Analysis Data Reviewer's Guide

sBLA Analysis for Participants 12-15 Years of Age

BioNTech SE and PFIZER INC.
Study C4591001

ADRG Template Version 2019-07-23

ANALYSIS DATA REVIEWER GUIDE REVISION HISTORY

Version	Summary of Major Change(s) and Impact	Version Date
1.0	First approved version of Analysis Data Reviewer Guide	06-Dec-2021

1.	Introduction	n	5
	1.1	Purpose	
	1.2	Acronyms	
	1.3	Study Data Standards and Dictionary Inventory	
	1.4	Source Data Used for Analysis Dataset Creation	
2.		escription	
	2.1 2.2	Protocol Number and Title	
	2.2.1	Phase 1	
	2.2.2	Phase 2/3	
2			
3.	Analysis Co	onsiderations Related to Multiple Analysis Datasets	
	3.2	Treatment Variable	
	3.3	Subject Issues that Require Special Analysis Rules	
	3.4	Use of Visit Windowing, Unscheduled Visits, and Record Selection	
	3.5	Imputation/Derivation Methods	17
4.	Analysis Da	ata Creation and Processing Issues	
	4.1	Split Datasets	
	4.2	Data Dependencies	
	4.3	Intermediate Datasets	
5.	•	ataset Descriptions	
	5.1 5.2	OverviewAnalysis Datasets	
	5.2.1	ADSL – Subject-Level Analysis Dataset	20
	5.2.2	ADAE – Adverse Events Analysis Dataset	20
	5.2.3	ADCM – Concomitant Medications Analysis Dataset	21
	5.2.4	ADDS – Disposition Analysis Dataset	21
	5.2.5	ADDV – Protocol Deviations Analysis Dataset	21
	5.2.6	ADMH – Medical History Analysis Dataset	22
	5.2.7	ADSYMPT – Covid-19 Signs and Symptoms Analysis Dataset	22
	5.2.8	ADC19EF – Covid-19 Efficacy Analysis Dataset	25
	5.2.9	ADXB – Sequencing Analysis Dataset	27
6.	Data Confo	ormance Summary	28
	6.1	Conformance Inputs	
	6.2	Issues Summary	29
7.		of Programs	
	7.1	ADaM Programs	
	7.2	Analysis Output Programs.	
8.	Appendix		35

Appendix I: Annotated Mocks for Key Tables	35
Mock Table 1	35
Mock Table 2	38
Mock Table 3	41
Mock Table 4	42
Mock Table 5	43
Mock Table 6	45
Mock Table 7	47
Mock Table 8	49
Mock Table 9	
Mock Table 10	
Mock Table 11	
Mock Table 12	
Mock Table 13	
Mock Table 14	
Mock Table 15	
Appendix II: Analysis plan AE windowing logic	
Appendix III: Handling of Incomplete Dates	63
Adverse events	63
Concomitant medications/medical histories	64
Appendix IV: External files used during ADaM dataset creation	
Appendix V: Surveillance Times	68
Appendix VI: Efficacy Flow Charts	69
Appendix VII: Detailed subsetting for Analysis:	71
1. Key Analysis Population Subsetting:	71
2 Adverse Event Analysis Reporting Period Subsetting	72

1. Introduction

1.1 Purpose

This document provides context for the analysis datasets and terminology that benefit from additional explanation beyond the Data Definition document (define.xml) for an individual study. In addition, this document provides a summary of ADaM conformance findings. This ADRG covers

- Updated efficacy analyses in blinded placebo-controlled follow-up evaluated duration of protection (data cutoff date: 02Sep2021).
- Updated sequencing analysis for SARS-CoV-2 Variants of Concern or Variants of Interest.
- Safety data presented for
 - Blinded placebo-controlled period: Dose 1 to unblinding date.
 - Open-label observational period: from time of unblinding to data cutoff date:
 - o Phase 3 12-15 years of age participants originally randomized to BNT162b2 30μg
 - Phase 3 12-15 years of age participants originally randomized to placebo who then received BNT162b2 30μg
 - Cumulative follow-up from Dose 1 to 6 months after Dose 2 for participants originally randomized to BNT162b2 30µg (inclusive of data from blinded and open-label periods)
 - New or updated Adverse events reported after EUA snapshot over both blinded and open-label time periods.

1.2 Acronyms

Acronym	Translation
COVID-19	Coronavirus Disease 2019
IWR	Interactive Web-based Response
LAR	Legally Acceptable Representative
modRNA	nucleoside-modified messenger ribonucleic acid
NA	Not Applicable
NAAT	nucleic acid amplification test
SoA	Schedule of Activities
VE	Vaccine Efficacy
WHO DDG	WHO Drug Dictionary Global
WOCBP	Women of childbearing potential

1.3 Study Data Standards and Dictionary Inventory

Standard or Dictionary	Versions Used
CDTM	•SDTM v1.4
SDTM	•SDTM-IG v3.2
SDTM Controlled Terminology	CDISC SDTM Controlled Terminology, 2020-03-27

ADaM	•ADaM v2.1 •ADaM-IG v1.1	
ADaM Controlled Terminology	CDISC ADaM Controlled Terminology, 2020-03-27	
Data Definitions	Define-XML v2.0	
Medications Dictionary	WHODD GLOBALB3Mar2021	
Medical Events Dictionary	MedDRA v24.0	

1.4 Source Data Used for Analysis Dataset Creation

This study is currently ongoing, and analysis data up to cut-off date: 02Sep2021 are included. Data cut-off is applied during SDTM creation.

The ADaM datasets for this study were derived from the SDTM datasets. SDTM datasets were prepared according to SDTM-IG version 3.2.

External files used during ADaM dataset creation are listed in Appendix IV.

2. Protocol Description

2.1 Protocol Number and Title

Protocol Number: C4591001

Protocol Short Title: A Phase 1/2/3 Study to Evaluate the Safety, Tolerability, Immunogenicity, and Efficacy of RNA Vaccine Candidates Against COVID-19 in Healthy Individuals.

Note: Protocol Amendment's 13, 14 and beyond mentioned elsewhere in the submission documentation are out of scope for this analysis and have not been included in this ADRG.

Protocol Versions:

Amendment 12: 2021-01-14

 Because of a formatting error in protocol amendment 11, exclusion criterion 4 was inadvertently added to exclusion criterion 3 and the subsequent criteria renumbered. This amendment corrects that error.

Amendment 11: 2021-01-04

- Added a potential intensive surveillance period for nasal swabbing, for assessment via NAAT:
 - o Corresponding SoA and procedures added

Amendment 10: 2020-12-01

- Added the possibility of administering BNT162b2 to participants who originally received placebo, following any local or national recommendations.
- Added the possibility of administering BNT162b2 to participants who originally received placebo, following completion of the active safety surveillance period.

Amendment 9: 2020-10-29

• To better align with the natural history of SARS-CoV-2 infection, added Phase 2/3

secondary efficacy objectives, estimands, and endpoints to include COVID-19 cases that occur from 14 days after the second dose; also modified the existing secondary efficacy objectives, estimands, and endpoints to include COVID-19 cases that occur from 14 days, as well as 7 days, after the second dose;

- o Made corresponding changes to the study design, study assessments and procedures, and statistical analysis sections.
- Clarified that interim analyses will be conducted after accrual of at least 62, 92, and 120 cases.
- Included any participants 16 through 17 years of age enrolled under this amendment in the reactogenicity subset.
- Clarified that serology data after a postbaseline positive SARS-CoV-2 test result will not be included in the analysis based on the evaluable immunogenicity populations.

Amendment 8: 2020-10-15

- Clarified that for participants who are not in the reactogenicity subset, local reactions and systemic events following vaccination should be detected and reported as AEs.
- Clarified that premenarchal females are not WOCBP.

Amendment 7: 2020-10-06

- Reduced the lower age range to include adolescents 12 to 15 years of age and added corresponding objectives.
- Added that 2 periods of potential COVID-19 symptoms within 4 days will be considered as a single illness.

Amendment 6 (Germany-specific): 2020-09-23

• According to regulatory request, inclusion criterion 1 now specifies that participants less than 18 years of age will not be enrolled in the EU.

Amendment 6: 2020-09-08

- Removed exclusion criterion 2 (ie, known infection with HIV, HCV, or HBV) for Phase 3 and added criteria for HIV-positive participants.
- Decreased the lower age limit and removed the upper age limit for inclusion in Phase 2/3 in order to evaluate BNT162b2 30 μg in older adolescents and those over 85 years of age; updated the title and other references to adults to align with this change.
- Clarified that inclusion criterion 4 (ie, participants at higher risk for acquiring COVID-19) is applicable for Phase 2/3 only, and provided some examples

Amendment 5: 2020-07-24

- Clarified that a single vaccine candidate, administered as 2 doses 21 days apart, will be studied in Phase 2/3.
- Stated that the vaccine candidate selected for Phase 2/3 evaluation is BNT162b2 at a dose of 30 μ g.
- Renamed Stage 1 to Phase 1, removed Stage 2, and renamed Stage 3 to Phase 2/3.
- Clarified which stopping rules apply to which phase of the study.
- Moved the immunogenicity objectives in Phase 2/3 to become exploratory.
- Modified exclusion criterion 5, so that participants with a previous clinical or microbiological diagnosis of COVID-19 are excluded from all phases of the study.

Amendment 4: 2020-06-30

- BNT162b3 candidate has been added to the protocol.
- Further nonclinical data are available to support the study of the BNT162b3 candidate in humans, and the candidate has been added to the protocol.
- The 6-month safety follow-up telephone contact has been changed to an in-person visit for Stage 3 participants, to allow collection of an immunogenicity blood sample.

Amendment 3: 2020-06-10

- 20-µg dose level is formally included for BNT162b1 and BNT162b2.
- In order to increase flexibility enrolling participants, an extended screening window (increased from 14 to 28 days) for sentinel participants in Stage 1 has been added. This is considered acceptable since eligible participants are expected to be either healthy or have stable medical conditions.

Amendment 2: 2020-05-27

• Added a 50-μg dose level for vaccine candidates based on the modRNA platform (ie, BNT162b1, BNT162b2, and BNT162b3).

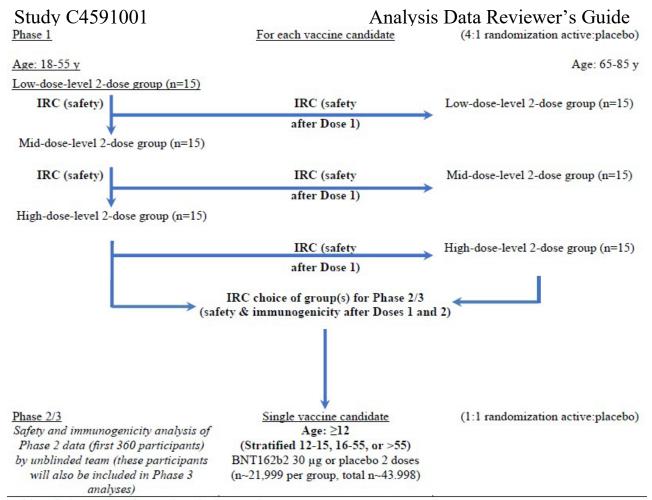
Amendment 1: 2020-05-13

- Decreased the dose levels for BNT162a1 and BNT162c2
- Modified exclusion criteria and prohibited inhaled/nebulized corticosteroids for sentinel participants in Stage 1.

Original Protocol 2020-04-15

2.2 Protocol Design in Relation to ADaM Concepts

The study consists of 2 parts. Phase 1: to identify preferred vaccine candidate(s) and dose level(s); Phase 2/3: an expanded cohort and efficacy part. These parts, and the progression between them, are detailed in the schema.



Abbreviation: IRC = internal review committee.

The study will evaluate the safety, tolerability, and immunogenicity of 2 different SARS-CoV-2 RNA vaccine candidates against COVID-19 and the efficacy of 1 candidate:

- o As a 2-dose (separated by 21 days) schedule;
- At various different dose levels in Phase 1;
- o In 3 age groups: (Phase 1: 18 to 55 years of age, 65 to 85 years of age; Phase 2/3: ≥12 years of age [stratified as 12-15, 16-55, or >55 years of age]).

Dependent upon safety and/or immunogenicity data generated during the course of this study, or the BioNTech study conducted in Germany (BNT162-01), it is possible that groups in Phase 1 may be started at the next highest dose, groups may not be started, groups may be terminated early, and/or groups may be added with dose levels below the lowest stated dose or intermediate between the lowest and highest stated doses.

The study is observer-blinded, as the physical appearance of the investigational vaccine candidates and the placebo may differ. The participant, investigator, study coordinator, and other site staff will be blinded. At the study site, only the dispenser(s)/administrator(s) are unblinded.

To facilitate rapid review of data in real time, sponsor staff will be unblinded to vaccine allocation for the participants in Phase 1.

Each group (vaccine candidate/dose level/age group) will comprise 15 participants; 12 participants will be randomized to receive active vaccine and 3 to receive placebo.

