Do not administer Pfizer-BioNTech COVID-19 Vaccine to individuals with a history of a severe allergic reaction (e.g., anaphylaxis) to any component of the Pfizer-BioNTech COVID-19 Vaccine *[see Description (11)]* or to individuals who had a severe allergic reaction (e.g., anaphylaxis) following a previous dose of a Pfizer-BioNTech COVID-19 vaccine.

5 WARNINGS AND PRECAUTIONS

5.1 Management of Acute Allergic Reactions

Appropriate medical treatment to manage immediate allergic reactions must be immediately available in the event an acute anaphylactic reaction occurs following administration of Pfizer-BioNTech COVID-19 Vaccine.

Monitor Pfizer-BioNTech COVID-19 Vaccine recipients for the occurrence of immediate adverse reactions according to the Centers for Disease Control and Prevention (CDC) guidelines (https://www.cdc.gov/vaccines/covid-19/clinical-considerations/managing-anaphylaxis.html).

5.2 Myocarditis and Pericarditis

Postmarketing data with authorized or approved mRNA COVID-19 vaccines demonstrate increased risks of myocarditis and pericarditis, particularly within the first week following vaccination. For the Pfizer-BioNTech COVID-19 Vaccine, the observed risk is highest in males 12 through 17 years of age. Although some cases required intensive care support, available data from short-term follow-up suggest that most individuals have had resolution of symptoms with conservative management. Information is not yet available about potential long-term sequelae.

[8] For immunocompromised individuals 6 months through 4 years of age, the last dose of a COVID-19 vaccine (2023-2024 Formula) refers to a dose with Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula).

[9] For immunocompromised individuals 5 through 11 years of age, the last dose of a COVID-19 vaccine (2023-2024 Formula) refers to a dose with Moderna COVID-19 Vaccine (2023-2024 Formula) or Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula).

The CDC has published considerations related to myocarditis and pericarditis after vaccination, including for vaccination of individuals with a history of myocarditis or pericarditis (https://www.cdc.gov/vaccines/covid-19/clinical-considerations/myocarditis.html).

5.3 Syncope

Syncope (fainting) may occur in association with administration of injectable vaccines. Procedures should be in place to avoid injury from fainting.

5.4 Altered Immunocompetence

Immunocompromised persons, including individuals receiving immunosuppressive therapy, may have a diminished response to Pfizer-BioNTech COVID-19 Vaccine.

5.5 Limitations of Vaccine Effectiveness

Pfizer-BioNTech COVID-19 Vaccine may not protect all vaccine recipients.

6 ADVERSE REACTIONS

An overview of clinical studies contributing to the safety assessment of Pfizer-BioNTech COVID-19 Vaccine in individuals 6 months through 11 years of age is provided in Table 1. Participants in these clinical studies received a 2- or 3-dose initial series depending on age, with 3 weeks between Dose 1 and Dose 2 and 8 weeks between Dose 2 and Dose 3 (referred to as a primary series) and subsequent doses (referred to as booster dose(s)).

Table 1: Clinical Studies

Study	Age Group	Vaccine Strain Composition	Dosing	Number of Participants
Primary Series				
Study 1 (NCT04380701)	18 through 55 years	Original[a]	Primary series	60
Study 2 (NCT04368728)	12 through 15 years	Original[a]	Primary series	1131[b]
	≥16 years	Original[a]	Primary series	21720[b]
Study 3 (NCT04816643)	5 through 11 years	Original[a]	Primary series	3109
	2 through 4 years	Original[a]	Primary series	606
	6 through 23 months	Original[a]	Primary series	386
Booster Dose				
Study 2 (NCT04368728)	18 through 55 years	Original[a]	1st booster	306
Study 3 (NCT04816643)	5 through 11 years	Original[a]	1st booster	401
Study 5 (NCT05472038)	≥12 years of age	Original and Omicron BA.4/BA.5[c]	2nd booster	316
Study 6 (NCT05543616)	5 through 11 years	Original and Omicron BA.4/BA.5[c]	2nd booster	113
	2 through 4 years	Original and Omicron BA.4/BA.5[c]	1st booster (4th dose)	36
	6 through 23 months	Original and Omicron BA.4/BA.5[c]	1st booster (4th dose)	24
Study 4 (NCT04955626)	>55 years	Original[a] and Original and Omicron BA.1[d]	2nd booster	610

Abbreviation: SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2.

a. Vaccine encoding the viral spike (S) glycoprotein of SARS-CoV-2 Wuhan-Hu-1 strain (Original).
b. Received the vaccine during placebo-control period.
c. Vaccine encoding the viral spike (S) glycoprotein of SARS-CoV-2 Wuhan-Hu-1 strain (Original) and Omicron variant lineages BA.4 and BA.5 (Omicron BA.4/BA.5), previously authorized as Pfizer-BioNTech COVID-19 Vaccine, Bivalent.
d. Vaccine encoding the viral spike (S) glycoprotein of SARS-CoV-2 Wuhan-Hu1 strain (Original) and Omicron variant lineage BA.1 (not authorized or approved in the U.S.).

The safety data accrued with the Pfizer-BioNTech COVID-19 Vaccine (Original monovalent, no longer authorized for use in the U.S.), Pfizer-BioNTech's bivalent COVID-19 vaccine (Original and Omicron BA.1) [not authorized or approved in the U.S., hereafter referred to as bivalent vaccine (Original and Omicron BA.1)] and Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron, BA.4/BA.5)

[no longer authorized for use in the U.S.] are relevant to Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula) because these vaccines are manufactured using the same process.

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a vaccine cannot be directly compared with rates in the clinical trials of another vaccine and may not reflect the rates observed in practice.

Pfizer-BioNTech COVID-19 Vaccine (Original Monovalent)

The safety of a primary series Pfizer-BioNTech COVID-19 Vaccine was evaluated in participants 6 months of age and older in 3 clinical studies conducted in the United States, Europe, Turkey, South Africa and South America.

Study BNT162-01 (Study 1) was a Phase 1/2, 2-part, dose-escalation trial that enrolled 60 participants, 18 through 55 years of age. Study C4591001 (Study 2) is a Phase 1/2/3, multicenter, multinational, randomized, saline placebo-controlled, observer-blind, dose finding, vaccine candidate-selection (Phase 1) and efficacy (Phase 2/3) study that has enrolled approximately 46,000 participants, 12 years of age and older. Of these, approximately 43,448 participants [21,720 Pfizer-BioNTech COVID-19 Vaccine (30 mcg modRNA); 21,728 placebo] in Phase 2/3 are 16 years of age or older (including 138 and 145 participants 16 and 17 years of age in the vaccine and placebo groups, respectively) and 2,260 participants are 12 through 15 years of age (1,131 and 1,129 in the vaccine and placebo groups, respectively). Study C4591007 (Study 3) is a Phase 1/2/3 multicenter, randomized, dose finding, open-label (Phase 1) and multinational, saline placebo-controlled, observer-blind, immunogenicity and efficacy (Phase 2/3) study that has enrolled 4,695 participants 5 through 11 years of age, of whom 3,109 participants received Pfizer-BioNTech COVID-19 Vaccine (10 mcg modRNA) and 1,538 participants received placebo in Phase 2/3. Study 3 also enrolled 1,776 participants 6 through 23 months of age, of whom 1,178 participants were in the Pfizer-BioNTech COVID-19 Vaccine (3 mcg modRNA) group and 598 participants in the placebo group; and also enrolled 2,750 participants 2 through 4 years of age, of whom 1,835 participants were in the Pfizer-BioNTech COVID-19 Vaccine group and 915 participants in the placebo group in Phase 2/3.

In Study 2 and Study 3, all participants 6 months through 4 years of age, 5 through 11 years of age, 12 through 15 years of age, and a subset of participants 16 years of age and older, were monitored for solicited local and systemic reactions and use of antipyretic medication after each vaccination in an electronic diary. Participants are being monitored for unsolicited adverse events, including serious adverse events, throughout the study [from Dose 1 through 1 month after the last vaccination (all unsolicited adverse events) or 6 months (serious adverse events) after the last vaccination].

Pfizer-BioNTech COVID-19 Vaccine (Original Monovalent) Administered as a Primary Series

Participants 16 Years of Age and Older (2-Dose Primary Series)

At the time of the analysis of Study 2 for the EUA, 37,586 [18,801 Pfizer-BioNTech COVID-19 Vaccine (30 mcg modRNA) and 18,785 placebo] participants 16 years of age or older had been followed for a median of 2 months after the second dose.

The safety evaluation in Study 2 is ongoing. The safety population includes participants 16 years of age and older enrolled by October 9, 2020, and includes safety data accrued through November 14, 2020.

Demographic characteristics in Study 2 were generally similar with regard to age, gender, race, and ethnicity among participants who received Pfizer-BioNTech COVID-19 Vaccine and those who received placebo. Overall, among the total participants who received either the Pfizer-BioNTech COVID-19 Vaccine or placebo, 50.6% were male and 49.4% were female, 83.1% were White, 9.1% were Black or African American, 28.0% were Hispanic/Latino, 4.3% were Asian, and 0.5% were American Indian/Alaska Native.

Unsolicited Adverse Events

Serious Adverse Events
In Study 2, among participants 16 through 55 years of age who had received at least 1 dose of vaccine or placebo (Pfizer-BioNTech COVID-19 Vaccine = 10,841; placebo = 10,851), serious adverse events from Dose 1 through up to 30 days after Dose 2 in ongoing follow-up were reported by 0.4% of Pfizer-BioNTech COVID-19 Vaccine recipients and by 0.3% of placebo recipients. In a similar analysis, in participants 56 years of age and older (Pfizer-BioNTech COVID-19 Vaccine = 7,960, placebo = 7,934), serious adverse events were reported by 0.8% of Pfizer-BioNTech COVID-19 Vaccine recipients and by 0.6% of placebo recipients who received at least 1 dose of Pfizer-BioNTech COVID-19 Vaccine or placebo, respectively. In these analyses, 91.6% of study participants had at least 30 days of follow-up after Dose 2.

Appendicitis was reported as a serious adverse event for 12 participants, and numerically higher in the vaccine group, 8 vaccine participants and 4 placebo participants. Currently available information is insufficient to determine a causal relationship with the vaccine. There were no other notable patterns or numerical imbalances between treatment groups for specific categories of serious adverse events (including neurologic, neuro-inflammatory, and thrombotic events) that would suggest a causal relationship to Pfizer-BioNTech COVID-19 Vaccine.

Non-Serious Adverse Events
In Study 2 in which 10,841 participants 16 through 55 years of age received Pfizer-BioNTech COVID-19 Vaccine and 10,851 participants received placebo, non-serious adverse events from Dose 1 through up to 30 days after Dose 2 in ongoing follow-up were reported in 29.3% of participants who received Pfizer-BioNTech COVID-19 Vaccine and 13.2% of participants in the placebo group, for participants who received at least 1 dose. Overall, in a similar analysis in which 7,960 participants 56 years of age and older received Pfizer-BioNTech COVID-19 Vaccine, non-serious adverse events within 30 days were reported in 23.8% of participants who received Pfizer-BioNTech COVID-19 Vaccine and 11.7% of participants in the placebo group, for participants who received at least 1 dose. In these analyses, 91.6% of study participants had at least 30 days of follow-up after Dose 2.