For each vaccine candidate/dose level/age group, the following apply:

- Additional safety assessments (see protocol, Section 8.2)
- Controlled enrollment (required only for the first candidate and/or dose level studied):
 - No more than 5 participants (4 active, 1 placebo) can be vaccinated on the first day
 - The first 5 participants must be observed by blinded site staff for at least 4 hours after vaccination for any acute reactions
 - Vaccination of the remaining participants will commence no sooner than 24 hours after the fifth participant received his or her vaccination
- Application of stopping rules
- IRC review of safety data to determine escalation to the next dose level in the 18- to 55-year age cohort:
 - Escalation between dose levels will be based on IRC review of at least 7-day post—Dose 1 safety data in this study and/or the BioNTech study conducted in Germany (BNT162-01)
 - Note that, since both candidates are based upon the same RNA platform, dose escalation for the second candidate studied may be based upon the safety profile of the first candidate studied being deemed acceptable at the same, or a higher, dose level by the IRC

Groups of participants 65 to 85 years of age will not be started until safety data for the RNA platform have been deemed acceptable at the same, or a higher, dose level in the 18- to 55-year age cohort by the IRC.

In this phase, 13 groups will be studied, corresponding to a total of 195 participants.

The IRC will select 1 vaccine candidate that, in Phase 1, has an established dose level per age group based on induction of a post–Dose 2 immune response, including neutralizing antibodies, which is expected to be associated with protection against COVID-19, for progression into Phase 2/3.

Participants who originally received placebo and become eligible for receipt of BNT162b2 or another COVID-19 vaccine according to local or national recommendations (detailed separately, and available in the electronic study reference portal) will have the opportunity to receive BNT162b2 as part of the study. The investigator will ensure the participant meets at least 1 of the recommendation criteria. Any Phase 1 placebo recipient who has not already been offered the opportunity to receive BNT162b2 will be given this opportunity at the approximate time participants in Phase 2/3 reach Visit 4. Any participant who originally received placebo but then goes on to receive BNT162b2 will move to a new visit schedule (Protocol Section 1.3.3).

On the basis of safety and/or immunogenicity data generated during the course of this study, and/or the BioNTech study conducted in Germany (BNT162-01), 1 vaccine candidate was selected to proceed into Phase 2/3. Participants in this phase will be \geq 12 years of age, stratified as follows: 12 to 15 years, 16 to 55 years, or >55 years. The 12- to 15-year stratum will comprise up to approximately 2000 participants enrolled at selected investigational sites. It is intended that a minimum of 40% of participants will be in the >55-year stratum. Commencement of each age stratum will be based upon satisfactory post—Dose 2 safety and immunogenicity data from the 18- to 55-year and 65- to 85-year age groups in Phase 1, respectively. The vaccine candidate selected for Phase 2/3 evaluation is BNT162b2 at a dose of 30 μ g.

Phase 2/3 is event-driven. Under the assumption of a true VE rate of ≥60%, after the second dose of investigational product, a target of 164 primary-endpoint cases of confirmed COVID-19 due to SARS-CoV-2 occurring at least 7 days following the second dose of the primary series of the candidate vaccine will be sufficient to provide 90% power to conclude true VE >30% with high probability. The total number of participants enrolled in Phase 2/3 may vary depending on the incidence of COVID-19 at the time of the enrollment, the true underlying VE, and a potential early stop for efficacy or futility.

Assuming a COVID-19 attack rate of 1.3% per year in the placebo group, accrual of 164 first primary-endpoint cases within 6 months, an estimated 20% non-evaluable rate, and 1:1 randomization, the BNT162b2 vaccine candidate selected for Phase 2/3 is expected to comprise approximately 21,999 vaccine recipients. This is the number of participants initially targeted for Phase 2/3 and may be adjusted based on advice from DMC analyses of case accumulation and the percentage of participants who are seropositive at baseline. Dependent upon the evolution of the pandemic, it is possible that the COVID-19 attack rate may be much higher, in which case accrual would be expected to be more rapid, enabling the study's primary endpoint to be evaluated much sooner.

The first 360 participants enrolled (180 to active vaccine and 180 to placebo, stratified equally between 18 to 55 years and >55 to 85 years) will comprise the "Phase 2" portion. Safety data through 7 days after Dose 2 and immunogenicity data through 1 month after Dose 2 from these 360 participants will be analyzed by the unblinded statistical team, reviewed by the DMC, and submitted to appropriate regulatory authorities for review. Enrollment may continue during this period and these participants would be included in the efficacy evaluation in the "Phase 3" portion of the study.

In Phase 3, up to approximately 2000 participants, enrolled at selected sites, are anticipated to be 12 to 15 years of age. Noninferiority of immune response to prophylactic BNT162b2 in participants 12 to 15 years of age to response in participants 16 to 25 years of age will be assessed based on the GMR of SARS-CoV-2 neutralizing titers using a 1.5-fold margin. A sample size of 225 evaluable participants (or 280 vaccine recipients) per age group will provide a power of 90.8% to declare the noninferiority in terms of GMR (lower limit of 95% CI for GMR >0.67). A random sample of 280 participants from each of the 2 age groups (12 to 15 years and 16 to 25 years) will be selected as an immunogenicity subset for the noninferiority assessment.

The initial BNT162b2 was manufactured using "Process 1"; however, "Process 2" was developed to support an increased scale of manufacture. In the study, each lot of "Process 2"-manufactured BNT162b2 will be administered to approximately 250 participants 16 to 55 years of age. The safety and immunogenicity of prophylactic BNT162b2 in individuals 16 to 55 years of age vaccinated with "Process 1" and each lot of "Process 2" study intervention will be described. A random sample of 250 participants from those vaccinated with study intervention produced by manufacturing "Process 1" will be selected for this descriptive analysis.

Participants are expected to participate for up to a maximum of approximately 26 months. The duration of study follow-up may be shorter among participants enrolled in Phase 1 dosing arms that are not evaluated in Phase 2/3.

Participants \geq 16 years of age who originally received placebo and become eligible for receipt of BNT162b2 or another COVID-19 vaccine according to local or national recommendations (detailed separately, and available in the electronic study reference portal) will have the opportunity to receive BNT162b2 as part of the study. The investigator will ensure the participant meets at least 1 of the recommendation criteria.

Any Phase 2/3 placebo recipient ≥ 16 years of age who has not already been offered the opportunity to receive BNT162b2 will be given this opportunity from 6 months after Vaccination 2 (at the time of the originally planned Visit 4).

Any participant who originally received placebo but then goes on to receive BNT162b2 will move to a new visit schedule (Protocol Section 1.3.3).

An intensive period of surveillance to evaluate the efficacy of BNT162b2 against asymptomatic SARS-CoV-2 infection may be conducted at selected sites among Phase 2/3 participants following approval of protocol amendment 11. After an initial in-person visit where a blood sample will be collected and a nasal (midturbinate) swab obtained, nasal (midturbinate) swabs will be obtained from consented participants every 2 weeks until Visit 4, or a sufficient number of cases of SARS-CoV-2 infection have accrued to evaluate this objective, whichever is sooner, per the SoA. The swabs will be tested at a central laboratory using NAAT to detect SARS-CoV-2. Participants who originally received placebo and become eligible for receipt of BNT162b2 according to local or national recommendations and then receive BNT162b2 as part of the study will not participate in surveillance for asymptomatic SARS-CoV-2 infection; if they become eligible during the surveillance period, the swabbing every 2 weeks will cease.

3. Analysis Considerations Related to Multiple Analysis Datasets

3.1 Core Variables

Core variables are those that are represented across all/most analysis datasets.

Variable Type	Variable Name	Variable Description	
	STUDYID	Study identifier used for this protocol	
Study/Site/Subject	USUBJID	Unique subject identifier	
ID variables	SUBJID	Subject identifier for the study	
	SITEID	Study site identifier	
Damaamahiaa	AGE	Age at ICD	
Demographics	AGETR01	Age at Dose 1	

tudy C4591001		Analysis Data Reviewer's Guide		
Variable Type Variable Name		Variable Description		
	AGEGR4	Pooled age group 4 (based on Age at Dose 1) Including following age categories: 12-15 Years; Note: There is one subject who is 15 years of age at ICD and 16 years of age at dose 1 in SDTM		
		datasets, this subject was excluded from all ADAM datasets. Pooled age group 4 (N):		
	AGEGR4N	1= 12-15 Years;		
	SEX	Sex: F=Female; M=Male		
	ETHNIC	Ethnicity, Including HISPANIC OR LATINO; NOT HISPANIC OR LATINO; NOT REPORTED		
	RACE	Race, including WHITE; BLACK OR AFRICAN AMERICAN; AMERICAN INDIAN OR ALASKA NATIVE; ASIAN; MULTIPLE; NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER; NOT REPORTED		
	COVBLST	Baseline SARS-CoV-2 status: Positive, Negative or Missing		
Baseline Status	HIVFL	HIV positive subjects Flag Note: No HIV positive subjects from the 12-15 years of age.		
	ARM	Description of Planned Arm		
	ARMCD	Planned Arm Code		
	ACTARM	Description of Actual Arm		
	ACTARMCD	Actual Arm Code		
	TRTSDTM	Datetime of first exposure to treatment		
	TRTEDTM	Datetime of last exposure to treatment		
	TR01SDTM	Datetime of first exposure to treatment for blinded placebo-controlled period		
	TR01EDTM	Datetime of last exposure to treatment for blinded placebo-controlled period		
	TR02SDTM	Datetime of first exposure to treatment for open- label vaccination period		
Treatment Variables	TR02EDTM	Datetime of last exposure to treatment for open- label vaccination period		
	TRT01A	Actual Treatment for blinded placebo-controlled period		
	TRT01AN	Actual Treatment for blinded placebo-controlled period (N)		
	TRT01P	Planned Treatment for blinded placebo-controlled period		
	TRT01PN	Planned Treatment for blinded placebo-controlled period (N)		
	TRT02A	Actual Treatment for open-label vaccination period		
	TRT02AN	Actual Treatment for open-label vaccination period (N)		
	TRT02P	Planned Treatment for open-label vaccination		

Study C4591001		Analysis Data Reviewer's Guide	
Variable Type Variable Name		Variable Description	
		period	
	TRT02PN	Planned Treatment for open-label vaccination	
	111102111	period (N)	
	VAX101	Actual vaccination taken at dose 1 for blinded placebo-controlled period	
		Actual vaccination taken at dose 2 for blinded	
	VAX102	placebo-controlled period	
	VAX10U	Actual vaccination taken at unplanned dose for blinded placebo-controlled period	
	VAX201	Actual vaccination taken at dose 1 for open-label vaccination period	
	VAX202	Actual vaccination taken at dose 2 for open-label vaccination period	
	VAX20U	Actual vaccination taken at unplanned dose for open-label vaccination period	
	VAX101DT	Date of dose 1 for blinded placebo-controlled period	
	VAX102DT	Date of dose 2 for blinded placebo-controlled period	
	VAX10UDT	Date of unplanned dose for blinded placebo- controlled period	
	VAX201DT	Date of dose 1 for open-label vaccination period	
	VAX202DT	Date of dose 2 for open-label vaccination period	
	VAX20UDT	Date of unplanned dose for open-label vaccination period	
	UNBLNDDT	Treatment unblinding date This is the start date of open-label follow- up/vaccination period for subjects who were unblinded	
Date/Time variables	BDCSRDT	Censor date for blinded placebo-controlled follow-up period. This date is the earliest date of the day before treatment unblinding date UNBLNDDT (if applicable), the day before first dose date of BNT162b2 at open-label vaccination period (if applicable), end of study date (if applicable), complete of study date (if applicable) and the date of cutoff (02Sep2021). This date is used for AE incidence rate summary table (Exposure adjusted) for blinded placebo-controlled follow-up period.	
	X1CSRDT	Censor date for open-label follow-up period. This date is the earliest date of end of study date (if applicable), complete of study date (if applicable) and the date of cutoff (02Sep2021). This date is used for AE incidence rate summary table for open-label follow-up period.	
Pobligion Flagger DNAKFI C		Flag of subjects with at least 6 months of follow- up time after dose 2 (28*6=168) days after dose 2	

Study C4591001		Analysis Data Reviewer's Guide	
Variable Type Variable Name		Variable Description	
		by the date of cutoff) for subjects originally received BNT162b2.	
		This flag is used to subset the subjects for AE	
		summary tables with reporting period from dose 1	
		to 6-month after dose 2 regardless of unblinding	
		or not. There are 1113 subjects in total from	
		safety population for subjects from 12 to 15 years	
		of age at dose 1.	
		Enrolled population flag defined as:	
	ENRLFL	All participants who have a signed ICD.	
		Randomized population flag defined as:	
	RANDFL	All participants who are assigned a randomization	
		number in the IWR system.	
		Safety population flag defined as:	
	SAFFL	All randomized participants who receive at least	
		1 dose of the study intervention.	
		Dose 1 all-available efficacy population flag	
	A A LI EEEL	defined as:	
	AAI1EFFL	All randomized participants who receive at	
		least 1 vaccination.	
		Dose 2 all-available efficacy population flag	
	AAI2EFFL	defined as:	
	AAIZEITL	All randomized participants who complete	
		2 vaccination doses.	
		Evaluable efficacy population flag (7 days) defined	
		as:	
		All eligible randomized participants who receive	
		all vaccination(s) as randomized, with Dose 2	
		received within the predefined window (within 19-	
		42 days after Dose 1) and have no other important	
		protocol deviations as determined by the clinician	
		on or before 7 days after Dose 2.	
	EVALEFFL	Note: Subjects unblinded or took an unplanned	
		dose within 7 days post dose 2 were excluded from	
		this evaluable efficacy populations.	
		Used for officery analysis	
		Used for efficacy analysis.	
		Note: Subjects flagged as YES-POP2 in variable SUPPDV.QNAM = "CAPE" were excluded from	
		evaluable efficacy population due to important	
		protocol deviation identified by clinical.	
	<u> </u>	protocol deviation identified by cliffical.	

^{**}See Appendix VII for additional variables used when subsetting data for each analysis.

3.2 Treatment Variable

ARM versus TRTxxP

Are the values of ARM equivalent in meaning to values of TRTxxP?

No, ARM represents the planned arm for the blinded placebo-controlled period based on

randomization file. TRT01P has the planned treatment for the blinded placebo-controlled period. TRT02P has the planned treatments of open-label vaccination period for subjects who received placebo only in the blinded placebo-controlled period and become eligible for receipt of BNT162b2 after unblinding. See details in below table.

PHASE	ARM	TRT01P	TRT02P
Phase 2/3	BNT162b2 Phase 2/3	BNT162b2 Phase 2/3	-
	(30 mcg)	(30 mcg)	
	Placebo	Placebo	-
	Placebo	Placebo	BNT162b2 Phase 2/3
			(30 mcg)

Note: Unit of dose 'mcg' was displayed as 'µg' in all of outputs.

ACTARM versus TRTxxA

If TRTxxA is used, then are the values of ACTARM equivalent in meaning to values of TRT01A?

No, ACTARM represents the actual arm for the blinded placebo-controlled period. TRT01A has the actual treatment for the blinded placebo-controlled period, TRT02A has the actual treatment of open-label vaccination period for subjects who received placebo only in the blinded placebo-controlled period and received BNT162b2 after unblinding. See details in below table.

PHASE	ACTARM	TRT01A	TRT02A
Phase	BNT162b2 Phase 2/3	BNT162b2 Phase 2/3	-
2/3	(30 mcg)	(30 mcg)	
	Placebo	Placebo	-
	Placebo	Placebo	BNT162b2 Phase
			2/3 (30 mcg)
	Not Treated	-	-

Note: Unit of dose 'mcg' was displayed as 'ug' in all of outputs.

Use of ADaM Treatment Variables in Analysis

Are both planned and actual treatment variables used in analyses?

Yes. Both actual treatment and planned treatment were used in the analysis. Planned treatment variable was used across efficacy analysis and disposition table. Actual treatment variable was used across safety analysis.

See details in below table.

Reporting Period	Analysis Population	Treatment Variables Used in Analysis	Applicable analysis
Blinded placebo-controlled period or	Safety	TRT01A	Conduct of study, Adverse Event, Medical History, Concomitant
			Medications/Vaccinations

Reporting Period	Analysis Population	Treatment Variables Used in Analysis	Applicable analysis
Open-label follow-up period	Randomized	TRT01P	Vaccine as Administered, Disposition, Efficacy, Sequencing
Open-label follow-up period (For subjects received placebo only in the blinded placebo- controlled period and then received BNT162b2 after unblinding)	Safety	TRT02A	Adverse Event

Note: Unit of dose 'mcg' was displayed as 'µg' in all of outputs.

Use of ADaM Treatment Grouping Variables in Analysis

Are both planned and actual treatment grouping variables used in analysis?

No. Neither planned nor actual treatment grouping variables are not used in analysis

3.3 Subject Issues that Require Special Analysis Rules

NA

3.4 Use of Visit Windowing, Unscheduled Visits, and Record Selection

Was windowing used in one or more analysis datasets?

Yes. windowing was considered during the derivation of ADAE.VPHASE. Please refer to Appendix II for more details.

Were unscheduled visits used in any analyses?

Yes. please refer to Section 5.2.7 for more details.

Based on protocol guidance, multiple unscheduled Covid illness visits that are less than 4 days apart are collapsed in ADSYMPT into their respective earlier visit/s and are considered as single unscheduled illness visit during the analysis.

3.5 Imputation/Derivation Methods

If date imputation was performed, were there rules that were used in multiple analysis datasets?

Yes, date imputations for partial or missing dates were performed for adverse events, medical history and concomitant medication described in Appendix III.

Was DTYPE used in one or more analysis datasets? No.

4. Analysis Data Creation and Processing Issues

4.1 Split Datasets

There are no split datasets.

4.2 Data Dependencies

All datasets pull core variable values from ADSL. ADC19EF also uses the ADSYMPT dataset as an input to create efficacy parameter variables.

4.3 Intermediate Datasets

No intermediate analysis datasets were created in this trial.

5. Analysis Dataset Descriptions

5.1 Overview

Are data for screen failures, including data for run-in screening (for example, SDTM values of ARMCD='SCRNFAIL', or 'NOTASSGN') included in ADaM datasets?

No. Subjects with 'NOTASSGN' 'SCRNFAIL' are not included.

Are data taken from an ongoing study?

Yes. All data up through 02Sep2021 cutoff are included in the SDTM datasets and used for ADaM datasets and analyses.

Do the analysis datasets support all protocol- and statistical analysis plan-specified objectives? No.

Additional Content of Interest

No additional content of Interest.

5.2 Analysis Datasets

Dataset Label Class SUBJECT LEVEL Analysis Dataset ADAE Adverse Events Analysis Dataset ADCM Concomitant Medications Analysis Dataset Class Dataset Class ADAE ADCM Concomitant Medications Analysis Dataset Class Class ADAE ADCM Concomitant Medications Analysis Dataset Class ADAE ADCM Concomitant Medications Analysis Dataset Class ADCM Concomitant Medications Analysis Dataset Class ADCM Concomitant Medications Analysis Dataset
Subject-Level
Analysis Dataset ADAE Adverse Events Analysis Dataset ADCM Concomitant Medications Analysis Dataset ANALYSIS Dataset ANALYSIS DATA ANALYSIS
ADAE Adverse Events Analysis Dataset ADCM Concomitant Medications Analysis Dataset DATA DATA ADCM Concomitant Medications Analysis Dataset DATA DATA ADCM Concomitant Medications Analysis Dataset DATA ADCM Concomitant Medication Analysis Dataset DATA STRUCTURE ADCM Concomitant Medication Analysis Dataset DATA STRUCTURE ADCM Concomitant Medication Analysis Dataset DATA STRUCTURE ADCM Concomitant Medication Analysis Dataset DATA STRUCTURE ADCM Concomitant Medication Analysis Dataset ADCM Concomitant Medication Analysis Dataset ADCM Concomitant Medication Analysis Dataset
ADAE Adverse Events Analysis Dataset ADCM Concomitant Medications Analysis Dataset ADCH Concomitant Dataset Concomitant Medications Analysis Dataset ADCH Concomitant Medication Analysis Dataset ADCH Concomitant Medication Analysis Dataset ADCH Concomitant Medication Analysis Dataset ADCH Concomitant ADCH ADCH ADCH ADCH ADCH ADCH ADCH ADCH
Adverse Events Analysis Dataset STRUCTURE DATA STRUCTURE Concomitant Medications Analysis Dataset DATA STRUCTURE Trecords per subject per each adverse event per event start date OCCURRENCE DATA STRUCTURE Trecords per subject per records per subject per recorded medication occurrence or constant-dosing interval
Analysis Dataset STRUCTURE each adverse event per event start date OCCURRENCE Concomitant Medications Analysis Dataset STRUCTURE X One record or multiple records per subject per recorded medication occurrence or constant-dosing interval
ADCM Concomitant Medications Analysis Dataset OCCURRENCE DATA STRUCTURE X One record or multiple records per subject per recorded medication occurrence or constant- dosing interval
Concomitant DATA records per subject per Medications Analysis STRUCTURE recorded medication Dataset occurrence or constant-dosing interval
Medications Analysis STRUCTURE recorded medication occurrence or constant-dosing interval
Dataset occurrence or constant-dosing interval
dosing interval
ADDS OCCURRENCE X One record or multiple
<u>Disposition</u> DATA records per subject per
Analysis Dataset STRUCTURE disposition status or
protocol milestone
ADDV OCCURRENCE X One record or multiple
Protocol Deviations DATA records per subject per
Analysis Dataset STRUCTURE protocol deviation per
event start date
ADMH OCCURRENCE X One record or multiple
Medical History Analysis DatasetDATA STRUCTURErecords per subject per medical history event
ADC19EF BASIC DATA X Described interest in the decar history event and the decar histo
Covid-19 Efficacy STRUCTURE A One records per subject per
Analysis Dataset analysis parameter per
analysis timepoint
ADSYMPT BASIC DATA X X One record or multiple
Covid-19 Signs and STRUCTURE records per subject per
Symptoms Analysis analysis parameter per
<u>Dataset</u> analysis timepoint
ADXB BASIC DATA X One record per subject
Sequencing STRUCTURE per analysis parameter
Analysis Dataset per analysis timepoint

5.2.1 ADSL – Subject-Level Analysis Dataset

ADSL includes the following information for each subject:

- Subject identifier
- Demographic information
- Planned treatment and actual treatment (details described in Section 3.1 Core Variables)
- Population flags (details described in <u>Section 3.1</u> Core Variables)
- Key dates and datetime related to conduct of study (details described in <u>Section 3.1</u> Core Variables)
- Variables to support subgroup analyses
 - Sex (Female and Male)
 - Race (White, Black or African American and All Others)
 Note: All Others = American Indian or Alaska Native, Asian, Native Hawaiian or other Pacific Islander, multiracial, and not reported race categories.
 - o Ethnicity (Hispanic/Latino and Non-Hispanic/Non-Latino)
 - o Baseline SARS-CoV-2 Status (Positive and Negative)
 - o Comorbidities (Yes and No)
 - Obese (Yes and No)

5.2.2 ADAE – Adverse Events Analysis Dataset

This is the main safety analysis dataset comprised of adverse events recorded on the CRF. Partial start dates or partial end dates of adverse events were imputed using rules described in Appendix III.

AE data is reported excluding the reactogenicity events [AECAT not in ("REACTOGENICITY")]. AE summaries were analyzed based on the specific reporting periods. The vaccine phase (VPHASE) was derived based on the start date of the AE and the phase date (ADSL.V01DT, ADSL.V02DT, ADSL.V02OBDT, ADSL.V03DT, ADSL.V04DT), please refer to Appendix II for more details, and was applied to select AEs for summaries based on different reporting period. See details in Appendix VII.

DATCHGFL is used to identify the new AEs that occurred since the data cutoff used for the EUA Amendment submission for individuals 12 through 15 years of age.

Note: One AE record was dropped since the data cutoff used for the EUA Amendment submission for individuals 12 through 15 years of age. See the AE as below.

USUBJID	AESPID	AETERM	AEDECOD	AESTDTC	AEENRTPT
C4591001 1131	2	broken collar	Clavicle	2021-02-19	ONGOING
11311301		bone	fracture		

DATACHGC is used to identify what type of AE data change occurred since the data cutoff used for the EUA Amendment submission for individuals 12 through 15 years of age. See type of updates as below.

Type of Updates (DATACHGC)
AE onset date changed from EUA to sBLA
AE outcome changed from EUA to sBLA

Actions to the AE changed from EUA to sBLA
AERELTXT changed from EUA to sBLA
Note: AERELTXT = Event Due to Other Specify
Minor AE term changed from EUA to sBLA
AEDECOD changed from EUA to sBLA
Note: AEDECOD=Dictionary-Derived Term

Note: One AE record could have multiple types of change combined in DATACHGC and EUA refers to the EUA Amendments submission in Apr2021 for 12-15 Years of age (EUA snapshot 25Mar2021 with the cutoff date 13Mar2021).

DATCHGFL and DATACHGC are derived to address FDA's response for question 1.a 'please include an interim summary of new or updated safety events that occurred/have been updated since the data cutoff used for the EUA Amendment submission for individuals 12 through 15 years of age, using the same time periods, and insert a flag into the datasets to indicate which safety events are new/updated' of

"IND 19736.434 Comments ReqCommentsAdvice sBLA 12-15yoa".

In addition, a set of AE tables have 'New Adverse Events After the EUA Snapshot' as part of title and a listing has 'Adverse Events Updated After the EUA Snapshot' as part of title are generated to respond FDA's response.

5.2.3 ADCM – Concomitant Medications Analysis Dataset

The dataset contains information of nonstudy vaccines (CMCAT = "VACCINATIONS") and prohibited concomitant medications (CMCAT=' CORTICOSTEROIDS').

Partial start dates or partial end dates of nonstudy vaccines and concomitant medications were imputed using rules described in Appendix III.

5.2.4 ADDS – Disposition Analysis Dataset

This dataset contains information for various disposition events (DSCAT = "DISPOSITION EVENT") for each subject throughout the study. The phases in the disposition event are presented in the table below as DSPHASE. The subject's completion status or reason for discontinuation is identified in DSDECOD (Standardized Disposition Term).

Disposition phases included in this study are as follows:

DSCAT	DSPHASE
DISPOSITION EVENT	SCREENING
DISPOSITION EVENT	REPEAT SCREENING 1
DISPOSITION EVENT	VACCINATION
DISPOSITION EVENT	OPEN LABEL TREATMENT
DISPOSITION EVENT	FOLLOW-UP

5.2.5 ADDV – Protocol Deviations Analysis Dataset

This dataset contains information about protocol deviation events and causes for protocol deviations. Important protocol deviations were flagged as "Important" in variable DVCAT and the corresponding population exclusion flag was capture in SUPPDV.QNAM='CAPE'.