The higher frequency of reported unsolicited non-serious adverse events among Pfizer-BioNTech COVID-19 Vaccine recipients compared to placebo recipients was primarily attributed to local and systemic adverse events reported during the first 7 days following vaccination that are consistent with adverse reactions solicited among participants in the reactogenicity subset. From Dose 1 through 30 days after Dose 2, reports of lymphadenopathy were imbalanced with notably more cases in the Pfizer-BioNTech COVID-19 Vaccine group (64) vs. the placebo group (6), which is plausibly related to

vaccination. Throughout the safety follow-up period to date, Bell's palsy (facial paralysis) was reported by 4 participants in the Pfizer-BioNTech COVID-19 Vaccine group. Onset of facial paralysis was Day 37 after Dose 1 (participant did not receive Dose 2) and Days 3, 9, and 48 after Dose 2. No cases of Bell's palsy were reported in the placebo group. Currently available information is insufficient to determine a causal relationship with the vaccine. There were no other notable patterns or numerical imbalances between treatment groups for specific categories of non-serious adverse events (including other neurologic or neuro-inflammatory, and thrombotic events) that would suggest a causal relationship to Pfizer-BioNTech COVID-19 Vaccine.

Participants 12 Through 15 Years of Age (2-Dose Primary Series)

In an analysis of Study 2, based on data up to the cutoff date of March 13, 2021, 2,260 participants (1,131 Pfizer-BioNTech COVID-19 Vaccine (30 mcg modRNA); 1,129 placebo) were 12 through 15 years of age. Of these, 1,308 (660 Pfizer-BioNTech COVID-19 Vaccine and 648 placebo) participants have been followed for at least 2 months after the second dose. The safety evaluation in Study 2 is ongoing.

Demographic characteristics in Study 2 were generally similar with regard to age, gender, race, and ethnicity among participants who received Pfizer-BioNTech COVID-19 Vaccine and those who received placebo. Overall, among the participants who received the Pfizer-BioNTech COVID-19 Vaccine, 50.1% were male and 49.9% were female, 85.9% were White, 4.6% were Black or African American, 11.7% were Hispanic/Latino, 6.4% were Asian, and 0.4% were American Indian/Alaska Native.

Unsolicited Adverse Events

In the following analyses of Study 2 in participants 12 through 15 years of age (1,131 of whom received Pfizer-BioNTech COVID-19 Vaccine and 1,129 of whom received placebo), 98.3% of study participants had at least 30 days of follow-up after Dose 2.

Serious Adverse Events
Serious adverse events from Dose 1 through up to 30 days after Dose 2 in ongoing follow-up were reported by 0.4% of Pfizer-BioNTech COVID-19 Vaccine recipients and by 0.1% of placebo recipients. There were no notable patterns or numerical imbalances between treatment groups for specific categories of serious adverse events that would suggest a causal relationship to Pfizer-BioNTech COVID-19 Vaccine.

Non-Serious Adverse Events
Non-serious adverse events from Dose 1 through up to 30 days after Dose 2 in ongoing follow-up were reported by 5.8% of Pfizer-BioNTech COVID-19 Vaccine recipients and by 5.8% of placebo recipients. From Dose 1 through 30 days after Dose 2, reports of lymphadenopathy plausibly related to the study intervention were imbalanced, with notably more cases in the Pfizer-BioNTech COVID-19 Vaccine group (7) vs. the placebo group (1). There were no other notable patterns or numerical imbalances between treatment groups for specific categories of non-serious adverse events that would suggest a causal relationship to Pfizer-BioNTech COVID-19 Vaccine.

Participants 5 Through 11 Years of Age (2-Dose Primary Series)

In an analysis of Study 3 Phase 2/3, based on data up to the cutoff date of September 06, 2021, 2,268 participants [1,518 Pfizer-BioNTech COVID-19 Vaccine (10 mcg modRNA); 750 placebo] were 5 through 11 years of age. Of these, 2,158 (95.1%) [1,444 Pfizer-BioNTech COVID-19 Vaccine (10 mcg modRNA) and 714 placebo] participants have been followed for at least 2 months after the second dose. An analysis of Study 3 Phase 2/3 adverse event data also included another 2,379 participants [1,591 Pfizer-BioNTech COVID-19 Vaccine (10 mcg modRNA) and 788 placebo], of whom 71.2% had a follow-up period for at least 2 weeks after Dose 2 up to the cutoff date of October 8, 2021. The safety evaluation in Study 3 is ongoing.

Demographic characteristics in Study 3 were generally similar with regard to age, gender, race, and ethnicity among participants 5 through 11 years of age who received Pfizer-BioNTech COVID-19 Vaccine (10 mcg modRNA) and those who received placebo. Among the 4,647 participants 5 through 11 years of age who received at least 1 dose of the Pfizer-BioNTech COVID-19 Vaccine (10 mcg modRNA) or placebo, 51.8% were male and 48.2% were female, 77.3% were White, 5.8% were Black or African American, 16.9% were Hispanic/Latino, 8.3% were Asian, and 0.4% were American Indian/Alaska Native.

Solicited Local and Systemic Adverse Reactions
The mean duration of pain at the injection site after Dose 2 was 2.3 days (range 1 to 11 days), for redness 2.2 days (range 1 to 10 days), and for swelling 2.2 days (range 1 to 10 days) for children in the Pfizer-BioNTech COVID-19 Vaccine (10 mcg modRNA) group up to the cutoff date of September 06, 2021.

Table 2: Study 3 – Frequency and Percentages of Participants With Solicited Local Reactions, by Maximum Severity, Within 7 Days After Each Dose – Children 5 Through 11 Years of Age – Safety Population*

	Pfizer-BioNTech COVID-19 Vaccine± Dose 1 N[a]=1511 n[c] (%)	**Placebo Dose 1 N[a,b]=748 n[c] (%)**	**Pfizer-BioNTech COVID-19 Vaccine± Dose 2 N[a]=1501 n[c] (%)**	**Placebo Dose 2 N[a,b]=740 n[c] (%)**
Redness[d]				
Any (≥0.5 cm)	222 (14.7)	43 (5.7)	278 (18.5)	40 (5.4)
Mild	143 (9.5)	37 (4.9)	143 (9.5)	31 (4.2)
Moderate	79 (5.2)	6 (0.8)	132 (8.8)	9 (1.2)
Severe	0	0	3 (0.2)	0
Swelling[d]				
Any (≥0.5 cm)	158 (10.5)	20 (2.7)	229 (15.3)	20 (2.7)
Mild	85 (5.6)	13 (1.7)	117 (7.8)	15 (2.0)
Moderate	72 (4.8)	7 (0.9)	112 (7.5)	5 (0.7)
Severe	1 (0.1)	0	0	0

	Pfizer-BioNTech COVID-19 Vaccine± Dose 1 N[a]=1511 n[c] (%)	Placebo Dose 1 N[a,b]=748 n[c] (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 2 N[a]=1501 n[c] (%)	Placebo Dose 2 N[a,b]=740 n[c] (%)
Pain at the injection site[e]				
Any	1119 (74.1)	234 (31.3)	1065 (71.0)	218 (29.5)
Mild	890 (58.9)	204 (27.3)	793 (52.8)	192 (25.9)
Moderate	225 (14.9)	30 (4.0)	267 (17.8)	26 (3.5)
Severe	4 (0.3)	0	5 (0.3)	0

Note: Reactions were collected in an electronic diary (e-diary) from Day 1 to Day 7 after vaccination.

a. N = Number of participants reporting at least 1 yes or no response for the specified reaction after the specified dose.
b. The denominators (N) used in the percentage calculations for redness and swelling were 749 after Dose 1 and 741 after Dose 2 in the placebo group, due to an e-diary error.
c. n = Number of participants with the specified reaction.
d. Mild: ≥0.5 to ≤2.0 cm; Moderate: >2.0 to ≤7.0 cm; Severe: >7.0 cm.
e. Mild: does not interfere with activity; Moderate: interferes with activity; Severe: prevents daily activity.

* Randomized participants who received at least 1 dose of the study intervention.

± Pfizer-BioNTech COVID-19 Vaccine (Original monovalent, 10 mcg modRNA).

Table 3: Study 3 – Frequency and Percentages of Participants with Solicited Systemic Reactions, by Maximum Severity, Within 7 Days After Each Dose – Children 5 Through 11 Years of Age – Safety Population*

	Pfizer-BioNTech COVID-19 Vaccine± Dose 1 N[a]=1511 n[c] (%)	Placebo Dose 1 N[a,b]=748 n[c] (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 2 N[a]=1501 n[c] (%)	Placebo Dose 2 N[a,b]=740 n[c] (%)
Fever				
≥38.0°C	38 (2.5)	10 (1.3)	98 (6.5)	9 (1.2)
≥38.0°C to 38.4°C	23 (1.5)	4 (0.5)	51 (3.4)	5 (0.7)
>38.4°C to 38.9°C	12 (0.8)	5 (0.7)	38 (2.5)	3 (0.4)
>38.9°C to 40.0°C	3 (0.2)	1 (0.1)	8 (0.5)	1 (0.1)
>40.0°C	0	0	1 (0.1)	0
Fatigue[d]				
Any	508 (33.6)	234 (31.3)	592 (39.4)	180 (24.3)
Mild	333 (22.0)	150 (20.1)	321 (21.4)	96 (13.0)
Moderate	171 (11.3)	83 (11.1)	260 (17.3)	83 (11.2)
Severe	4 (0.3)	1 (0.1)	11 (0.7)	1 (0.1)
Headache[d]				
Any	339 (22.4)	180 (24.1)	420 (28.0)	138 (18.6)
Mild	249 (16.5)	131 (17.5)	281 (18.7)	93 (12.6)
Moderate	88 (5.8)	45 (6.0)	136 (9.1)	45 (6.1)
Severe	2 (0.1)	4 (0.5)	3 (0.2)	0