5.2.6 ADMH – Medical History Analysis Dataset

This dataset contains all medical histories (MHCAT = "GENERAL MEDICAL HISTORY") collected on the CRF. Partial start dates or partial end dates medical histories were imputed using rules described in Appendix III.

5.2.7 ADSYMPT – Covid-19 Signs and Symptoms Analysis Dataset

The purpose of this dataset is to gather all signs/symptoms/conditions/laboratory results associated with SARS-CoV-2 from unscheduled Covid illness visits which will then be used to create the efficacy endpoint dataset ADC19EF. The main SDTM domains that were used to create the ADSYMPT dataset were CE, CM, DS, HO, SUPPHO, FA (FACE), IS, LB, MB, MH, VS and the analysis dataset ADSL. Some of the important variables that make up this dataset are PARAMCD, PARAM, PARAMN, PARCAT1, PARCAT2, AVAL, AVALC, ADT, ASTDT, AENDT, VSSTRESU, MBMETHOD and ISMETHOD. Algorithms used to create each of these variables are included in the define.xml.

Protocol defined symptoms include "Chills, Diarrhea, Fever, New loss of taste or smell, New or increased cough, New or increased muscle pain, New or increased sore throat, Vomiting.".

These data were identified and captured in the ADSYMPT dataset as follows:

- From FA all records with FACAT = "EFFICACY" and FASCAT = "RESPIRATORY ILLNESS" provides the COVID-19 signs and symptoms.
- Subjects with local lab swab samples are identified using MB.MBTESTCD= "SARSCOV2" and MB.MBMETHOD = "IMMUNOCHROMATOGRAPHY".
- Subjects with central swab samples are identified using MB.MBTESTCD = "RTCOV2NS" and MB.MBMETHOD = "REVERSE TRANSCRIPTASE PCR".
- For the severe COVID-19 data from vital signs, subjects with admission to ICU, deaths, lab oxygenation data, ECG/oxygen therapy/intubation, etc., please refer to SAP Appendix 3 for more details

All COVID-19 signs, symptoms and conditions were defined as shown in the table below.

PARAMN	PARAMCD	PARAM	Derivation
1	CHILLS	CHILLS	Set to FA.FAOBJ when upcase(FA.FAOBJ) =
			"CHILLS" and FA.FACAT = "EFFICACY"
			and FA.FASCAT = "RESPIRATORY
			ILLNESS".
2	DIARRHEA	DIARRHEA	Set to FA.FAOBJ when upcase(FA.FAOBJ) =
			"DIARRHEA" and FA.FACAT =
			"EFFICACY" and FA.FASCAT =
			"RESPIRATORY ILLNESS".
3	FEVER	FEVER	Set to FA.FAOBJ when upcase(FA.FAOBJ) =
			"FEVER" and FA.FACAT = "EFFICACY"
			and FA.FASCAT = "RESPIRATORY
			ILLNESS".

Study C459			Analysis Data Reviewer's Guide
PARAMN	PARAMCD		Derivation
4	NLTSTSML	NEW LOSS OF TASTE OR SMELL	Set to FA.FAOBJ when upcase(FA.FAOBJ) = "NEW LOSS OF TASTE OR SMELL" and FA.FACAT = "EFFICACY" and FA.FASCAT = "RESPIRATORY ILLNESS".
5	NCOUG	NEW OR INCREASED COUGH	Set to FA.FAOBJ when upcase(FA.FAOBJ) = "NEW OR INCREASED COUGH" and FA.FACAT = "EFFICACY" and FA.FASCAT = "RESPIRATORY ILLNESS".
6	NMUSPN	NEW OR INCREASED MUSCLE PAIN	Set to FA.FAOBJ when upcase(FA.FAOBJ) = "NEW OR INCREASED MUSCLE PAIN" and FA.FACAT = "EFFICACY" and FA.FASCAT = "RESPIRATORY ILLNESS".
7	NSTBRTH	NEW OR INCREASED SHORTNESS OF BREATH	Set to FA.FAOBJ when upcase(FA.FAOBJ) = "NEW OR INCREASED SHORTNESS OF BREATH" and FA.FACAT = "EFFICACY" and FA.FASCAT = "RESPIRATORY ILLNESS".
8	NSRTHROT	NEW OR INCREASED SORE THROAT	Set to FA.FAOBJ when upcase(FA.FAOBJ) = "NEW OR INCREASED SORE THROAT" and FA.FACAT = "EFFICACY" and FA.FASCAT = "RESPIRATORY ILLNESS".
9	VOMIT	VOMITING	Set to FA.FAOBJ when upcase(FA.FAOBJ) = "VOMITING" and FA.FACAT = "EFFICACY" and FA.FASCAT = "RESPIRATORY ILLNESS".
11	NNSLCONG	NEW OR INCREASED NASAL CONGESTION	Set to "NEW OR INCREASED NASAL CONGESTION" when upcase(FA.FAOBJ) = "NEW OR INCREASED NASAL CONGESTION" or "NASAL CONGESTION" and FA.FACAT = "EFFICACY" and FA.FASCAT = "RESPIRATORY ILLNESS".
14	WHEEZ	NEW OR INCREASED WHEEZING	Set to "NEW OR INCREASED WHEEZING" when upcase(FA.FAOBJ) = "NEW OR INCREASED WHEEZING" or upcase(FA.FAOBJ) = "WHEEZING" and FA.FACAT = "EFFICACY" and FA.FASCAT = "RESPIRATORY ILLNESS".
15	FATIGUE	FATIGUE	Set to FA.FAOBJ when upcase(FA.FAOBJ) = "FATIGUE" and FA.FACAT = "EFFICACY" and FA.FASCAT = "RESPIRATORY ILLNESS".
16	HEADACHE	HEADACHE	Set to FA.FAOBJ when upcase(FA.FAOBJ) = "HEADACHE" and FA.FACAT = "EFFICACY" and FA.FASCAT = "RESPIRATORY ILLNESS".

Study C45			Analysis Data Reviewer's Guide
PARAMN	PARAMCD	PARAM	Derivation
17	RIHNRA	RHINORRHOEA	Set to "RHINORRHOEA" when
			upcase(FA.FAOBJ) contains "RUNNY
			NOSE" or upcase(FA.FAOBJ) =
			"RHINORRHOEA" and FA.FAOBJ ^=
			"NEW OR INCREASED NASAL
			DISCHARGE" and FA.FACAT =
			"EFFICACY" and FA.FASCAT =
			"RESPIRATORY ILLNESS".
18	NAUSEA	NAUSEA	Set to FA.FAOBJ when upcase(FA.FAOBJ) =
			"NAUSEA" and FA.FACAT = "EFFICACY"
			and FA.FASCAT = "RESPIRATORY
			ILLNESS".
25	SARDFN	SIGNIFICANT	Set to CE.CESCAT when CE.CESCAT =
		ACUTE RENAL	"SIGNIFICANT ACUTE RENAL
		DYSFUNCTION	DYSFUNCTION".
30	SAHDFN	SIGNIFICANT	Set to CE.CESCAT when CE.CESCAT =
		ACUTE HEPATIC	"SIGNIFICANT ACUTE HEPATIC
		DYSFUNCTION	DYSFUNCTION".
35	SANDFN	SIGNIFICANT	Set to CE.CESCAT when CE.CESCAT =
		ACUTE	"SIGNIFICANT ACUTE NEUROLOGIC
		NEUROLOGIC	DYSFUNCTION".
		DYSFUNCTION	
40	SARSCOV2	SEVERE ACUTE	Set to MB.MBTEST when
		RESP SYNDROME	upcase(MB.MBTESTCD) = "SARSCOV2"
		CORONAVIRUS 2	and MB.MBMETHOD =
			"IMMUNOCHROMATOGRAPHY".
41	RTCOV2NS	CEPHEID RT-PCR	Set to MB.MBTEST when
		ASSAY FOR SARS-	upcase(MB.MBTESTCD) = "RTCOV2NS"
		COV-2	and MB.MBMETHOD = "REVERSE
			TRANSCRIPTASE PCR".
50	RESP	RESPIRATORY	Set to VS.VSTEST when VS.VSTESTCD =
		RATE	"RESP".
51	HR	HEART RATE	Set to VS.VSTEST when VS.VSTESTCD =
			"HR".
52	OXYSAT	OXYGEN	Set to VS.VSTEST when VS.VSTESTCD =
		SATURATION	"OXYSAT"
53	DIABP	DIASTOLIC BLOOD	Set to VS.VSTEST when VS.VSTESTCD =
		PRESSURE	"DIABP".
54	SYSBP	SYSTOLIC BLOOD	Set to VS.VSTEST when VS.VSTESTCD =
		PRESSURE	"SYSBP".
60	PO2FIO2	PP ARTERIAL	Set to LB.LBTEST when LB.LBTEST = "PP
		O2/FRACTION	Arterial O2/Fraction Inspired O2".
		INSPIRED O2	
71	NIPPV	NON-INVASIVE	Set to PR.PRTRT when upcase(PR.PRTRT) =
		POSITIVE	"NON-INVASIVE POSITIVE PRESSURE
		PRESSURE	VENTILATION".
		VENTILATION	
74	MCHVENT	MECHANICAL	Set to PR.PRTRT when upcase(PR.PRTRT) =
		VENTILATION	"MECHANICAL VENTILATION".
76	HFOXTHRP	HIGH FLOW	Set to PR.PRTRT when upcase(PR.PRTRT) =
	•	OXYGEN	"HIGH FLOW OXYGEN THERAPY".

PARAMN	PARAMCD	PARAM	Derivation
80	VSOPRES	VASOPRESSO	Set to CM.CMSCAT when CM.CMCAT =
		RS AGENTS	"GENERAL CONCOMITANT
			MEDICATIONS" and CM.CMSCAT =
			"VASOPRESSORS AGENTS". Keep only
			one record per subject per CM.CMSTDTC
			where CM.CMTRT is not missing.
90	C19NIG	N-BINDING	Set to IS.ISTEST when IS.ISTESTCD =
		ANTIBODY	"C19NIG"
91	HCUICU	SUBJECT IN	Set to "SUBJECT IN ICU DUE TO
		ICU DUE TO	POTENTIAL COVID-19 ILLNESS" when
		POTENTIAL	HOTERM = "ICU" or (SUPPHO.QNAM =
		COVID-19	"HCUICU" and SUPPHO.QVAL = "Y").
		ILLNESS	
92	HCUHSP	HOSPITALIZE	Set to "HOSPITALIZED DUE TO COVID-19
		D DUE TO	ILLNESS" when SUPPHO.QNAM =
		COVID-19	"HCUHSP" and SUPPHO.QVAL = "Y"
95	PRCDTH	PRIMARY	Set to "PRIMARY CAUSE OF DEATH"
		CAUSE OF	when DD.DDTESTCD = "PRCDTH"
		DEATH	
96	SECDTH	SECONDARY	Set to DD.DDTEST when DD.DDTESTCD =
		CAUSE OF	"SECDTH"
		DEATH	
99	DEATH	DEATH	Set to DS.DSDECOD when DS.DSDECOD =
			"DEATH".

5.2.8 ADC19EF – Covid-19 Efficacy Analysis Dataset

The purpose of this dataset is to gather all signs/symptoms/conditions associated with SARS-COV-2 and derive case onset, severe illness onset, and surveillance time for various end point analyses. This dataset contains all derivations to account for surveillance times, and variables to support the first primary end point and secondary endpoints as defined in the Statistical Analysis Plan. Details around the derivation of surveillance times and the flow charts for identification of first and secondary primary end points are available in Appendix V and Appendix VI respectively. Detailed algorithms for each parameter are included in the define.xml.