	Pfizer-BioNTech COVID-19 Vaccine± Dose 1 N[a]=1511 n[c] (%)	Placebo Dose 1 N[a,b]=748 n[c] (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 2 N[a]=1501 n[c] (%)	Placebo Dose 2 N[a,b]=740 n[c] (%)
Chills[d]				
Any	70 (4.6)	35 (4.7)	147 (9.8)	32 (4.3)
Mild	54 (3.6)	30 (4.0)	105 (7.0)	24 (3.2)
Moderate	16 (1.1)	5 (0.7)	40 (2.7)	7 (0.9)
Severe	0	0	2 (0.1)	1 (0.1)
Vomiting[e]				
Any	33 (2.2)	11 (1.5)	28 (1.9)	6 (0.8)
Mild	26 (1.7)	11 (1.5)	27 (1.8)	6 (0.8)
Moderate	7 (0.5)	0	1 (0.1)	0
Severe	0	0	0	0
Diarrhea[f]				
Any	89 (5.9)	31 (4.1)	79 (5.3)	35 (4.7)
Mild	79 (5.2)	31 (4.1)	72 (4.8)	32 (4.3)
Moderate	10 (0.7)	0	7 (0.5)	3 (0.4)
Severe	0	0	0	0
New or worsened muscle pain[d]				
Any	137 (9.1)	51 (6.8)	175 (11.7)	55 (7.4)
Mild	96 (6.4)	35 (4.7)	116 (7.7)	38 (5.1)
Moderate	40 (2.6)	16 (2.1)	58 (3.9)	17 (2.3)
Severe	1 (0.1)	0	1 (0.1)	0
New or worsened joint pain[d]				
Any	50 (3.3)	41 (5.5)	78 (5.2)	27 (3.6)
Mild	34 (2.3)	31 (4.1)	57 (3.8)	20 (2.7)
Moderate	16 (1.1)	10 (1.3)	21 (1.4)	7 (0.9)
Severe	0	0	0	0
Use of antipyretic or pain medication[g]	217 (14.4)	62 (8.3)	296 (19.7)	60 (8.1)

Note: Events and use of antipyretic or pain medication were collected in an electronic diary (e-diary) from Day 1 to Day 7 after each dose.

a. N = Number of participants reporting at least 1 yes or no response for the specified event after the specified dose.
b. The denominators (N) used in the percentage calculations for fever and use of antipyretic or pain medication were 749 after Dose 1 and 741 after Dose 2 in the placebo group, due to an e-diary error.
c. n = Number of participants with the specified reaction.
d. Mild: does not interfere with activity; Moderate: some interference with activity; Severe: prevents daily activity.
e. Mild: 1 to 2 times in 24 hours; Moderate: >2 times in 24 hours; Severe: requires intravenous hydration.
f. Mild: 2 to 3 loose stools in 24 hours; Moderate: 4 to 5 loose stools in 24 hours; Severe: 6 or more loose stools in 24 hours.
g. Severity was not collected for use of antipyretic or pain medication.
* Randomized participants who received at least 1 dose of the study intervention.
± Pfizer-BioNTech COVID-19 Vaccine (Original, monovalent, 10 mcg modRNA).

Unsolicited Adverse Events

In the following analyses of Study 3 in children 5 through 11 years of age (1,518 of whom received Pfizer-BioNTech COVID-19 Vaccine (10 mcg modRNA) and 750 of whom received placebo), 99.5% of participants had at least 30 days of follow-up after Dose 2.

Serious Adverse Events
In 1 group of participants (initial enrollment cohort) with a median of 2.3 months follow-up post Dose 2, no serious adverse events were reported that were considered related to vaccination. In a second group of participants (expansion cohort) with a median of 2.4 weeks follow-up post Dose 2, no serious adverse events were reported that were considered related to vaccination.

Non-Serious Adverse Events
In 1 group of participants (initial enrollment cohort), non-serious adverse events from Dose 1 through up to 30 days after Dose 2 up to the cutoff date of September 06, 2021, in ongoing follow-up were reported by 10.9% of Pfizer-BioNTech COVID-19 Vaccine (10 mcg modRNA) recipients and by 9.1% of placebo recipients. In this group of participants, >99% had follow-up 30 days post Dose 2. In a second group of participants (expansion cohort) for which the median follow-up was 2.4 weeks (range 0 to 3.7 weeks), non-serious adverse events from Dose 1 through the cutoff date of October 08, 2021, were reported by 7.1% of Pfizer-BioNTech COVID-19 Vaccine (10 mcg modRNA) recipients and by 6.3% of placebo recipients.

In the initial enrollment cohort, from Dose 1 through 30 days after Dose 2, lymphadenopathy was reported in 13 (0.9%) participants in the Pfizer-BioNTech COVID-19 Vaccine (10 mcg modRNA) group vs. 1 (0.1%) in the placebo group. In the expansion cohort from Dose 1 through the cutoff date, lymphadenopathy was reported in 6 (0.4%) participants in the Pfizer-BioNTech COVID-19 Vaccine (10 mcg modRNA) group vs. 3 (0.4%) in the placebo group. There were no other notable patterns between treatment groups for specific categories of non-serious adverse events that would suggest a causal relationship to Pfizer-BioNTech COVID-19 Vaccine.

Participants 2 Through 4 Years of Age (3-Dose Primary Series)

In an analysis of Study 3 (Phase 2/3), based on data in the blinded placebo-controlled follow-up period up to the cutoff date of April 29, 2022, 886 participants 2 through 4 years of age who received a 3-dose primary series [606 Pfizer-BioNTech COVID-19 Vaccine (3 mcg modRNA); 280 placebo] have been followed a median of 1.4 months after the third dose.

Demographic characteristics in Study 3 were generally similar with regard to age, gender, race, and ethnicity among participants 2 through 4 years of age who received Pfizer-BioNTech COVID-19 Vaccine and those who received placebo. Among the 1,835 participants 2 through 4 years of age who received at least 1 dose of the Pfizer-BioNTech COVID-19 Vaccine, 49.1% were male and 50.9% were female, 80.1% were White, 14.4% were Hispanic/Latino, 7.1% were multi-racial, 6.9% were Asian, 5.1% were Black or African American, and 0.2% were American Indian/Alaska Native.

Solicited Local and Systemic Adverse Reactions

The mean duration of pain at the injection site after Dose 3 was 1.7 days (range 1 to 14 days), for redness 1.5 days (range 1 to 3 days), and for swelling 1.8 days (range 1 to 4 days) for participants

2 through 4 years of age in the Pfizer-BioNTech COVID-19 Vaccine group in the blinded placebo-controlled follow-up period (cutoff date of April 29, 2022).

Table 4: Study 3 – Frequency and Percentages of Participants With Solicited Local Reactions, by Maximum Severity, Within 7 Days After Each Dose – Participants 2 Through 4 Years of Age – Safety Population*

	Pfizer-BioNTech COVID-19 Vaccine± Dose 1 N[a]=1814 to 1825 n[b] (%)	Placebo Dose 1 N[a]=905 to 909 n[b] (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 2 N[a]=1772 to 1779 n[b] (%)	Placebo Dose 2 N[a]=877 to 878 n[b] (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 3 N[a]=547 to 552 n[b] (%)	Placebo Dose 3 N[a]=262 n[b] (%)
Redness[c]						
Any (≥0.5 cm)	160 (8.8)	77 (8.5)	202 (11.4)	50 (5.7)	60 (10.9)	9 (3.4)
Mild	137 (7.5)	67 (7.4)	170 (9.6)	43 (4.9)	53 (9.6)	7 (2.7)
Moderate	22 (1.2)	9 (1.0)	31 (1.7)	7 (0.8)	7 (1.3)	2 (0.8)
Severe	1 (0.1)	1 (0.1)	1 (0.1)	0	0	0
Swelling[c]						
Any (≥0.5 cm)	67 (3.7)	26 (2.9)	102 (5.7)	18 (2.1)	17 (3.1)	3 (1.1)
Mild	59 (3.2)	21 (2.3)	81 (4.6)	16 (1.8)	16 (2.9)	3 (1.1)
Moderate	8 (0.4)	5 (0.6)	21 (1.2)	2 (0.2)	1 (0.2)	0
Severe	0	0	0	0	0	0
Pain at the injection site[d]						
Any	559 (30.8)	186 (20.6)	550 (31.0)	178 (20.3)	146 (26.7)	35 (13.4)
Mild	522 (28.8)	178 (19.7)	514 (29.0)	169 (19.3)	130 (23.8)	33 (12.6)
Moderate	37 (2.0)	7 (0.8)	36 (2.0)	8 (0.9)	16 (2.9)	2 (0.8)
Severe	0	1 (0.1)	0	1 (0.1)	0	0

* Randomized participants who received at least 1 dose of the study intervention.
± Pfizer-BioNTech COVID-19 Vaccine (Original monovalent, 3 mcg modRNA).
Note: Reactions were collected in an electronic diary (e-diary) from Day 1 to Day 7 after vaccination.
a. N = Number of participants reporting at least 1 yes or no response for the specified reaction after the specified dose.
b. n = Number of participants with the specified reaction.
c. Mild: ≥0.5 to ≤2.0 cm; Moderate: >2.0 to ≤7.0 cm; Severe: >7.0 cm.
d. Mild: does not interfere with activity; Moderate: interferes with activity; Severe: prevents daily activity.

Table 5: Study 3 – Frequency and Percentages of Participants with Solicited Systemic Reactions, by Maximum Severity, Within 7 Days After Each Dose – Participants 2 Through 4 Years of Age – Safety Population*

	Pfizer-BioNTech COVID-19 Vaccine± Dose 1 N[a]=1813 to 1824 n[b] (%)	Placebo Dose 1 N[a]=905 to 909 n[b] (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 2 N[a]=1772 to 1779 n[b] (%)	Placebo Dose 2 N[a]=877 to 878 n[b] (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 3 N[a]=547 to 552 n[b] (%)	Placebo Dose 3 N[a]=262 n[b] (%)
Fever						
≥38.0°C	95 (5.2)	48 (5.3)	88 (4.9)	46 (5.2)	28 (5.1)	11 (4.2)
≥38.0°C to 38.4°C	57 (3.1)	24 (2.6)	41 (2.3)	17 (1.9)	16 (2.9)	4 (1.5)
>38.4°C to 38.9°C	24 (1.3)	16 (1.8)	26 (1.5)	21 (2.4)	8 (1.4)	4 (1.5)
>38.9°C to 40.0°C	13 (0.7)	8 (0.9)	19 (1.1)	8 (0.9)	4 (0.7)	3 (1.1)
>40.0°C	1 (0.1)	0	2 (0.1)	0	0	0
Fatigue[c]						
Any	539 (29.7)	277 (30.6)	456 (25.7)	201 (22.9)	134 (24.5)	57 (21.8)
Mild	335 (18.5)	176 (19.4)	267 (15.1)	120 (13.7)	87 (15.9)	35 (13.4)
Moderate	198 (10.9)	96 (10.6)	181 (10.2)	78 (8.9)	45 (8.2)	22 (8.4)
Severe	6 (0.3)	5 (0.6)	8 (0.5)	3 (0.3)	2 (0.4)	0
Headache[c]						
Any	81 (4.5)	44 (4.9)	81 (4.6)	36 (4.1)	27 (4.9)	11 (4.2)
Mild	63 (3.5)	35 (3.9)	63 (3.6)	23 (2.6)	19 (3.5)	10 (3.8)
Moderate	18 (1.0)	8 (0.9)	18 (1.0)	12 (1.4)	8 (1.5)	1 (0.4)
Severe	0	1 (0.1)	0	1 (0.1)	0	0
Chills[c]						
Any	41 (2.3)	22 (2.4)	53 (3.0)	23 (2.6)	18 (3.3)	7 (2.7)
Mild	28 (1.5)	16 (1.8)	35 (2.0)	17 (1.9)	14 (2.6)	7 (2.7)
Moderate	10 (0.6)	6 (0.7)	18 (1.0)	6 (0.7)	3 (0.5)	0
Severe	3 (0.2)	0	0	0	1 (0.2)	0
Vomiting[d]						
Any	54 (3.0)	24 (2.7)	61 (3.4)	29 (3.3)	9 (1.6)	10 (3.8)
Mild	44 (2.4)	14 (1.5)	55 (3.1)	26 (3.0)	7 (1.3)	9 (3.4)
Moderate	10 (0.6)	10 (1.1)	6 (0.3)	3 (0.3)	2 (0.4)	1 (0.4)
Severe	0	0	0	0	0	0
Diarrhea[e]						
Any	139 (7.7)	72 (8.0)	118 (6.7)	64 (7.3)	28 (5.1)	13 (5.0)
Mild	130 (7.2)	64 (7.1)	105 (5.9)	57 (6.5)	21 (3.8)	10 (3.8)
Moderate	9 (0.5)	8 (0.9)	12 (0.7)	7 (0.8)	7 (1.3)	3 (1.1)
Severe	0	0	1 (0.1)	0	0	0

	Pfizer-BioNTech COVID-19 Vaccine± Dose 1 N[a]=1813 to 1824 n[b] (%)	Placebo Dose 1 N[a]=905 to 909 n[b] (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 2 N[a]=1772 to 1779 n[b] (%)	Placebo Dose 2 N[a]=877 to 878 n[b] (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 3 N[a]=547 to 552 n[b] (%)	Placebo Dose 3 N[a]=262 n[b] (%)
New or worsened muscle pain[c]						
Any	43 (2.4)	15 (1.7)	46 (2.6)	21 (2.4)	11 (2.0)	4 (1.5)
Mild	33 (1.8)	13 (1.4)	33 (1.9)	17 (1.9)	8 (1.5)	4 (1.5)
Moderate	9 (0.5)	2 (0.2)	13 (0.7)	4 (0.5)	3 (0.5)	0
Severe	1 (0.1)	0	0	0	0	0
New or worsened joint pain[c]						
Any	14 (0.8)	18 (2.0)	24 (1.4)	9 (1.0)	7 (1.3)	2 (0.8)
Mild	12 (0.7)	13 (1.4)	18 (1.0)	6 (0.7)	5 (0.9)	2 (0.8)
Moderate	2 (0.1)	5 (0.6)	6 (0.3)	3 (0.3)	1 (0.2)	0
Severe	0	0	0	0	1 (0.2)	0
Use of antipyretic or pain medication[f]	197 (10.8)	83 (9.1)	177 (9.9)	74 (8.4)	47 (8.5)	18 (6.9)

* Randomized participants who received at least 1 dose of the study intervention.
± Pfizer-BioNTech COVID-19 Vaccine (Original monovalent, 3 mcg modRNA).
Note: Events and use of antipyretic or pain medication were collected in an electronic diary (e-diary) from Day 1 to Day 7 after each dose.

a. N = Number of participants reporting at least 1 yes or no response for the specified event after the specified dose.
b. n = Number of participants with the specified reaction.
c. Mild: does not interfere with activity; Moderate: some interference with activity; Severe: prevents daily activity.
d. Mild: 1 to 2 times in 24 hours; Moderate: >2 times in 24 hours; Severe: requires intravenous hydration.
e. Mild: 2 to 3 loose stools in 24 hours; Moderate: 4 to 5 loose stools in 24 hours; Severe: 6 or more loose stools in 24 hours.
f. Severity was not collected for use of antipyretic or pain medication.

Unsolicited Adverse Events

In the following analyses of Study 3 in participants 2 through 4 years of age (606 of whom received Pfizer-BioNTech COVID-19 Vaccine and 280 of whom received placebo), 76.6% of participants had at least 30 days of follow-up after Dose 3.

Serious Adverse Events
Serious adverse events from Dose 1 through 1 month after Dose 3, with an overall median of 1.4 months follow-up after Dose 3 were reported by 0.7% of Pfizer-BioNTech COVID-19 Vaccine recipients and by 0.9% of placebo recipients. One serious adverse event of fever (maximum temperature 40.3°C) on Day 3 after Dose 2 in a 4-year-old was considered possibly related to vaccination.

Non-Serious Adverse Events
Non-serious adverse events from Dose 1 through up to 30 days after Dose 3, in ongoing follow-up were reported by 18.5% of Pfizer-BioNTech COVID-19 Vaccine recipients and by 18.5% of placebo recipients.

From Dose 1 through 30 days after Dose 3, lymphadenopathy was reported in 1 (0.1%) participant in the Pfizer-BioNTech COVID-19 Vaccine (3 mcg modRNA) group vs. 0 (0.0%) in the placebo group. There were no other notable patterns between treatment groups for specific categories of non-serious adverse events that would suggest a causal relationship to Pfizer-BioNTech COVID-19 Vaccine.

Participants 6 Through 23 Months of Age (3-Dose Primary Series)

In an analysis of Study 3 (Phase 2/3), based on data in the blinded placebo-controlled follow-up period up to the cutoff date of April 29, 2022, 570 participants 6 through 23 months of age who received a 3-dose primary series [386 Pfizer-BioNTech COVID-19 Vaccine (3 mcg modRNA); 184 placebo] have been followed for a median of 1.3 months after the third dose.

Demographic characteristics in Study 3 were generally similar with regard to age, gender, race, and ethnicity among participants 6 through 23 months of age who received Pfizer-BioNTech COVID-19 Vaccine and those who received placebo. Among the 1,178 participants 6 through 23 months of age who received at least 1 dose of the Pfizer-BioNTech COVID-19 Vaccine, 50.0% were male and 50.0% were female, 78.3% were White, 9.9% were multi-racial, 13.7% were Hispanic/Latino, 7.7% were Asian, 3.6% were Black or African American, and 0.3% were American Indian/Alaska Native.

Solicited Local and Systemic Adverse Reactions

The mean duration of tenderness at the injection site after Dose 3 was 1.5 days (range 1 to 9 days), for redness 1.5 days (range 1 to 5 days), and for swelling 1.8 days (range 1 to 3 days) for participants 6 through 23 months of age in the Pfizer-BioNTech COVID-19 Vaccine group in the blinded placebo-controlled follow-up period (cutoff date of April 29, 2022).

Table 6: Study 3 – Frequency and Percentages of Participants With Solicited Local Reactions, by Maximum Severity, Within 7 Days After Each Dose – Participants 6 Through 23 Months of Age – Safety Population*

	Pfizer-BioNTech COVID-19 Vaccine± Dose 1 N[a]=1159 to 1173 n[b] (%)	**Placebo Dose 1 N[a]=591 to 595 n[b] (%)**	**Pfizer-BioNTech COVID-19 Vaccine± Dose 2 N[a]=1137 to 1147 n[b] (%)**	**Placebo Dose 2 N[a]=590 to 591 n[b] (%)**	**Pfizer-BioNTech COVID-19 Vaccine± Dose 3 N[a]=362 to 365 n[b] (%)**	**Placebo Dose 3 N[a]=170 n[b] (%)**
Redness[c]						
Any (≥0.5 cm)	124 (10.6)	44 (7.4)	107 (9.3)	39 (6.6)	26 (7.1)	9 (5.3)
Mild	114 (9.7)	41 (6.9)	97 (8.5)	36 (6.1)	17 (4.7)	8 (4.7)
Moderate	10 (0.9)	3 (0.5)	10 (0.9)	3 (0.5)	8 (2.2)	1 (0.6)
Severe	0	0	0	0	1 (0.3)	0

	Pfizer-BioNTech COVID-19 Vaccine± Dose 1 N[a]=1159 to 1173 n[b] (%)	Placebo Dose 1 N[a]=591 to 595 n[b] (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 2 N[a]=1137 to 1147 n[b] (%)	Placebo Dose 2 N[a]=590 to 591 n[b] (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 3 N[a]=362 to 365 n[b] (%)	Placebo Dose 3 N[a]=170 n[b] (%)
Swelling[c]						
Any (≥0.5 cm)	46 (3.9)	15 (2.5)	45 (3.9)	9 (1.5)	10 (2.7)	3 (1.8)
Mild	40 (3.4)	13 (2.2)	39 (3.4)	8 (1.4)	7 (1.9)	3 (1.8)
Moderate	6 (0.5)	2 (0.3)	6 (0.5)	1 (0.2)	3 (0.8)	0
Severe	0	0	0	0	0	0
Tenderness at the injection site[d]						
Any	192 (16.6)	66 (11.2)	171 (15.0)	50 (8.5)	58 (16.0)	20 (11.8)
Mild	181 (15.6)	61 (10.3)	154 (13.5)	42 (7.1)	51 (14.1)	17 (10.0)
Moderate	11 (0.9)	5 (0.8)	16 (1.4)	8 (1.4)	7 (1.9)	3 (1.8)
Severe	0	0	1 (0.1)	0	0	0

* Randomized participants who received at least 1 dose of the study intervention.
± Pfizer-BioNTech COVID-19 Vaccine (Original monovalent, 3 mcg modRNA).
Note: Reactions were collected in an electronic diary (e-diary) from Day 1 to Day 7 after vaccination.
a. N = Number of participants reporting at least 1 yes or no response for the specified reaction after the specified dose.
b. n = Number of participants with the specified reaction.
c. Mild: ≥0.5 to ≤2.0 cm; Moderate: >2.0 to ≤7.0 cm; Severe: >7.0 cm.
d. Mild: hurts if gently touched; Moderate: hurts if gently touched with crying; Severe: causes limitation of limb movement.