Variables used to identify the primary end points as well the other endpoints of special interest are listed in the table below:

PARAMN	PARAMCD	PARAM
40	SARSCOV2	SEVERE ACUTE RESP SYNDROME CORONAVIRUS 2
41	RTCOV2NS	CEPHEID RT-PCR ASSAY FOR SARS-COV-2
90	C19NIG	N-BINDING ANTIBODY
92	HCUHSP	HOSPITALIZED DUE TO COVID-19 ILLNESS?
101	PRPDSAD	PRESENCE OF PROTOCOL DEFINED SYMPTOMS AFTER
102	PRCDCSAD	PRESENCE OF CDC DEFINED SYMPTOMS AFTER DOSE
103	SEVCVS	SEVERE COVID-19 SYMPTOMS - VITAL SIGNS
107	PRSVCSAD	PRESENCE OF PROTOCOL DEFINED SEVERE COVID-19
		SYMPTOMS AFTER DOSE
108	PRSCDCAD	PRESENCE OF CDC DEFINED SEVERE COVID-19 SYMPTOMS AFTER DOSE

PARAMNPARAMCDPARAM110NAATRADCOVID-19 NAAT RESULT AFTER DOSE120C19ONSTPROTOCOL DEFINED COVID-19 ILLNESS ONSET125CDCONSTCDC DEFINED COVID-19 ILLNESS ONSET130SEVCONSTPROTOCOL DEFINED SEVERE COVID-19 ILLNESS ONSET	
120 C19ONST PROTOCOL DEFINED COVID-19 ILLNESS ONSET 125 CDCONST CDC DEFINED COVID-19 ILLNESS ONSET	
125 CDCONST CDC DEFINED COVID-19 ILLNESS ONSET	
130 SEVCONST PROTOCOL DEFINED SEVERE COVID-19 ILLNESS ONS	
130 BE COUNT TROTOCOL DEL MED SEVERE COVID 17 REEMESS OF SE	ET
135 CDCSONST CDC DEFINED SEVERE COVID-19 ILLNESS ONSET	
141 ST1PD SUBJECT'S SURVEILLANCE TIME AFTER DOSE 1 FOR	
PROTOCOL DEFINED COVID19 SYMPTOMS	
SUBJECT'S SURVEILL ANCE TIME 7 DAYS AFTER DOSE	1 FOR
142 ST17PD PROTOCOL DEFINED COVID19 SYMPTOMS	1101
SUBJECT'S SURVEILL ANCE TIME AFTER DOSE 2 FOR	
143 ST2PD SOBJECT S SORVEHELANCE TIME AT TEX BOSE 2 TOR PROTOCOL DEFINED COVID19 SYMPTOMS	
SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE	2 EOD
144 ST27PD SOBJECT'S SORVEILLANCE TIME / DATS AFTER DOSE PROTOCOL DEFINED COVID19 SYMPTOMS	ZFOR
	F 2 FOD
SUBJECT'S SURVEILLANCE TIME 14 DAYS AFTER DOS	E Z FOR
PROTOCOL DEFINED COVID19 SYMPTOMS	TD C
SUBJECT'S SURVEILLANCE TIME AFTER DOSE 1 FOR C	CDC
DEFINED COVID19 SYMPTOMS	
SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE	1 FOR
CDC DEFINED COVID19 SYMPTOMS	
SUBJECT'S SURVEILLANCE TIME AFTER DOSE 2 FOR C	CDC
DEFINED COVID19 SYMPTOMS	
SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE	2 FOR
154 ST27CD CDC DEFINED COVID19 SYMPTOMS	
SUBJECT'S SURVEILLANCE TIME 14 DAYS AFTER DOS	E 2 FOR
155 ST214CD CDC DEFINED COVID19 SYMPTOMS	
161 ST1SE SUBJECT'S SURVEILLANCE TIME AFTER DOSE 1 FOR	
PROTOCOL DEFINED SEVERE COVID19 SYMPTOMS	
162 ST17SE SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE	1 FOR
PROTOCOL DEFINED SEVERE COVID19 SYMPTOMS	
163 ST2SE SUBJECT'S SURVEILLANCE TIME AFTER DOSE 2 FOR	
PROTOCOL DEFINED SEVERE COVID19 SYMPTOMS	
164 ST27SE SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE	2
FOR PROTOCOL DEFINED SEVERE COVID19 SYMPTOM	
165 ST214SE SUBJECT'S SURVEILLANCE TIME 14 DAYS AFTER DOS	
FOR PROTOCOL DEFINED SEVERE COVID19 SYMPTOM	IS
171 STC1SE SUBJECT'S SURVEILLANCE TIME AFTER DOSE 1 FOR C	CDC
DEFINED SEVERE COVID19 SYMPTOMS	
172 STC17SE SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE	.1
FOR CDC DEFINED SEVERE COVID19 SYMPTOMS	1
173 STC2SE SUBJECT'S SURVEILLANCE TIME AFTER DOSE 2 FOR C	'DC
DEFINED SEVERE COVID19 SYMPTOMS	
174 STC27SE SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE	2
FOR CDC DEFINED SEVERE COVID19 SYMPTOMS	2
175 STC214SE SUBJECT'S SURVEILLANCE TIME 14 DAYS AFTER DOS	E 2
	E Z
FOR CDC DEFINED SEVERE COVID19 SYMPTOMS	
SUBJECT'S SURVEILLANCE TIME AFTER DOSE 1 FOR	
PROTOCOL DEFINED COVIDING SYMPTOMS - ALL	
SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE	1
FOR PROTOCOL DEFINED COVID19 SYMPTOMS - ALL	