Table 7: Study 3 – Frequency and Percentages of Participants with Solicited Systemic Reactions, by Maximum Severity, Within 7 Days After Each Dose – Participants 6 Through 23 Months of Age – Safety Population*

	Pfizer-BioNTech COVID-19 Vaccine± Dose 1 N[a]=1159 to 1173 n[b] (%)	Placebo Dose 1 N[a]=591 to 595 n[b] (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 2 N[a]=1137 to 1147 n[b] (%)	Placebo Dose 2 N[a]=590 to 591 n[b] (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 3 N[a]=362 to 365 n[b] (%)	Placebo Dose 3 N[a]=170 n[b] (%)
Fever						
≥38.0°C	85 (7.2)	43 (7.2)	85 (7.4)	36 (6.1)	25 (6.8)	10 (5.9)
≥38.0°C to 38.4°C	42 (3.6)	22 (3.7)	41 (3.6)	18 (3.0)	14 (3.8)	7 (4.1)
>38.4°C to 38.9°C	23 (2.0)	14 (2.4)	20 (1.7)	11 (1.9)	5 (1.4)	2 (1.2)
>38.9°C to 40.0°C	19 (1.6)	6 (1.0)	23 (2.0)	7 (1.2)	5 (1.4)	1 (0.6)
>40.0°C	1 (0.1)	1 (0.2)	1 (0.1)	0	1 (0.3)	0

	Pfizer-BioNTech COVID-19 Vaccine± Dose 1 Na=1159 to 1173 nb (%)	Placebo Dose 1 Na=591 to 595 nb (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 2 Na=1137 to 1147 nb (%)	Placebo Dose 2 Na=590 to 591 nb (%)	Pfizer-BioNTech COVID-19 Vaccine± Dose 3 Na=362 to 365 nb (%)	Placebo Dose 3 Na=170 nb (%)
Decreased appetite[c]						
Any	257 (22.2)	125 (21.2)	252 (22.2)	106 (18.0)	73 (20.2)	23 (13.5)
Mild	138 (11.9)	73 (12.4)	157 (13.8)	63 (10.7)	42 (11.6)	13 (7.6)
Moderate	116 (10.0)	51 (8.6)	91 (8.0)	42 (7.1)	27 (7.5)	10 (5.9)
Severe	3 (0.3)	1 (0.2)	4 (0.4)	1 (0.2)	4 (1.1)	0
Drowsiness[d]						
Any	313 (27.0)	173 (29.3)	271 (23.8)	125 (21.2)	72 (19.9)	22 (12.9)
Mild	251 (21.7)	130 (22.0)	201 (17.7)	98 (16.6)	50 (13.8)	15 (8.8)
Moderate	60 (5.2)	41 (6.9)	66 (5.8)	26 (4.4)	21 (5.8)	6 (3.5)
Severe	2 (0.2)	2 (0.3)	4 (0.4)	1 (0.2)	1 (0.3)	1 (0.6)
Irritability[e]						
Any	593 (51.2)	279 (47.2)	539 (47.4)	240 (40.7)	158 (43.6)	64 (37.6)
Mild	245 (21.1)	106 (17.9)	213 (18.7)	89 (15.1)	56 (15.5)	27 (15.9)
Moderate	341 (29.4)	173 (29.3)	319 (28.1)	146 (24.7)	101 (27.9)	37 (21.8)
Severe	7 (0.6)	0	7 (0.6)	5 (0.8)	1 (0.3)	0
Use of antipyretic or pain medication[f]	281 (24.0)	117 (19.7)	243 (21.2)	111 (18.8)	70 (19.2)	28 (16.5)

* Randomized participants who received at least 1 dose of the study intervention.
± Pfizer-BioNTech COVID-19 Vaccine (Original monovalent, 3 mcg modRNA).
Note: Events and use of antipyretic or pain medication were collected in an electronic diary (e-diary) from Day 1 to Day 7 after each dose.
a. N = Number of participants reporting at least 1 yes or no response for the specified event after the specified dose.
b. n = Number of participants with the specified reaction.
c. Mild: decreased interest in eating; Moderate: decreased oral intake; Severe: refusal to feed.
d. Mild: increased or prolonged sleeping bouts; Moderate: slightly subdued interfering with daily activity; Severe: disabling; not interested in usual daily activity.
e. Mild: easily consolable; Moderate: requiring increased attention; Severe: inconsolable; crying cannot be comforted.
f. Severity was not collected for use of antipyretic or pain medication.

Unsolicited Adverse Events

In the following analyses of Study 3 in participants 6 through 23 months of age (386 of whom received Pfizer-BioNTech COVID-19 Vaccine and 184 of whom received placebo), 83.7% of participants had at least 30 days of follow-up after Dose 3.

Serious Adverse Events
Serious adverse events from Dose 1 through 1 month after Dose 3, with an overall median of 1.3 months follow-up after Dose 3 were reported by 1.4% of Pfizer-BioNTech COVID-19 Vaccine recipients and by 2.3% of placebo recipients. No serious adverse events were reported that were considered related to vaccination.

Non-Serious Adverse Events
Non-serious adverse events from Dose 1 through up to 1 month after Dose 3, in ongoing follow-up were reported by 29.1% of Pfizer-BioNTech COVID-19 Vaccine recipients and by 26.3% of placebo recipients.

From Dose 1 through 30 days after Dose 3, lymphadenopathy was reported in 2 (0.2%) participants in the Pfizer-BioNTech COVID-19 Vaccine group vs. 0 (0%) in the placebo group. There were no other notable patterns between treatment groups for specific categories of non-serious adverse events that would suggest a causal relationship to Pfizer-BioNTech COVID-19 Vaccine.

Pfizer-BioNTech COVID-19 Vaccine (Original Monovalent) Administered as a First Booster Dose Following a Primary Series of Pfizer-BioNTech COVID-19 Vaccine (Original Monovalent) or COMIRNATY (COVID-19 Vaccine, mRNA) in Participants 18 through 55 Years of Age

A subset of Study 2 Phase 2/3 participants of 306 participants 18 through 55 years of age received a first booster dose of Pfizer-BioNTech COVID-19 Vaccine (30 mcg modRNA) approximately 6 months (range of 4.8 to 8.0 months) after completing the primary series. Additionally, a total of 23 Study 2 (Phase 1) participants (11 participants 18 through 55 years of age and 12 participants 65 through 85 years of age) received a first booster dose of Pfizer-BioNTech COVID-19 Vaccine approximately 8 months (range 7.9 to 8.8 months) after completing the primary series. Participants are being monitored for unsolicited adverse events through 1 month after vaccination and for serious adverse events for 6 months after the last vaccination.

Among the 306 Phase 2/3 participants, the median age was 42 years (range 19 through 55 years of age), 45.8% were male and 54.2% were female, 81.4% were White, 27.8% were Hispanic/Latino, 9.2% were Black or African American, 5.2% were Asian, and 0.7% were American Indian/Alaska Native. Among the 12 Phase 1 participants 65 through 85 years of age, the median age was 69 years (range 65 through 75 years of age), 6 were male and all were White and Not Hispanic/Latino. Following the booster dose, the median follow-up time was 2.6 months (range 2.1 to 2.9 months) for Phase 1 participants and 2.6 months (range 1.1 to 2.8 months) for Phase 2/3 participants.

Unsolicited Adverse Events

Overall, the 306 participants who received a first booster dose, had a median follow-up time of 2.6 months after the booster dose to the cutoff date (June 17, 2021).

In an analysis of all unsolicited adverse events reported following the first booster dose, through 1 month after the booster dose, in participants 18 through 55 years of age (N=306), those assessed as adverse reactions not already captured by solicited local and systemic reactions were lymphadenopathy (n=16, 5.2%), nausea (n=2, 0.7%), decreased appetite (n=1, 0.3%), rash (n=1, 0.3%), and pain in extremity (n=1, 0.3%).

Serious Adverse Events

Of the 306 participants who received a first booster dose of Pfizer-BioNTech COVID-19 Vaccine, there were no serious adverse events reported from the booster dose through 30 days after the booster dose. One participant reported a serious adverse event 61 days after the booster dose that was assessed as unrelated to vaccination.

First Booster Dose Following a Primary Series of Pfizer-BioNTech COVID-19 Vaccine (Original Monovalent) in Participants 5 Through 11 Years of Age

A subset of Study 3 Phase 2/3 participants 5 through 11 years of age received a first booster dose of Pfizer-BioNTech COVID-19 Vaccine (10 mcg modRNA) at least 5 months after completing the primary series (range 5 to 9 months, 86.8% of participants received a booster dose at least 8 months after Dose 2). Those participants vaccinated prior to February 22, 2022, provided the safety database (n=401), and had a median safety follow-up of 1.3 months from vaccination through the data cutoff date of March 22, 2022.

The median age of these 401 participants was 8.0 years (range 5 through 11 years of age), 52.4% were male and 47.6% were female, 70.1% were White, 7.2% were Black or African American, 22.9% were Hispanic/Latino, 7.7% were Asian, and 2.0% were American Indian/Alaska Native.

Solicited Local and Systemic Adverse Reactions

Table 8 and Table 9 present the frequency and severity of reported solicited local and systemic reactions, respectively, within 7 days of a booster dose of Pfizer-BioNTech COVID-19 Vaccine for Phase 2/3 participants 5 through 11 years of age.

In participants who received a booster dose, the mean duration of pain at the injection site after the booster dose was 2.4 days (range 1 to 35 days), for redness 2.3 days (range 1 to 12 days), and for swelling 2.3 days (range 1 to 9 days).

Table 8: Study 3 – Frequency and Percentages of Participants With Solicited Local Reactions, By Maximum Severity, Within 7 Days After the Booster Dose – Participants 5 Through 11 Years of Age – Safety Population*

	Pfizer-BioNTech COVID-19 Vaccine± Booster N[a]=371 n[b] (%)
Redness[c]	
Any (≥0.5 cm)	58 (15.6)
Mild	38 (10.2)
Moderate	19 (5.1)
Severe	1 (0.3)
Swelling[c]	
Any (≥0.5 cm)	61 (16.4)
Mild	30 (8.1)
Moderate	31 (8.4)
Severe	0
Pain at the injection site[d]	
Any	274 (73.9)
Mild	177 (47.7)
Moderate	95 (25.6)
Severe	2 (0.5)

	Pfizer-BioNTech COVID-19 Vaccine± Booster N[a]=371 n[b] (%)

* Randomized participants who received at least 1 dose of the study intervention.
± Pfizer-BioNTech COVID-19 Vaccine (Original monovalent, 10 mcg modRNA).
Note: Reactions were collected in the e-diary and unscheduled clinical assessments from Day 1 through Day 7 after vaccination.
a. N = Number of participants reporting at least 1 yes or no response for the specified reaction after the specified dose.
b. n = Number of participants with the specified characteristic.
c. Mild: ≥0.5 to 2.0 cm; moderate: >2.0 to 7.0 cm; severe: >7.0 cm.
d. Mild: does not interfere with activity; moderate: interferes with activity; severe: prevents daily activity.