PARAMN PARAMCD		PARAM
		SUBJECT'S SURVEILLANCE TIME AFTER DOSE 2 FOR
203	ST2PDA	PROTOCOL DEFINED COVID19 SYMPTOMS - ALL
		SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE 2
204	ST27PDA	FOR PROTOCOL DEFINED COVID19 SYMPTOMS - ALL
		SUBJECT'S SURVEILLANCE TIME 14 DAYS AFTER DOSE 2
205	ST214PDA	FOR PROTOCOL DEFINED COVID19 SYMPTOMS - ALL
		SUBJECT'S SURVEILLANCE TIME AFTER DOSE 1 FOR CDC
211	ST1CDA	DEFINED COVID19 SYMPTOMS - ALL AVAILABLE
		SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE 1
212	ST17CDA	FOR CDC DEFINED COVID19 SYMPTOMS - ALL
		SUBJECT'S SURVEILLANCE TIME AFTER DOSE 2 FOR CDC
213	ST2CDA	DEFINED COVID19 SYMPTOMS - ALL AVAILABLE
		SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE 2
214	ST27CDA	FOR CDC DEFINED COVID19 SYMPTOMS - ALL
		SUBJECT'S SURVEILLANCE TIME 14 DAYS AFTER DOSE 2
215	ST214CDA	FOR CDC DEFINED COVID19 SYMPTOMS - ALL
		SUBJECT'S SURVEILLANCE TIME AFTER DOSE 1 FOR
221	ST1SEA	PROTOCOL DEFINED SEVERE COVID19 SYMPTOMS - ALL
		SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE 1
222	ST17SEA	FOR PROTOCOL DEFINED SEVERE COVID19 SYMPTOMS -
		ALL AVAILABLE
223	ST2SEA	SUBJECT'S SURVEILLANCE TIME AFTER DOSE 2 FOR
223		PROTOCOL DEFINED SEVERE COVID19 SYMPTOMS - ALL
		SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE 2
224	ST27SEA	FOR PROTOCOL DEFINED SEVERE COVID19 SYMPTOMS -
		ALL AVAILABLE
22.5	ST214SEA	SUBJECT'S SURVEILLANCE TIME 14 DAYS AFTER DOSE 2
225		FOR PROTOCOL DEFINED SEVERE COVID19 SYMPTOMS -
		ALL AVAILABLE SUBJECT'S SURVEILLANCE TIME AFTER DOSE 1 FOR CDC
231	STC1SA	DEFINED SEVERE COVID19 SYMPTOMS - ALL
		SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE 1
232	STC17SA	FOR CDC DEFINED SEVERE COVID19 SYMPTOMS - ALL
		SUBJECT'S SURVEILLANCE TIME AFTER DOSE 2 FOR CDC
233	STC2SA	DEFINED SEVERE COVID19 SYMPTOMS - ALL
	~~~	SUBJECT'S SURVEILLANCE TIME 7 DAYS AFTER DOSE 2
234	STC27SA	FOR CDC DEFINED SEVERE COVID19 SYMPTOMS - ALL
225	GT-C214GA	SUBJECT'S SURVEILLANCE TIME 14 DAYS AFTER DOSE 2
235	STC214SA	FOR CDC DEFINED SEVERE COVID19 SYMPTOMS - ALL
201	CT1DDV	SUBJECT'S SURVEILLANCE TIME AFTER DOSE 1 FOR
301	ST1PDX	PROTOCOL DEFINED COVID19 SYMPTOMS - CROSSOVER
221	CTC1CV	SUBJECT'S SURVEILLANCE TIME AFTER DOSE 1 FOR CDC
331	STC1SX	DEFINED SEVERE COVID19 SYMPTOMS - CROSSOVER

# 5.2.9 ADXB – Sequencing Analysis Dataset

The purpose of this dataset is to get SARS-CoV-2 lineage (WHO classification) phylogenetic analysis information for the COVID-19 cases. Key variable used for this analysis is FC19D27 that indicates subjects who had their first COVID-19 occurrence 7 days post dose 2.

# 6. Data Conformance Summary

## **6.1 Conformance Inputs**

Was a validator used to evaluate conformance? Yes

If yes, specify the version(s) of the validation rules: Pinnacle 21 Enterprise version 4.2.1 Validation Engine version 2010.1

Were sponsor-defined validation rules used to evaluate conformance? No

If yes, describe any significant sponsor-defined validation rules: NA

Were the ADaM datasets evaluated in relation to define.xml? Yes

Was define.xml evaluated? Yes

Provide any additional compliance evaluation information: NA

6.2 Issues Summary

Issues Summary						
Check ID	Diagnostic Message	FDA Severity	Dataset	Count (Issue Rate)	Explanation	
AD0034	CDRMUPFL value is not Y or null	Error	ADC19EF	119345 (98.14%)	CDRMUPFL is not defined as parameter level flags. It is subject level flags based on series of events therefore having values of Y/N are acceptable.	
AD0034	PDRMUPFL value is not Y or null	Error	ADC19EF	119455 (98.23%)	PDRMUPFL is not defined as parameter level flags. It is subject level flags based on series of events therefore having values of Y/N are acceptable.	
AD0099	ASTDY is greater than AENDY	Error	ADC19EF	234 (0.25%)	ASTDT is greater than AENDT in some cases when deriving surveillance times since surveillance times are defined to start at various time points in the study for a given subject, it possible that subject's surveillance time may have come to an end prior to starting due a positive Covid case or other definitions described in specifications and in these instances ASTDT would be greater than AENDT. As a result, ASTDY is also greater than AENDY.	
AD0253	Record key from SDTM AE is not traceable to ADaM ADAE (not enough ADAE recs)	Error	AE	481 (30.87%)	AECAT="REACTOGENICITY" records (from ediary) was not kept in ADAE (Based on flat model).	
AD0361	Value of ASTDT is greater than value of AENDT	Error	ADC19EF	234 (0.25%)	ASTDT is greater than AENDT in some cases when deriving surveillance times since surveillance times are defined to start at various time points in the study for a given subject, it possible that subject's surveillance time may have come to an end prior to starting due a positive Covid case or other definitions described in specifications and in these instances ASTDT would be greater than AENDT.	
AD1012	Secondary custom variable is present but its primary variable is not present	Warning	ADDS	1 (7.14%)	AD1012 check is limited to "standard" ADaM variables explicitly defined in ADaM IG documents. M1P2EXC is the variable to capture the necessary information. Any new custom variables added to analysis data are out-of-scope for AD1012 check.	

ady C4591001 Analysis Data Reviewer's Gu						
Check ID	Diagnostic Message	FDA Severity	Dataset	Count (Issue Rate)	Explanation	
AD1012	Secondary custom variable is present but its primary variable is not present	Warning	ADSL	5 (21.74%)	AD1012 check is limited to "standard" ADaM variables explicitly defined in ADaM IG documents.  FUP1CA1N/SCREEN/FUP2CA1N /FPX1CA1N/FUP2CA2N are the variable to capture the necessary information. Any new custom variables added to analysis data are out-of-scope for AD1012 check.	
CT2002	RACE value not found in 'Race' extensible codelist	Warning	ADC19EF	2919 (2.40%)	New terms were added to extensible codelist RACE for the study protocol needs: Multiple	
CT2002	RACE value not found in 'Race' extensible codelist	Warning	ADCM	3 (0.73%)	New terms were added to extensible codelist RACE for the study protocol needs: Multiple	
CT2002	RACE value not found in 'Race' extensible codelist	Warning	ADDS	161 (2.44%)	New terms were added to extensible codelist RACE for the study protocol needs: Multiple	
CT2002	RACE value not found in 'Race' extensible codelist	Warning	ADDV	87 (2.61%)	New terms were added to extensible codelist RACE for the study protocol needs: Multiple	
CT2002	RACE value not found in 'Race' extensible codelist	Warning	ADMH	120 (2.74%)	New terms were added to extensible codelist RACE for the study protocol needs: Multiple	
CT2002	RACE value not found in 'Race' extensible codelist	Warning	ADSL	53 (2.34%)	New terms were added to extensible codelist RACE for the study protocol needs: Multiple	
CT2002	RACE value not found in 'Race' extensible codelist	Warning	ADSYMPT	793 (2.28%)	New terms were added to extensible codelist RACE for the study protocol needs: Multiple	

# 7. Submission of Programs

All programs for analysis datasets as well as primary safety and efficacy results are submitted as shown below. All programs were created on a SAS platform using 9.4. ADSL.sas (adsl-sas.txt) must be run first before any other ADaM datasets; all other programs are dependent on ADSL output. ADXB is dependent on ADC19EF. ADC19EF program is dependent on ADSYMPT. Annotated Mock Tables for each output are also included for reference in Appendix I.

7.1 ADaM Programs

Program Name			
adsl-sas.txt	adsl.xpt	dm suppdm ex suppex ds suppds is co lb cm ie dv suppdv vs sv mb mh face ce ho suppho	NA
adds-sas.txt	adds.xpt	ds suppds sv adsl	NA
adae-sas.txt	adae.xpt	ae suppae ex adsl	NA
addv-sas.txt	addv.xpt	dv suppdv adsl	NA
adcm-sas.txt	adcm.xpt	cm suppem adsl	NA
admh-sas.txt	admh.xpt	mh suppmh adsl	NA
adc19ef-sas.txt	adc19ef.xpt	adsympt adsl	NA
adsympt-sas.txt	adsympt.xpt	ce cm ds face ho suppho is mb mh lb vs adsl	NA
adxb-sas.txt	adxb.xpt	mb adsl adc19ef	NA

# 7.2 Analysis Output Programs

Table	Program	Output Name	Title	Input	Population Subset used
	Name				
1	adsl-s005-all1-	adsl s005 all1 ped	Demographic Characteristics – Phase 2/3	ADSL	ADSL.SAFFL="Y" and
	ped6-saf-sas.txt	6 saf.html	Subjects 12 Through 15 Years of Age – Safety		ADSL.AGEGR4N=1
			Population		
2	adds-s002-all1-	adds s002 all1 ped	Disposition of All Randomized Subjects -	ADSL,	ADSL.RANDFL="Y" and
	ped6-sas.txt	6 html	Phase 2/3 Subjects 12 Through 15 Years of	ADDS	ADSL.AGEGR4N =1
			Age		
3	adsl-fu-d21-ped6-	adsl fu d21 ped6 h	Follow-up Time After Dose 2 – Phase 2/3	ADSL	ADSL.SAFFL="Y" and

Table	Program Name	Output Name	Title Input		Population Subset used
	sas.txt	<u>tml</u>	Subjects 12 Through 15 Years of Age – Safety Population		ADSL.AGEGR4N=1
4	adae-s092-all- unb1-ped6-sas.txt	adae s092 all unb 1 ped6.html	Incidence Rates of at Least 1 Adverse Event From Dose 1 to Unblinding Date – Blinded Placebo-Controlled Follow-up Period – Phase 2/3 Subjects 12 Through 15 Years of Age – Safety Population	ADSL ADAE	ADSL.SAFFL="Y" and ADSL.AGEGR4N =1
5	adae-s091-6m1- ped6-sas.txt	adae s091 6m1 pe d6 html	Number (%) of Subjects Reporting at Least 1 Adverse Event From Dose 1 to 6 Months After Dose 2 – Subjects With at Least 6 Months of Follow-up Time After Dose 2 – Phase 2/3 Subjects 12 Through 15 Years of Age (Subjects Who Originally Received BNT162b2) – Safety Population	ADSL ADAE	ADSL.SAFFL="Y" and ADSL.TRT01AN=8 and ADSL.DS3KFL="Y" and ADSL.AGEGR4N=1
6	adae-s092-cut1- ped6-sas.txt	adae s092 cut1 pe d6 html	Incidence Rates of at Least 1 Adverse Event From Dose 3 to Data Cutoff Date (02SEP2021) – Open-Label Follow-up Period – Subjects Who Originally Received Placebo and Then Received BNT162b2 After Unblinding – Phase 2/3 Subjects 12 Through 15 Years of Age – Safety Population	ADSL ADAE	ADSL.SAFFL="Y" and ADSL.TRT01AN=9 and ADSL.TRT02AN=8 and ADSL.VAX201DT > . and ADSL.X1CSRDT > . and ADSL.AGEGR4N=1
7	adae-s091-all- unb2-ped6-sas.txt	adae s091 all unb 2 ped6.html	Number (%) of Subjects Reporting at Least 1 New Adverse Event After the EUA Snapshot, From Dose 1 to Unblinding Date – Blinded Placebo-Controlled Follow-up Period – Phase 2/3 Subjects 12 Through 15 Years of Age – Safety Population	ADSL ADAE	ADSL.SAFFL="Y" and (ADSL.EOSDCDT gt input("13MAR2021", date9.) or ADSL.EOSDCDT =. ) and ADSL.AGEGR4N=1
8	adae-s130-sae- unb2-ped6-sas.txt	adae s130 sae unb 2 ped6.html	Number (%) of Subjects Reporting at Least 1 New Serious Adverse Event After the EUA Snapshot, From Dose 1 to Unblinding Date, by System Organ Class and Preferred Term –	ADSL ADAE	ADSL.SAFFL="Y" and (ADSL.EOSDCDT gt input("13MAR2021", date9.) or ADSL.EOSDCDT =. ) and ADSL.AGEGR4N =1

Table	Program Name	Output Name	Title	Input	Population Subset used
			Blinded Placebo-Controlled Follow-up Period		
			- Phase 2/3 Subjects 12 Through 15 Years of		
			Age – Safety Population		
9	adae-s091-6m2-	adae s091 6m2 pe	Number (%) of Subjects Reporting at Least 1	ADSL	ADSL.SAFFL="Y" and
	ped6-sas.txt	<u>d6 html</u>	New Adverse Event After the EUA Snapshot,	ADAE	ADSL.TRT01AN=8 and
			From Dose 1 to 6 Months After Dose 2 –		ADSL.DS3KFL="Y" and
			Subjects With at Least 6 Months of Follow-up		ADSL.AGEGR4N =1
			Time After Dose 2 – Phase 2/3 Subjects 12		
			Through 15 Years of Age (Subjects Who		
			Originally Received BNT162b2) - Safety		
			Population		
10	adc19ef-ve-cov-	adc19ef ve cov 7p	Vaccine Efficacy – First COVID-19	ADSL	ADSL.EVALEFFL="Y" and
	7pd2-peds-wo-	d2 peds wo eval.h	Occurrence From 7 Days After Dose 2 –	ADC19EF	ADC19EF.PDP27FL="Y" and
	eval-sas.txt	<u>tml</u>	Blinded Placebo-Controlled Follow-up Period	ADSYMPT	ADSL.AGEGR4N=1
			- Subjects 12 Through 15 Years of Age and		
			Without Evidence of Infection Prior to 7 Days		
			After Dose 2 – Evaluable Efficacy (7 Days)		
			Population		
11	adc19ef-ve-cov-	adc19ef ve cov 7p	Vaccine Efficacy – First COVID-19	ADSL	ADSL.EVALEFFL="Y" and
	7pd2-peds-eval-	d2 peds eval.html	Occurrence From 7 Days After Dose 2 –	ADC19EF	ADSL.AGEGR4N =1
	sas.txt		Blinded Placebo-Controlled Follow-up Period	ADSYMPT	
			- Subjects 12 Through 15 Years of Age and		
			With or Without Evidence of Infection Prior to		
			7 Days After Dose 2 – Evaluable Efficacy (7		
			Days) Population		
12	adc19ef-ve-cov-	adc19ef ve cov 7p	Vaccine Efficacy – First COVID-19	ADSL	ADSL.EVALEFFL="Y" and
	7pd2-p-wo-sg-	d2 p wo sg eval h	Occurrence From 7 Days After Dose 2, by	ADC19EF	ADC19EF.PDP27FL="Y" and
	eval-sas.txt	<u>tml</u>	Subgroup - Blinded Placebo-Controlled	ADSYMPT	ADSL.AGEGR4N=1
			Follow-up Period – Subjects 12 Through 15		
			Years of Age and Without Evidence of		
			Infection Prior to 7 Days After Dose 2 –		

# Analysis Data Reviewer's Guide

Table	Program Name	Output Name	Title	Input	Population Subset used
			Evaluable Efficacy (7 Days) Population		
13	adc19ef-ve-cov-	adc19ef ve cov 7p	Vaccine Efficacy – First COVID-19	ADSL	ADSL.EVALEFFL="Y" and
	7pd2-p-sg-eval-	d2 p sg eval html	Occurrence From 7 Days After Dose 2, by	ADC19EF	ADSL.AGEGR4N =1
	sas.txt		Subgroup – Blinded Placebo-Controlled	ADSYMPT	
			Follow-up Period – Subjects 12 Through 15		
			Years of Age and With or Without Evidence of		
			Infection Prior to 7 Days After Dose 2 –		
			Evaluable Efficacy (7 Days) Population		
14	adsl-demo-7d-	adsl demo 7d ped	Demographic Characteristics - Blinded	ADSL	ADSL.EVALEFFL="Y" and
	peds-eval-eff-	s eval eff.html	Placebo-Controlled Follow-up Period –	ADC19EF	ADC19EF.PDP27FL="Y" and
	sas.txt		Subjects 12 Through 15 Years of Age and	ADSYMPT	ADSL.AGEGR4N=1
			Without Evidence of Infection Prior to 7 Days		
			After Dose 2 – Evaluable Efficacy (7 Days)		
			Population		
15	adsl-demo-7d-	adsl demo 7d ww	Demographic Characteristics - Blinded	ADSL	ADSL.EVALEFFL="Y" and
	wwo-peds-eval-	o peds eval eff.ht	Placebo-Controlled Follow-up Period -	ADC19EF	ADSL.AGEGR4N =1
	eff-sas.txt	<u>ml</u>	Subjects 12 Through 15 Years of Age and	ADSYMPT	
			With or Without Evidence of Infection Prior to		
			7 Days After Dose 2 – Evaluable Efficacy (7		
			Days) Population		

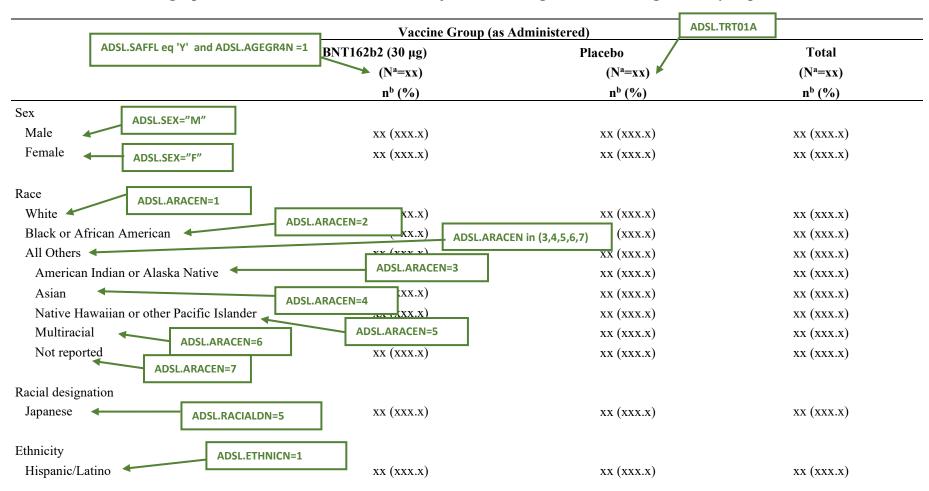
# 8. Appendix

#### **Appendix I: Annotated Mocks for Key Tables**

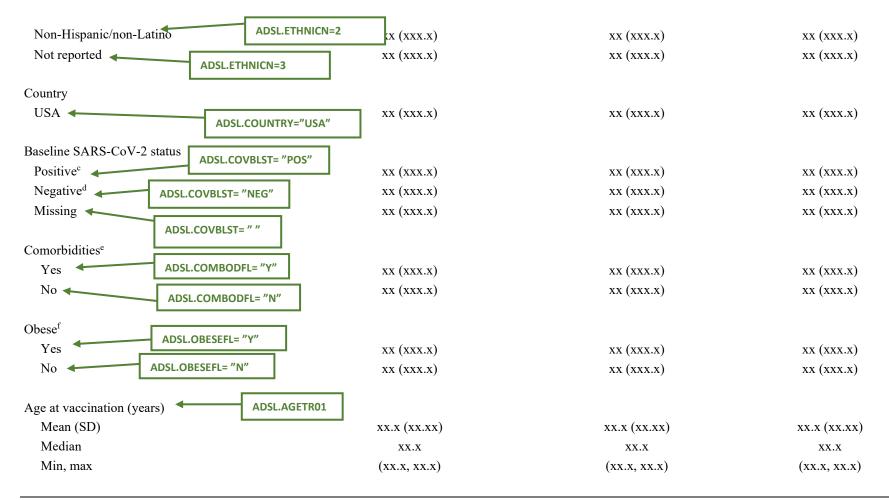
General note: Each row subsetting is based on N criteria plus additional criteria annotated on the mocks.

#### **Mock Table 1**

#### Demographic Characteristics – Phase 2/3 Subjects 12 Through 15 Years of Age – Safety Population



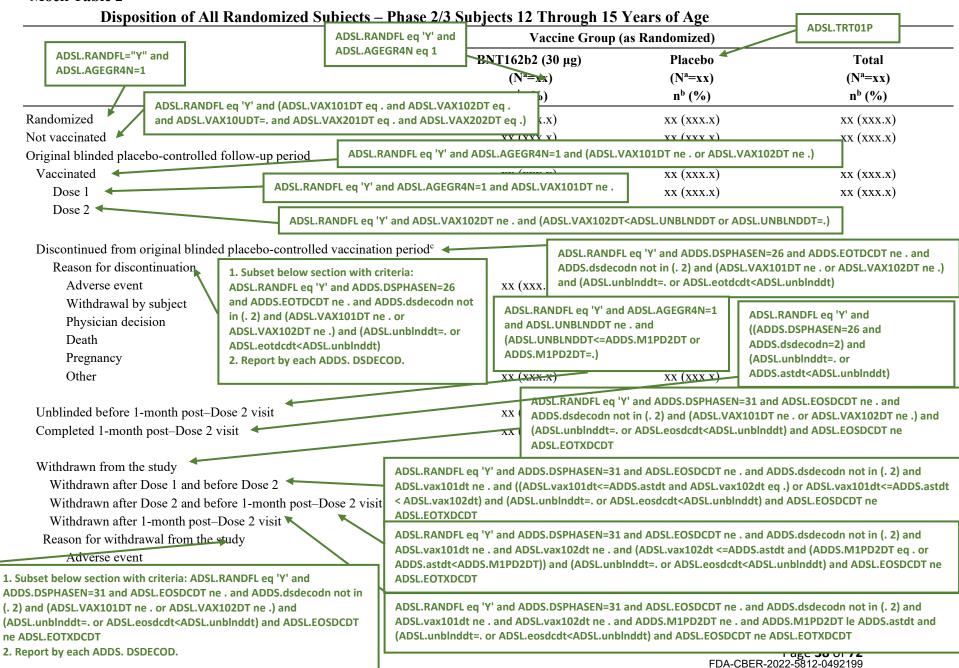
# Analysis Data Reviewer's Guide



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

- a. N = number of subjects in the specified group, or the total sample. This value is the denominator for the percentage calculations.
- b. n = Number of subjects with the specified characteristic.
- c. Positive N-binding antibody result at Visit 1, positive NAAT result at Visit 1, or medical history of COVID-19.
- d. Negative N-binding antibody result at Visit 1, negative NAAT result at Visit 1, and no medical history of COVID-19.
- e. Number of subjects who have 1 or more comorbidities that increase the risk of severe COVID-19 disease: defined as subjects who had at least one of the Charlson comorbidity index category or BMI  $\geq$ 95th percentile.
- f. Obese is defined as BMI ≥95th percentile from the growth chart. Refer to the CDC growth charts at https://www.cdc.gov/growthcharts/html_charts/bmiagerev.htm. PFIZER CONFIDENTIAL SDTM Creation: DDMMMYYYY (HH:MM) Source Data: xxxx Table Generation: DDMMMYYYY (HH:MM)

(Data Cutoff date: ddMmmYYYY, Data Snapshot Date: ddMmmYYYY) Output File: (CDISC)/C4591001/abcd_XNNN

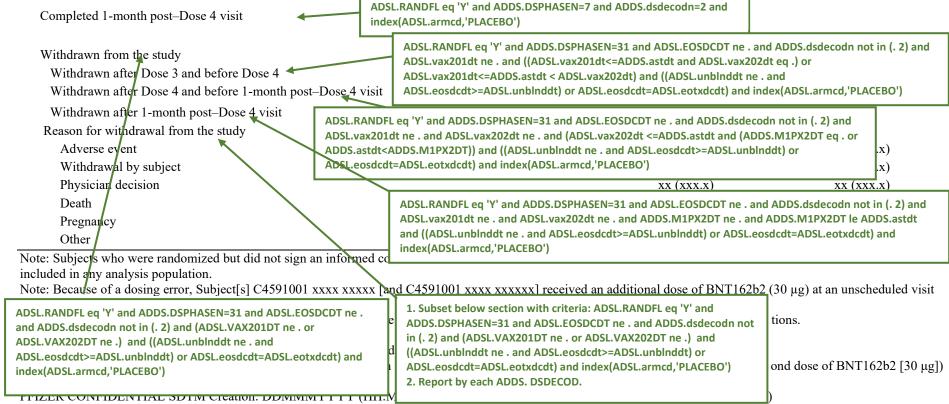


## Analysis Data Reviewer's Guide

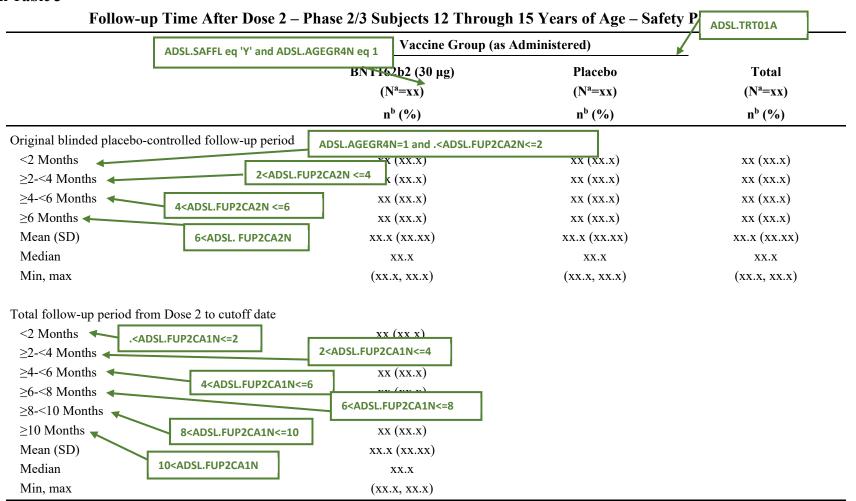
Death Pregnancy			xx (xxx.x) xx (xxx.x)	xx (xxx.x) xx (xxx.x)	xx (xxx.x)
Other	ADSL.RANDFL eq 'Y' and (ADSL.	UNBLNDDT ne . or ADS	L.vax201dt ne .) and index(ADSL.arm, BN		xx (xxx.x)
Open-label follow-uj Originally random	ized to BNT162b2		nd and (ADSL.UNBLNDDT ne . or ADSL.VA SL.UNBLNDDT) or (index(ADSL.VAX10u,'E		
Completed 1-mo	2/unplanned dose onth post–Dose 2 visit onth post–Dose 2 visit	ADSL.RANDFL eq 'Y' and ((ADDS.DSPHASEN=26 and ADDS.dsdecodn=2)) and (ADSL.unblnddt ne . and ADDS.astdt>=ADSL.unblnddt) and index(ADSL.arm, BNT')			
Withdrawn from		ADSL.RANDFL eq 'Y' and ADSL.vax101dt ne . and ADSL.vax102dt ne . and ADDS.M6PD2DT ne . and (ADSL.UNBLNDDT ne . or ADSL.vax201dt ne .) and index(ADSL.arm, 'BNT')			
Reason for with	er 6-month post–Dose 2 visit drawal from the study		(' and ADDS.DSPHASEN=31 and ADSL.EOS D2DT ne .) and (ADSL.unbInddt ne . and A		
Adverse ever Withdrawal b Physician dec Death	by subject	(ADSL.VAX101D	'Y' and ADDS.DSPHASEN=31 and ADSL.E Tne . or ADSL.VAX102DT ne .) and (ADDS. ne . and ADSL.eosdcdt>=ADSL.unblnddt) a	.M6PD2DT=. or ADDS.M6PD2D	
Pregnancy Other		ADSL.vax10	FL eq 'Y' and ADDS.DSPHASEN=31 and AD 1dt ne . and ADSL.vax102dt ne . and ADD nddt ne . and ADSL.eosdcdt>=ADSL.unbln	S.M6PD2DT ne . and ADDS.M6	PD2DT le ADDS.astdt and
Received Dose 3	ized to placebo n the study after unblinding and 3 (first dose of BNT162b2 [30 p 4 (second dose of BNT162b2 [30	and ADDS.dsdecodr	tion with criteria: ADSL.RANDFL eq 'Y' and not in (. 2) and (ADSL.VAX101DT ne . or .=ADSL.unblnddt) and index(ADSL.arm,'BNDDS. DSDECOD.	ADSL.VAX102DT ne .) and (ADS	
		1	ADSL.RANDFL eq 'Y' ADSL.AGEGR4N=1 and	d (ADSL.UNBLNDDT ne . or ADS	SL.vax201dt ne .) and
Reason for disc Adverse eve	index(ADSL.VAX201,'BNT') and	cination period	ADSL.RANDFL eq 'Y' and ADDS.DSPHASEN and (ADSL.VAX201DT=. and ADSL.VAX202 ADSL.eosdcdt>=ADSL.unbInddt) and inde	2DT=.) and (ADSL.unbinddt ne	
ADSL.RANDFL eq 'Y' and index(ADSL.vAX202,'BNT') and index(ADSL.armcd,'PLACEBO')  ADSL.RANDFL eq 'Y' and ADDS.DS ADSL.EOTXDCDT ne . and ADDS.d and ADSL.vax201dt ne . and index(ADSL.armcd,'PLACEBO')			Subset below section with critery     ADSL.EOTXDCDT ne . and ADDS.dsc     index(ADSL.armcd, 'PLACEBO')     Report by each ADDS. DSDECOD	decodn not in (. 2) and ADSL.va	

## Study C4591001

## Analysis Data Reviewer's Guide



(Data Cutoff date: ddMmmYYYY, Data Snapshot Date: ddMmmYYYY) Output File: (CDISC)/C4591001/abcd XNNN



a. N = number of subjects in the specified group, or the total sample. This value is the denominator for the percentage calculations.

PFIZER CONFIDENTIAL SDTM Creation: DDMMMYYYY (HH:MM) Source Data: abcdefgh Table Generation: DDMMMYYYY (HH:MM) (Data Cutoff date: ddMmmYYYY, Data Snapshot Date: ddMmmYYYY) Output File: (CDISC)/C4591001/abcd XNNN

n = Number of subjects with the specified characteristic.

**Mock Table 4** 

Incidence Rates of at Least 1 Adverse Event From Dose 1 to Unblinding Date – Blinded Placebo-Controlled Follow-up Period

- Phase 2/3 Subjects 12 Through 15 Years of Age – Safety Population

Vaccine Group (as Administered)

BNT162b2 (30 µg)

ADSL.TRT01A

Placebo

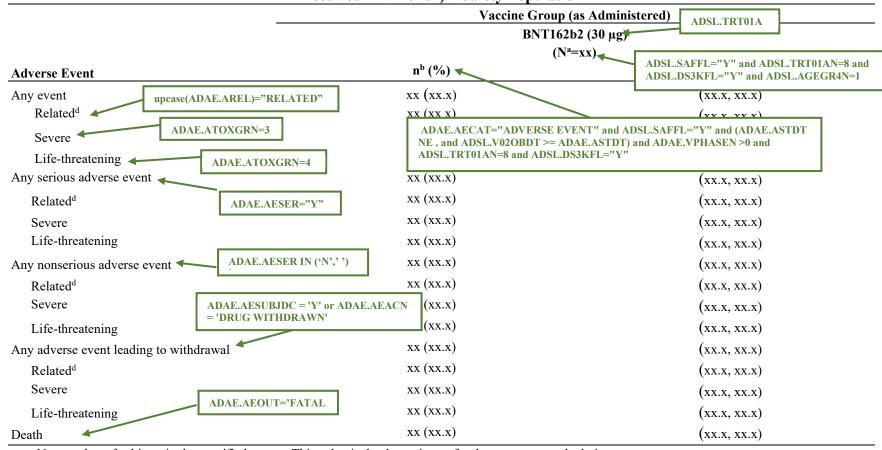
Placebo

			Vaccine Group (as	Administered)	ADSL.AGE	GR4N=1
		BNT162b2 (30 $(N^a=xxx, TE^b=x)$	A DEL	FRT01A (N	Placebo  a=xxx, TEb =xx	xx.x)
Adverse Event	n° (%)	IR ^d	(95% CI°)	n° (%)	IR ^d	(95% CI°)
Any event upcase(ADAE,AF	REL)="RELATED"	X.X	(xx.x, xx.x)	xx (xx.x)	x.x	(xx.x, xx.x)
Relatedf	×x (xx.x)	x.x	(xx.x, xx.x)	xx (xx.x)	v v	(vv v vv v