Table 9: Study 3 – Frequency and Percentages of Participants With Solicited Systemic Reactions, by Maximum Severity, Within 7 Days After the Booster Dose – Participants 5 Through 11 Years of Age – Safety Population*

Solicited Systemic Reaction	Pfizer-BioNTech COVID-19 Vaccine± Booster N[a]=371 n[b] (%)
Fever	
≥38.0°C	25 (6.7)
≥38.0°C to 38.4°C	17 (4.6)
>38.4°C to 38.9°C	5 (1.3)
>38.9°C to 40.0°C	3 (0.8)
>40.0°C	0
Fatigue[c]	
Any	169 (45.6)
Mild	99 (26.7)
Moderate	63 (17.0)
Severe	7 (1.9)
Headache[c]	
Any	126 (34.0)
Mild	76 (20.5)
Moderate	47 (12.7)
Severe	0
Chills[c]	
Any	39 (10.5)
Mild	23 (6.2)
Moderate	15 (4.0)
Severe	1 (0.3)
Vomiting[d]	
Any	9 (2.4)
Mild	6 (1.6)
Moderate	3 (0.8)
Severe	0

Solicited Systemic Reaction	Pfizer-BioNTech COVID-19 Vaccine± Booster N[a]=371 n[b] (%)
Diarrhea[e]	
Any	18 (4.9)
Mild	15 (4.0)
Moderate	2 (0.5)
Severe	1 (0.3)
New or worsened muscle pain[c]	
Any	68 (18.3)
Mild	40 (10.8)
Moderate	28 (7.5)
Severe	0
New or worsened joint pain[c]	
Any	25 (6.7)
Mild	14 (3.8)
Moderate	11 (3.0)
Severe	0
Use of antipyretic or pain medication[f]	114 (30.7)

* Randomized participants who received at least 1 dose of the study intervention.
± Pfizer-BioNTech COVID-19 Vaccine (Original monovalent, 10 mcg modRNA).
Note: Events and use of antipyretic or pain medication were collected in the e-diary and unscheduled clinical assessments from Day 1 through Day 7 after vaccination.
a. N = number of participants reporting at least 1 yes or no response for the specified event after the specified dose.
b. n = Number of participants with the specified characteristic.
c. Mild: does not interfere with activity; moderate: some interference with activity; severe: prevents daily activity.
d. Mild: 1 to 2 times in 24 hours; moderate: >2 times in 24 hours; severe: requires intravenous hydration.
e. Mild: 2 to 3 loose stools in 24 hours; moderate: 4 to 5 loose stools in 24 hours; severe: 6 or more loose stools in 24 hours.
f. Severity was not collected for use of antipyretic or pain medication.

Unsolicited Adverse Events

Overall, the 401 participants who received a first booster dose of Pfizer-BioNTech COVID-19 Vaccine had a median follow-up time of 1.3 months after the booster dose through the cutoff date.

In an analysis of all unsolicited adverse events reported in participants 5 through 11 years of age (N=401) through up to 1 month after a first booster dose, lymphadenopathy (n=10, 2.5%) was an adverse reaction not already captured by solicited local and systemic reactions.

Serious Adverse Events

No serious adverse events were reported after the first booster dose through the cutoff date.

Pfizer-BioNTech COVID-19 Vaccine (Original Monovalent) Administered as a First Booster Dose Following Vaccination with Another Authorized or Approved COVID-19 Vaccine

The safety of a Pfizer-BioNTech COVID-19 Vaccine booster dose in individuals who completed primary vaccination with another authorized or approved COVID-19 Vaccine (heterologous booster dose) is inferred from the safety of a Pfizer-BioNTech COVID-19 Vaccine (30 mcg modRNA) booster dose administered following completion of Pfizer-BioNTech COVID-19 Vaccine primary series (homologous booster dose) and from data from an independent National Institutes of Health (NIH) study Phase 1/2 open-label clinical trial (NCT04889209) conducted in the United States that evaluated a heterologous booster dose of the Pfizer-BioNTech COVID-19 Vaccine. In this study, participants who had completed primary vaccination with a Moderna COVID-19 Vaccine 2-dose series (N=151), a Janssen COVID-19 Vaccine single dose (N=156), or a Pfizer-BioNTech COVID-19 Vaccine 2-dose series (N=151) at least 12 weeks prior to enrollment and who reported no history of SARS-CoV-2 infection were randomized 1:1:1 to receive a booster dose of 1 of 3 vaccines: Moderna COVID-19 Vaccine, Janssen COVID-19 Vaccine, or Pfizer-BioNTech COVID-19 Vaccine. Adverse events were assessed through 28 days after the booster dose. An overall review of adverse reactions reported in the study following the Pfizer-BioNTech COVID-19 Vaccine heterologous booster dose did not identify any new safety concerns, as compared with adverse reactions reported following Pfizer-BioNTech COVID-19 Vaccine primary series doses or a homologous booster dose.

Pfizer-BioNTech COVID-19 Vaccine (Original Monovalent) Administered as a Second Booster Dose Following Primary and Booster Vaccination with Another Authorized or Approved COVID-19 Vaccine

Safety surveillance data from the Ministry of Health of Israel on the administration of approximately 700,000 fourth doses of the Pfizer-BioNTech COVID-19 Vaccine (30 mcg modRNA) given at least 4 months after the third dose in participants 18 years of age and older (approximately 600,000 of whom were 60 years of age and older) revealed no new safety concerns.

Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5)

Study 5 (NCT05472038) enrolled participants 12 years of age and older to receive a booster (fourth dose) of Pfizer-BioNTech COVID-19 Vaccine, Bivalent (30 mcg modRNA). In Study 5, all participants 12 years of age and older are being monitored for safety throughout the study [through 6 months after the booster (fourth dose)].

Study 6 (NCT05543616) enrolled participants 6 months through 11 years of age to receive a booster (fourth dose) of Pfizer-BioNTech COVID-19 Vaccine, Bivalent.

In Study 6, all participants 6 months through 4 years of age were monitored for solicited local and systemic reactions and use of antipyretic medication after the vaccination in an electronic diary. Participants are being monitored for safety throughout the study [through 6 months after the booster (fourth dose)]. Tables 10 through 13 present the frequency and severity of solicited local and systemic reactions, within 7 days following a booster (fourth dose) of Pfizer-BioNTech COVID-19 Vaccine, Bivalent in participants 6 through 23 months of age and 2 through 4 years of age who were previously vaccinated with a 3-dose primary series of Pfizer-BioNTech COVID-19 Vaccine (Original monovalent).

Participants 12 Years of Age and Older Who Received a Booster Dose with Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5)

A subset of Study 5 Phase 2/3 participants 12 through 17 years of age (n=107), 18 through 55 years of age (n=103) and 56 years of age and older (n=106) previously vaccinated with a 2-dose primary series and 1 booster dose of Pfizer-BioNTech COVID-19 Vaccine (Original monovalent, 30 mcg modRNA), received a second booster dose with Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5) (30 mcg modRNA).

The participants received the second booster dose a median of 9.9 months (range 5.5 to 14.3 months) after receiving the first booster dose and had a median follow-up time of 1.6 months up to a data cutoff date of October 12, 2022. The median age was 40.0 years, 53.2% were male, 46.8% were female, 81.3% were White, 9.2% were Hispanic/Latino, 5.1% were Asian, and 10.8% were Black or African American.

Unsolicited Adverse Events

In the following analysis of Study 5, 316 participants 12 years of age and older who received a second booster of Pfizer-BioNTech COVID-19 Vaccine, Bivalent had a median follow-up time of 1.6 months (range 1.3 to 1.8 months) to the cutoff date October 12, 2022.

Serious Adverse Events
Serious adverse events were reported in the 1 participant (considered unrelated to the vaccine) from the study vaccination through 1 month post vaccination.

Non-Serious Adverse Events
Lymphadenopathy 2 days post-vaccination, considered related to vaccination, was reported in 1 (0.3%) participant 12 years of age and older.

Participants 5 Through 11 Years of Age Who Received a Booster Dose with Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5)

In Study 6, 113 participants 5 through 11 years of age previously vaccinated with a 2-dose primary series and 1 booster dose of Pfizer-BioNTech COVID-19 Vaccine (Original monovalent, 10 mcg modRNA) received a booster (fourth dose) with Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5) (10 mcg modRNA).

Participants received a booster (fourth dose) with Pfizer-BioNTech COVID-19, Bivalent 2.6 to 8.5 months after receiving their third dose with Pfizer-BioNTech COVID-19 Vaccine (Original monovalent) and had a median follow-up time of 1.6 months (range 1.1 to 2.3 months) up to a data cutoff date of November 25, 2022. Their median age was 9 years (range 5 through 11 years of age), 50.4% were male and 49.6% were female, 58.4% were White, 20.4% were Hispanic/Latino, 19.5% were multi-racial, 11.5% were Asian, and 8.0% were Black or African American.

Unsolicited Adverse Events

In the following analysis of Study 6, 113 participants 5 through 11 years of age who received a booster (fourth dose) with the Pfizer-BioNTech COVID-19 Vaccine, Bivalent had a median follow-up time of 1.6 months (range 1.1 to 2.3 months) to the cutoff date (November 25, 2022).

Serious Adverse Events
No serious adverse events were reported in the 113 participants 5 through 11 years of age from the study vaccination through 1 month post vaccination.

Non-Serious Adverse Events
Lymphadenopathy 2 days post-vaccination, considered related to vaccination, was reported in 1 (0.9%) participant 5 through 11 years of age.

Participants 2 Through 4 Years of Age Who Received a Booster Dose with Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5)

In a subset of Study 6, 36 participants 2 through 4 years of age previously vaccinated with a 3-dose primary series of Pfizer-BioNTech COVID-19 Vaccine (Original monovalent, 3 mcg modRNA) received a booster (fourth dose) with Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5) (3 mcg modRNA).

Participants received a booster (fourth dose) with Pfizer-BioNTech COVID-19 Vaccine, Bivalent 2.2 to 8.5 months after receiving their third dose with Pfizer-BioNTech COVID-19 Vaccine (Original monovalent) and had a median follow-up time of 1.9 months (range 1.6 to 2.3 months) up to a data cutoff date of November 25, 2022. Their median age was 2 years (range 2 through 4 years of age), 55.6% were male and 44.4% were female, 61.1% were White, 30.6% were Hispanic/Latino, 22.2% were multi-racial, 11.1% were Asian, and 5.6% were Black or African American.

Solicited Local and Systemic Adverse Reactions

Table 10 and Table 11 present the frequency and severity of reported solicited local reactions and systemic reactions, respectively, within 7 days of a booster (fourth dose) of Pfizer-BioNTech COVID-19 Vaccine, Bivalent.

The mean duration of pain at the injection site was 1.1 days (range 1 to 2 days), for redness 1.3 days (range 1 to 2 days), and for swelling 3 days for participants 2 through 4 years of age.

Table 10: Local Adverse Reactions, by Maximum Severity, Within 7 Days After a Booster (Fourth Dose) – Participants 2 through 4 Years of Age – Safety Population

	Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5) 3 mcg modRNA N[a]=36 n[b] (%)
Redness[c]	
Any (≥0.5 cm)	3 (8.3)
Mild	2 (5.6)
Moderate	1 (2.8)
Swelling[c]	
Any (≥0.5 cm)	1 (2.8)
Mild	0
Moderate	1 (2.8)

	Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5) 3 mcg modRNA N[a]=36 n[b] (%)
Pain at the injection site[d]	
Any	10 (27.8)
Mild	8 (22.2)
Moderate	2 (5.6)

Note: Reactions were collected in the electronic diary (e-diary) and at unscheduled clinical assessments from Day 1 through Day 7 after the study vaccination. Reactions reported as adverse events in the case report form within 7 days after the study vaccination were also included in the analysis; the severity of these events is based on the grading scale in the adverse event section of the case report form.

a. N = Number of participants reporting at least 1 yes or no response for the specified reaction after the specified dose.
b. n = Number of participants with the specified characteristic.
c. Mild: ≥0.5 to 2.0 cm; Moderate: >2.0 to 7.0 cm; Severe: >7.0 cm. There were no reports of severe redness or swelling.
d. Mild: does not interfere with activity; Moderate: interferes with activity; Severe: prevents daily activity. There were no reports of severe pain at injection site.

Table 11: Frequency and Percentages of Participants with Solicited Systemic Reactions, by Maximum Severity, Within 7 Days After a Booster (Fourth Dose) – Participants 2 Through 4 Years of Age – Safety Population

	Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5) 3 mcg modRNA N[a]=36 n[b] (%)
Fever	
≥38.0°C	0
Fatigue[c]	
Any	11 (30.6)
Mild	6 (16.7)
Moderate	5 (13.9)
Headache[c]	
Any	1 (2.8)
Mild	1 (2.8)
Chills[c]	
Any	1 (2.8)
Mild	1 (2.8)
Vomiting[d]	
Any	1 (2.8)
Mild	1 (2.8)
Diarrhea[e]	
Any	2 (5.6)
Mild	1 (2.8)
Moderate	1 (2.8)

	Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5) 3 mcg modRNA N[a]=36 n[b] (%)
New or worsened muscle pain[c]	
Any	0
New or worsened joint pain[c]	
Any	1 (2.8)
Mild	1 (2.8)
Use of antipyretic or pain medication[f]	1 (2.8)

Note: Events and use of antipyretic or pain medication were collected in the electronic diary (e-diary) and at unscheduled clinical assessments from Day 1 through Day 7 after the study vaccination. Events reported as adverse events in the case report form within 7 days after the study vaccination were also included in the analysis; the severity of these events is based on the grading scale in the adverse event section of the case report form.

a. N = Number of participants reporting at least 1 yes or no response for the specified event after the study vaccination.
b. n = Number of participants with the specified characteristic.
c. Mild: does not interfere with activity; moderate: some interference with activity; severe: prevents daily activity. There were no reports of severe fatigue or reports of moderate or severe headaches, chills, or new or worsened joint pain.
d. Mild: 1 to 2 times in 24 hours; Moderate: >2 times in 24 hours; Severe: requires intravenous hydration. There were no reports of moderate or severe vomiting.
e. Mild: 2 to 3 loose stools in 24 hours; moderate: 4 to 5 loose stools in 24 hours; severe: 6 or more loose stools in 24 hours. There were no reports of severe diarrhea.
f. Severity was not collected for use of antipyretic or pain medication.

Unsolicited Adverse Events

Participants 2 through 4 years of age who received a booster (fourth dose) with the Pfizer-BioNTech COVID-19 Vaccine, Bivalent had a median follow-up time of 1.9 months (range 1.6 to 2.3 months) to the cutoff date (November 25, 2022).

Serious Adverse Events
No serious adverse events were reported in the 36 participants 2 through 4 years of age from the study vaccination through 1 month post vaccination.

Participants 6 Through 23 Months of Age Who Received a Booster Dose with Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5)

In a subset of Study 6, 24 participants 6 through 23 months previously vaccinated with a 3-dose primary series of Pfizer-BioNTech COVID-19 Vaccine (Original monovalent, 3 mcg modRNA) received a booster (fourth dose) of Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5) (3 mcg modRNA).

Participants received a booster dose with Pfizer-BioNTech COVID-19 Vaccine, Bivalent 2.1 to 8.6 months after receiving their third dose with Pfizer-BioNTech COVID-19 and had a median follow-up time of 1.6 months (range 1.5 to 2.3 months) up to a data cutoff date of November 25, 2022. Their median age was 19 months (range 12 through 23 months), 58.3% were female and 41.7% were male, 54.2% were White, 20.8% were Asian, 20.8% were multi-racial, 16.7% were Hispanic/Latino, and 4.2% were Black or African American.

Solicited Local and Systemic Adverse Reactions

Table 12 and Table 13 present the frequency and severity of reported solicited local reactions and systemic reactions, respectively, within 7 days of a booster (fourth dose) of Pfizer-BioNTech COVID-19 Vaccine, Bivalent.

The duration of injection site tenderness, swelling and redness for all events observed was 1 day.

Table 12: Local Adverse Reactions, by Maximum Severity, Within 7 Days After a Booster (Fourth Dose) – Participants 6 Through 23 Months of Age – Safety Population

	Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5) 3 mcg modRNA N[a]=24* n[b] (%)
Redness[c]	
Any (≥0.5 cm)	2 (8.3)
Mild	2 (8.3)
Swelling[c]	
Any (≥0.5 cm)	1 (4.2)
Mild	1 (4.2)
Tenderness at the injection site[d]	
Any	1 (4.3)
Mild	1 (4.3)

Note: Reactions were collected in the electronic diary (e-diary) and at unscheduled clinical assessments from Day 1 through Day 7 after the study vaccination. Reactions reported as adverse events in the case report form within 7 days after the study vaccination were also included in the analysis; the severity of these events is based on the grading scale in the adverse event section of the case report form.

* N = 23 for tenderness at the injection site.

a. N = Number of participants reporting at least 1 yes or no response for the specified reaction after the specified dose.

b. n = Number of participants with the specified characteristic.

c. Mild: ≥0.5 to 2.0 cm; Moderate: >2.0 to 7.0 cm; Severe: >7.0 cm. There were no reports of moderate or severe redness or swelling.

d. Mild: hurts if gently touched; Moderate: hurts if gently touched with crying; Severe: causes limitation of limb movement. There were no reports of moderate or severe tenderness at the injection site.

Table 13: Frequency and Percentages of Participants with Solicited Systemic Reactions, by Maximum Severity, Within 7 Days After a Booster (Fourth Dose) – Participants 6 Through 23 Months of Age – Safety Population

	Pfizer-BioNTech COVID-19 Vaccine, Bivalent (Original and Omicron BA.4/BA.5) 3 mcg modRNA N[a]=24* n[b] (%)
Fever[c]	
≥38.0°C	1 (4.2)
≥38.0°C to 38.4°C	1 (4.2)
Decreased appetite[d]	
Any	1 (4.5)
Mild	1 (4.5)
Drowsiness[e]	
Any	2 (9.1)
Mild	2 (9.1)
Irritability[f]	
Any	4 (18.2)
Mild	3 (13.6)
Moderate	1 (4.5)
Use of antipyretic or pain medication[g]	2 (8.3)

Note: Events and use of antipyretic or pain medication were collected in the electronic diary (e-diary) and at unscheduled clinical assessments from Day 1 through Day 7 after the study vaccination. Events reported as adverse events in the case report form within 7 days after the study vaccination were also included in the analysis; the severity of these events is based on the grading scale in the adverse event section of the case report form.

* N = 22 for decreased appetite, drowsiness, and irritability.

a. N = Number of participants reporting at least 1 yes or no response for the specified event after the study vaccination.
b. n = Number of participants with the specified characteristic.
c. There were no reports of fever >38.4°C.
d. Mild: decreased interest in eating; Moderate: decreased oral intake; Severe: refusal to feed. There were no reports of moderate or severe decreased appetite.
e. Mild: increased or prolonged sleeping bouts; Moderate: slightly subdued interfering with daily activity; Severe: disabling; not interested in usual daily activity. There were no reports of moderate or severe drowsiness.
f. Mild: easily consolable; Moderate: requiring increased attention; Severe: inconsolable; crying cannot be comforted. There were no reports of severe irritability.
g. Severity was not collected for use of antipyretic or pain medication.

Unsolicited Adverse Events

Participants 6 through 23 months of age who received a booster (fourth dose) with the Pfizer-BioNTech COVID-19 Vaccine, Bivalent had a median follow-up time of 1.6 months (range 1.5 to 2.3 months) to the cutoff date (November 25, 2022). In an analysis of all unsolicited adverse events reported following the booster dose through 1 month after the booster dose, the adverse reaction not already captured by solicited local and systemic reactions was injection site pain (n=1; 4.2%).

Serious Adverse Events

No serious adverse events were reported in the 24 participants 6 through 23 months of age from the study vaccination through 1 month post vaccination.

Non-Serious Adverse Events
Non-serious adverse events in participants 6 through 23 months of age from the study vaccination through 1 month post vaccination were reported in 3 (12.5%) Pfizer-BioNTech COVID-19 Vaccine, Bivalent recipients. Non-serious adverse events considered related to vaccination by the study investigator were fatigue (n=1; 4.2%) and injection site pain (n=1; 4.2%).

Bivalent Vaccine (Original and Omicron BA.1)

Bivalent Vaccine (Original and Omicron BA.1) Administered as a Second Booster Dose

In Study 4, a total of 610 participants greater than 55 years of age previously vaccinated with a 2-dose primary series and 1 booster dose of Pfizer-BioNTech COVID-19 Vaccine (Original monovalent) went on to receive a second booster dose with either Pfizer-BioNTech COVID-19 Vaccine (Original monovalent) or the bivalent vaccine (Original and Omicron BA.1).

The 305 participants greater than 55 years who received a second booster dose with Pfizer-BioNTech COVID-19 Vaccine (Original monovalent) received it 5.3 to 13.1 months after receiving the first booster dose and had a median follow-up time of 1.8 months up to a data cutoff date of May 16, 2022. Their median age was 66 years (range 56 through 87 years of age), 47.5% were male and 52.5% were female, 87.9% were White, 18.7% were Hispanic/Latino, 4.3% were Asian, and 6.2% were Black or African American.

The 305 participants greater than 55 years who received a second booster dose with the bivalent vaccine (Original and Omicron BA.1) received it 4.7 to 11.5 months after receiving the first booster dose and had a median follow-up time of 1.7 months up to a data cutoff date of May 16, 2022. Their median age was 67 years (range 56 through 85 years of age), 53.1% were male and 46.9% were female, 89.8% were White, 14.8% were Hispanic/Latino, 5.2% were Asian, and 4.3% were Black or African American.

Unsolicited Adverse Events

Overall, the participants who received a second booster dose with the bivalent vaccine (Original and Omicron BA.1) had a median follow-up time of 1.7 months (range 1.0 to 2.0 months) to the cutoff date (May 16, 2022).

In an analysis of all unsolicited adverse events reported following the second booster dose, through 1 month after the booster dose, those assessed as adverse reactions not already captured by solicited local and systemic reactions were lymphadenopathy (n=1, 0.3%) for the Pfizer-BioNTech COVID-19 Vaccine (Original monovalent) and (n=1, 0.3%) for the bivalent vaccine (Original and Omicron BA.1), nausea (n=1, 0.3%) for the Pfizer-BioNTech COVID-19 Vaccine (Original monovalent) and (n=1, 0.3%) for the bivalent vaccine (Original and Omicron BA.1), and malaise (n=0) for the Pfizer-BioNTech COVID-19 Vaccine (Original monovalent) and (n=1, 0.3%) for the bivalent vaccine (Original and Omicron BA.1).

Serious Adverse Events
Serious adverse events up to 1 month after the second booster dose in ongoing follow-up were reported by no Pfizer-BioNTech COVID-19 Vaccine (Original monovalent) recipients and by 1 bivalent vaccine (Original and Omicron BA.1) recipient (1 serious adverse event considered unrelated to the vaccine).

6.2 Postmarketing Experience

The following adverse reactions have been identified during postmarketing use of COMIRNATY, Pfizer-BioNTech COVID-19 Vaccine and Pfizer-BioNTech COVID-19 Vaccine, Bivalent. Because these reactions are reported voluntarily, it is not always possible to reliably estimate their frequency or establish a causal relationship to vaccine exposure.

Cardiac Disorders: myocarditis, pericarditis
Gastrointestinal Disorders: diarrhea, vomiting
Immune System Disorders: severe allergic reactions, including anaphylaxis, and other hypersensitivity reactions (e.g., rash, pruritus, urticaria, angioedema)
Musculoskeletal and Connective Tissue Disorders: pain in extremity (arm)
Nervous System Disorders: syncope, dizziness

6.3 Required Reporting for Adverse Events and Vaccine Administration Errors

Vaccination providers must report the listed events following administration of the Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula) to the Vaccine Adverse Event Reporting System (VAERS)

- Vaccine administration errors whether or not associated with an adverse event
- Serious adverse events* (irrespective of attribution to vaccination)
- Cases of myocarditis
- Cases of pericarditis
- Cases of Multisystem Inflammatory Syndrome (MIS)
- Cases of COVID-19 that results in hospitalization or death

*Serious Adverse Events are defined as:

- Death;
- A life-threatening adverse event;
- Inpatient hospitalization or prolongation of existing hospitalization;
- A persistent or significant incapacity or substantial disruption of the ability to conduct normal life functions;
- A congenital anomaly/birth defect;
- An important medical event that based on appropriate medical judgement may jeopardize the individual and may require medical or surgical intervention to prevent one of the outcomes listed above.

Instructions for Reporting to VAERS

Vaccination providers should complete and submit a VAERS form to FDA using one of the following methods:

- Complete and submit the report online: https://vaers.hhs.gov/reportevent.html or
- If you are unable to submit this form electronically, you may fax it to VAERS at 1-877-721-0366. If you need additional help submitting a report, you may call the VAERS toll-free information line at 1-800-822-7967 or send an email to info@vaers.org.

IMPORTANT: When reporting adverse events or vaccine administration errors to VAERS, please complete the entire form with detailed information. It is important that the information reported to FDA be as detailed and complete as possible. Information to include:

- Patient demographics (e.g., patient name, date of birth)
- Pertinent medical history
- Pertinent details regarding admission and course of illness
- Concomitant medications
- Timing of adverse event(s) in relationship to administration of Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula)
- Pertinent laboratory and virology information
- Outcome of the event and any additional follow-up information if it is available at the time of the VAERS report. Subsequent reporting of follow-up information should be completed if additional details become available.

The following steps are highlighted to provide the necessary information for safety tracking:

1. In Box 17, provide information on Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula) and any other vaccines administered on the same day; and in Box 22, provide information on any other vaccines received within one month prior.
2. In Box 18, description of the event:
   a. Write “Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula) EUA” as the first line
   b. Provide a detailed report of vaccine administration error and/or adverse event. It is important to provide detailed information regarding the patient and adverse event/medication error for ongoing safety evaluation of this unapproved vaccine. Please see information to include listed above.
3. Contact information:
   a. In Box 13, provide the name and contact information of the prescribing healthcare provider or institutional designee who is responsible for the report.
   b. In Box 14, provide the name and contact information of the best doctor/healthcare professional to contact about the adverse event.
   c. In Box 15, provide the address of the facility where vaccine was given (NOT the healthcare provider’s office address).

Other Reporting Instructions

Vaccination providers may report to VAERS other adverse events that are not required to be reported using the contact information above.

To the extent feasible, report adverse events to Pfizer Inc. using the contact information below or by providing a copy of the VAERS form to Pfizer Inc.

Website	Fax number	Telephone number
https://www.pfizersafetyreporting.com/	1-866-635-8337	1-800-438-1985

7 DRUG INTERACTIONS

There are no data to assess the concomitant administration of Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula) with other vaccines.

c. GMTs and 2-sided 95% CIs were calculated by exponentiating the mean logarithm of the titers and the corresponding CIs (based on the Student t distribution). Assay results below the LLOQ were set to 0.5 × LLOQ.
d. For Study 6: positive N-binding antibody result at Dose 4 visit, positive NAAT result at Dose 4 visit, or medical history of COVID-19. For Study 3: positive N-binding antibody result at Dose 1, 1-month post-Dose 2 (if available), or Dose 3 visits, positive NAAT result at Dose 1, Dose 2, Dose 3, or any unscheduled illness visit up to Dose 3 visit, or medical history of COVID-19.
e. For Study 6: negative N-binding antibody result at Dose 4 visit, negative NAAT result at Dose 4 visit, and no medical history of COVID-19. For Study 3: negative N-binding antibody result at Dose 1, 1-month post-Dose 2 (if available), and Dose 3 visits, negative NAAT result at Dose 1, Dose 2, Dose 3, and any unscheduled illness visits up to Dose 3 visit, and no medical history of COVID-19.
f. SARS-CoV-2 NT50 were determined using a validated 384-well assay platform (original strain [USA-WA1/2020, isolated in January 2020] and Omicron B.1.1.529 subvariant BA.4/BA.5).

14.9 Effectiveness of a Single Dose of Pfizer-BioNTech COVID-19 Vaccine (Original Monovalent) in Individuals with Evidence of Prior SARS-CoV-2 Infection

Seroprevalence surveys estimate that almost all of the U.S. population 5 years of age and older now have antibodies (from vaccination and/or infection) against SARS-CoV-2 (*Centers for Disease Control and Prevention. COVID Data Tracker. Atlanta, GA: US Department of Health and Human Services, CDC; 2023, March 31. https://covid.cdc.gov/covid-data-tracker/#datatracker-home).*

Powell et al. conducted an observational test-negative study including symptomatic individuals aged 12 to 17 years of age with SARS-CoV-2 polymerase chain reaction (PCR) testing results in England from August 9, 2021 to March 31, 2022 (Powell et al. *Protection against symptomatic infection with delta (B.1.617.2) and omicron (B.1.1.529) BA.1 and BA.2 SARS-CoV-2 variants after previous infection and vaccination in adolescents in England, August, 2021–March, 2022: a national, observational, test-negative, case-control study. Lancet Infectious Diseases. April 2023*). Among 1,161,704 SARS-CoV-2 PCR tests linked to COVID-19 vaccination status, there were 390,467 SARS-CoV-2 PCR-confirmed positive tests during Delta variant predominance and 212,433 SARS-CoV-2 positive tests during Omicron variants BA.1 and BA.2 predominance. Among adolescents who had received only 1 dose of the Pfizer-BioNTech COVID-19 Vaccine, those who had evidence of previous infection with Alpha, Delta, or Omicron variants had increased protection against symptomatic Omicron infection compared with those with no evidence of previous infection. At 2 to 14 weeks following 1 dose of the Pfizer-BioNTech COVID-19 Vaccine, the estimated effectiveness was 18.8% (95% CI: 17.2%, 20.3%), 81.5% (95% CI: 80.0%, 82.9%), 78.8% (95% CI: 77.9, 79.5%), and 79.6% (95% CI: 44.9%, 92.4%) for individuals with no evidence of prior infection, and evidence of prior Alpha, Delta, and Omicron infection, respectively.

16 HOW SUPPLIED/STORAGE AND HANDLING

How Supplied

Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula): multiple dose vials with yellow caps and labels with yellow borders

NDC 59267-4315-2	Carton of 10 multiple dose vials
NDC 59267-4315-1	Multiple dose vial containing 3 doses of 0.3 mL (after dilution)

Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula): single dose vials with blue caps and labels with blue borders

NDC 59267-4331-2	Carton of 10 single dose vials
NDC 59267-4331-1	One vial contains 1 dose of 0.3 mL (Do Not Dilute)

During storage, minimize exposure to room light, and avoid exposure to direct sunlight and ultraviolet light. Do not refreeze thawed vials.

Vial Storage Prior to Use

Cartons of Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula) may arrive frozen at ultra-cold conditions in thermal containers with dry ice.

Once received, frozen vials may be immediately transferred to the refrigerator [2ºC to 8ºC (35ºF to 46ºF)], thawed and stored for up to 10 weeks, not to exceed the expiration date printed on the vial and cartons. The 10-week refrigerated expiry date should be recorded on the carton at the time of transfer. Cartons of multiple dose vials with yellow caps and labels with yellow borders and cartons of single dose vials with blue caps and labels with blue borders may take up to 2 hours to thaw at this temperature.

Alternatively, frozen vials may be stored in an ultra-low temperature freezer at -90ºC to -60ºC (-130ºF to -76ºF) until the expiration date printed on the vials and cartons. Do not store vials at -25°C to -15°C (-13°F to 5°F). Once vials are thawed, they should not be refrozen.

If cartons of Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula) are received at 2°C to 8°C (35ºF to 46ºF), they should be stored at 2°C to 8°C (35ºF to 46ºF). Check that the carton has been updated to reflect the 10-week refrigerated expiry date, not to exceed the expiration date printed on the vial and cartons.

Vial Storage During Use

If not previously thawed at 2ºC to 8ºC (35ºF to 46ºF), allow Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula) multiple dose vials or single dose vials to thaw at room temperature [up to 25ºC (77ºF)] for 30 minutes.

Pfizer-BioNTech COVID-19 Vaccine (2023-2024 Formula) may be stored at room temperature [8°C to 25°C (46°F to 77°F)] for a total of 12 hours prior to the first puncture. After dilution, multiple dose vials should be held between 2ºC to 25°C (35°F to 77°F). Multiple dose vials should be discarded 12 hours after dilution.

Transportation of Vials

If local redistribution is needed, multiple dose vials and single dose vials may be transported at -90°C to -60°C (-130°F to -76°F) or 2°C to 8°C (35°F to 46°F).

17 PATIENT COUNSELING INFORMATION

Advise the recipient or caregiver to read the Fact Sheet for Recipients and Caregivers.

The vaccination provider must include vaccination information in the state/local jurisdiction's Immunization Information System (IIS) or other designated system. Advise recipient or caregiver that more information about IISs can be found at: https://www.cdc.gov/vaccines/programs/iis/about.html

18 MANUFACTURER INFORMATION

For general questions, visit the website or call the telephone number provided below.

Website	Telephone number
https://www.cvdvaccine.com/	1-877-829-2619 (1-877-VAX-CO19)

This Full EUA Fact Sheet may have been updated. For the most recent Full EUA Fact Sheet, please see https://www.cvdvaccine.com/.

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