Severe ADAE.ATOX	$GRN=3 \qquad (xx.x)$	X.X	(xx.x, xx.x)	xx (xx.x)	SUM(ADSL.FUP	1UNB)/(356.25*100)
Any serious adverse event	TOXGRN=4 X.X) AESER="Y" X.X)		"ADVERSE EVENT" and N eq 1 and (. <adsl.vax1< td=""><td></td><td></td><td></td></adsl.vax1<>			
Severe	xx (xx.x)	X.X	(xx.x, xx.x)	xx (xx.x)	x.x	(xx.x, xx.x)
Life-threatening	xx (xx x)	X.X	(xx.x, xx.x)	xx (xx.x)	x.x	(xx.x, xx.x)
Any nonserious adverse event -	ADAE.AESER in ('N',' ')	X.X	(xx.x, xx.x)	xx (xx.x)	X.X	(xx.x, xx.x)
Related ^f	xx (xx.x)	x.x	(xx.x, xx.x)	xx (xx.x)	X.X	(xx.x, xx.x)
Severe	ADAE,AESUBJI	DC = 'Y' or ADAE AE	CACN (XX.X, XX.X)	xx (xx.x)	X.X	(xx.x, xx.x)
Life-threatening	= 'DRUG WITH	DRAWN'	(xx.x, xx.x)	xx (xx.x)	X.X	(xx.x, xx.x)
Any adverse event leading to withdraws	al xx (xx.x)	X.X	(xx.x, xx.x)	xx (xx.x)	X.X	(xx.x, xx.x)
Related ^f	xx (xx.x)	X.X	(xx.x, xx.x)	xx (xx.x)	X.X	(xx.x, xx.x)
Severe	xx (xx.x)	X.X	(xx.x, xx.x)	xx (xx.x)	X.X	(xx.x, xx.x)
Life-threatening ADAE.AEOUT	='FATAL (xx.x)	X.X	(xx.x, xx.x)	xx (xx.x)	X.X	(xx.x, xx.x)
Death	^ (xx.x)	X.X	(xx.x, xx.x)	xx (xx.x)	X.X	(xx.x, xx.x)

- a. N = number of subjects in the specified group. This value is the denominator for the percentage calculations.
- b. TE = total exposure time in 100 person-years across all subjects in the specified group. Exposure time for a subject is the time from Dose 1 to the end of the blinded follow-up period. This value is the denominator for the incidence rate calculation.
- c. n = Number of subjects reporting at least 1 occurrence of the specified event category. For "any event," <math>n = number of subjects reporting at least 1 occurrence of any event.
- d. Incidence rate (IR) is calculated as number of subjects reporting the event/total exposure time in 100 person-years (PY) across all subjects in the specified group.
- e. 2-sided CI based on Poisson distribution.
- f. Assessed by the investigator as related to investigational product.

PFIZER CONFIDENTIAL SDTM Creation: DDMMMYYYY (HH:MM) Source Data: xxxx Table Generation: DDMMMYYYY (HH:MM) (Data Cutoff date: ddMmmYYYY, Data Snapshot Date: ddMmmYYYY) Output File: (CDISC)/C4591001/abcd_XNNN

Number (%) of Subjects Reporting at Least 1 Adverse Event From Dose 1 to 6 Months After Dose 2 – Subjects With at Least 6 Months of Follow-up Time After Dose 2 – Phase 2/3 Subjects 12 Through 15 Years of Age (Subjects Who Originally Received BNT162b2) – Safety Population

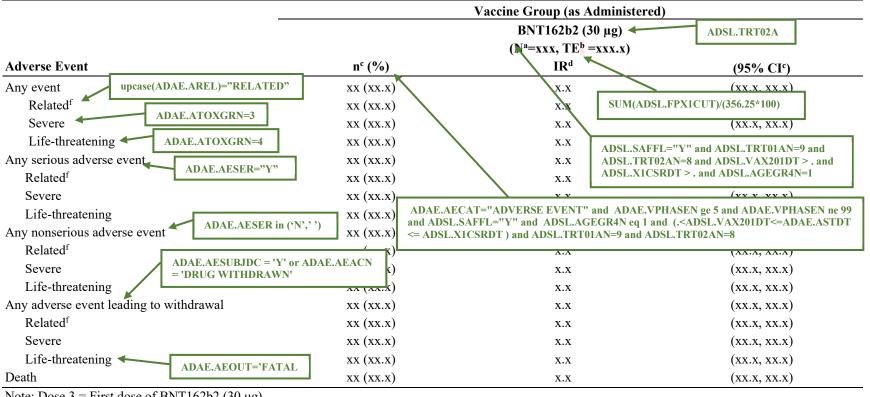


- a. N = number of subjects in the specified group. This value is the denominator for the percentage calculations.
- b. n = Number of subjects reporting at least 1 occurrence of the specified event category. For "any event," <math>n = number of subjects reporting at least 1 occurrence of any event.
- c. Exact 2-sided CI based on the Clopper and Pearson method.
- d. Assessed by the investigator as related to investigational product.

PFIZER CONFIDENTIAL SDTM Creation: DDMMMYYYY (HH:MM) Source Data: xxxx Table Generation: DDMMMYYYY (HH:MM)

(Data Cutoff date: ddMmmYYYY, Data Snapshot Date: ddMmmYYYY) Output File: (CDISC)/C4591001/abcd_XNNN

Incidence Rates of at Least 1 Adverse Event From Dose 3 to Data Cutoff Date (DDMMMYYYY) – Open-Label Follow-up Period – Subjects Who Originally Received Placebo and Then Received BNT162b2 After Unblinding – Phase 2/3 Subjects 12 Through 15 Years of Age – Safety Population



Note: Dose  $3 = First dose of BNT162b2 (30 \mu g)$ .

- N = number of subjects in the specified group. This value is the denominator for the percentage calculations.
- TE = total exposure time in 100 person-years across all subjects in the specified group. Exposure time for a subject is the time from Dose 3 to data cutoff date. This value is the denominator for the incidence rate calculation.
- n = Number of subjects reporting at least 1 occurrence of the specified event category. For "any event," n = number of subjects reporting at least 1 occurrence of any event.
- Incidence rate (IR) is calculated as number of subjects reporting the event/total exposure time in 100 person-years (PY) across all subjects in the specified group.
- 2-sided CI based on Poisson distribution.
- Assessed by the investigator as related to investigational product.

PFIZER CONFIDENTIAL SDTM Creation: DDMMMYYYY (HH:MM) Source Data: xxxx Table Generation: DDMMMYYYY (HH:MM) (Data Cutoff date: ddMmmYYYY, Data Snapshot Date: ddMmmYYYY) Output File: (CDISC)/C4591001/abcd XNNN

Mock Table 7

Number (%) of Subjects Reporting at Least 1 New Adverse Event After the EUA Snapshot, From Dose 1 to Unblinding

Date – Blinded Placebo-Controlled Follow-up Period – Phase 2/3 Subjects 12 Through 15 Years of Age – Safety

**Population** Vaccine Group (as Administered) BNT162b2 (30 μg) ADSL.TRT01A Placebo  $(N^a=xx)$  $(N^a=xx)$ n^b (%) (95% CI^c) (050/2 CIC) **Adverse Event** ADSL.SAFFL="Y" and (ADSL.EOSDCDT gt Any event upcase(ADAE.AREL)="RELATED" (xx.x)(xx.x, xx.x)input("13MAR2021", date9.) or ADSL.EOSDCDT =. ) and ADSL.AGEGR4N=1 Relatedd  $\overline{xx}$  (xx.x) (xx.x, xx.x)ADAE.ATOXGRN=3 Severe xx(xx.x)xx(xx.x)(xx.x, xx.x)(xx.x, xx.x)ADAE.ATOXGRN=4 xx(xx.x)xx(xx.x)Life-threatening (xx.x, xx.x)(xx.x. xx.x)Any serious adverse event ADAE.AECAT="ADVERSE EVENT" and ADAE.DATCHGFL="Y" and ADAE.VPHASEN >0 and ADAE.AESER="Y" ADSL.SAFFL="Y" and ADSL.AGEGR4N eq 1 and (.<ADSL.VAX101DT<=ADAE.ASTDT <= Relatedd ADSL.BDCSRDT) XX (XX.X) XX (XX.X) Severe (XX.X, XX.X) (XX.X, XX.X) Life-threatening vv (xx.x) xx (xx.x) (xx.x, xx.x)(xx.x, xx.x)ADAE.AESER IN ('N'.' ') (x.x xx(xx.x)Any nonserious adverse event (xx.x, xx.x)(xx.x, xx.x)xx(xx.x)Related^d (xx.x, xx.x)xx(xx.x)(xx.x, xx.x)xx(xx.x)(xx.x, xx.x)(xx.x, xx.x)Severe ADAE, AESUBJDC = 'Y' or ADAE, AEACN = 'DRUG WITHDRAWN' xx(xx.x)(xx.x, xx.x)(xx.x, xx.x)Life-threatening xx (xx.x) Any adverse event leading to withdrawal xx(xx.x)(xx.x, xx.x)(xx.x, xx.x)xx(xx.x)Related^d (xx.x, xx.x)xx(xx.x)(xx.x, xx.x)xx(xx.x)xx(xx.x)(xx.x, xx.x)(xx.x, xx.x)Severe

Abbreviation: EUA = emergency use authorization.

Life-threatening

Death

(xx.x, xx.x)

(xx.x, xx.x)

xx(xx.x)

xx(xx.x)

ADAE.AEOUT='FATAL

(xx.x, xx.x)

(xx.x, xx.x)

xx(xx.x)

xx(xx.x)

a. N = number of subjects in the specified group, subjects who end of study before EUA snapshot are not included. This value is the denominator for the percentage calculations.

b. n = Number of subjects reporting at least 1 occurrence of the specified event category. For "any event," <math>n = number of subjects reporting at least 1 occurrence of any event.

e. Exact 2-sided CI based on the Clopper and Pearson method.

d. Assessed by the investigator as related to investigational product.

PFIZER CONFIDENTIAL SDTM Creation: DDMMMYYYY (HH:MM) Source Data: xxxx Table Generation: DDMMMYYYY (HH:MM)

(Data Cutoff date: ddMmmYYYY, Data Snapshot Date: ddMmmYYYY) Output File: (CDISC)/C4591001/abcd_XNNN

Number (%) of Subjects Reporting at Least 1 New Serious Adverse Event After the EUA Snapshot, From Dose 1 to Unblinding Date, by System Organ Class and Preferred Term – Blinded Placebo-Controlled Follow-up Period – Phase

2/3 Subjects 12 Through 15 Years of Age – Safety Population ADAE.AEBODSYS **Vaccine Group (as Administered)** BNT162b2 (30 µg) Placebo ADSL.TRT01A  $(N^a=xx)$  $(N^a + xx)$ **System Organ Class** n^b (%) **Preferred Term** (95% CIc) ADSL.SAFFL="Y" and (ADSL.EOSDCDT gt input("13MAR2021", date9.) or <Any event> xx(xx.x)(xx.x, xx.x)xx (xx ADSL.EOSDCDT =. ) and ADSL.AGEGR4N=1 ADAE.AEDECOD <System organ class> xx (xx.x) (xx, x, xx.x)xx (xx.x) (xx.x, xx.x)<Preferred term> xx.xXX (XX. ADAE.AECAT="ADVERSE EVENT" and ADAE.DATCHGFL="Y" and ADAE.VPHASEN >0 <Preferred term> and ADSL.SAFFL="Y" and ADAE.AESER="Y" and ADSL.AGEGR4N eq 1 and xx (xx.x xx.x(.<ADSL.VAX101DT<=ADAE.ASTDT <= ADSL.BDCSRDT) <System organ class> xx(xx.x)(xx.x, xx.x)xx(xx.x)(xx.x, xx.x)<Preferred term> (xx.x, xx.x)xx (xx.x) (xx.x, xx.x)xx(xx.x)<Preferred term> (xx.x, xx.x)xx(xx.x)(xx.x, xx.x)xx(xx.x)

Abbreviation: EUA = emergency use authorization. Note: MedDRA (v24.0) coding dictionary applied.

Note: Adverse events that occurred on the day of or after subjects were unblinded are excluded from this summary.

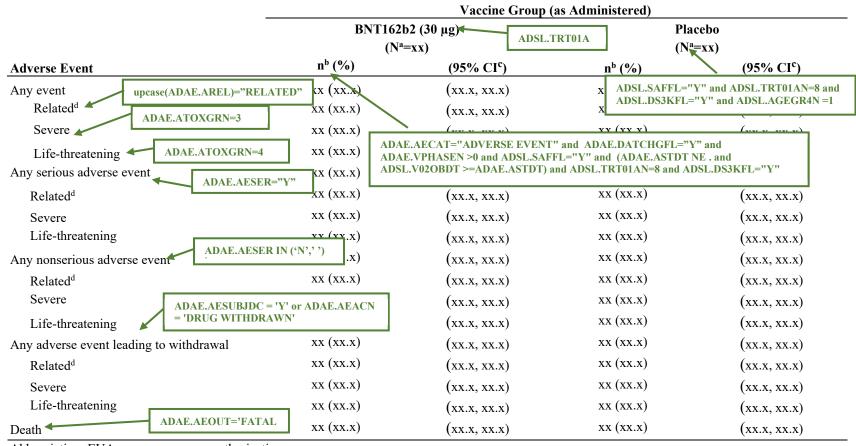
- a. N = number of subjects in the specified group, subjects who end of study before EUA snapshot are not included. This value is the denominator for the percentage calculations.
- b. n = Number of subjects reporting at least 1 occurrence of the specified event. For "any event," <math>n = number of subjects reporting at least 1 occurrence of any event.
- c. Exact 2-sided CI based on the Clopper and Pearson method.

PFIZER CONFIDENTIAL SDTM Creation: DDMMYYY (HH:MM) Source Data: ADSL Table Generation: DDMMYYY (HH:MM)

(Data Cutoff date: ddMmmYYYY, Data Snapshot Date: ddMmmYYYY) Output File: (CDISC)/C4591001/abcd_XNNN

Mock Table 9

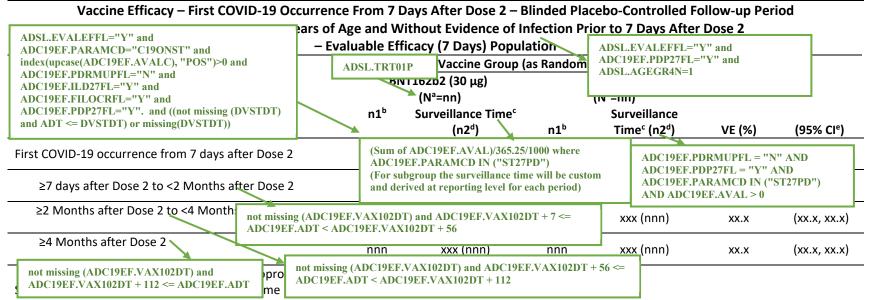
Number (%) of Subjects Reporting at Least 1 New Adverse Event After the EUA Snapshot, From Dose 1 to 6 Months After Dose 2 – Subjects With at Least 6 Months of Follow-up Time After Dose 2 – Phase 2/3 Subjects 12 Through 15 Years of Age (Subjects Who Originally Received BNT162b2) – Safety Population



Abbreviation: EUA = emergency use authorization.

- a. N = number of subjects in the specified group. This value is the denominator for the percentage calculations.
- b. n = Number of subjects reporting at least 1 occurrence of the specified event category. For "any event," n = number of subjects reporting at least 1 occurrence of any event.
- c. Exact 2-sided CI based on the Clopper and Pearson method.
- d. Assessed by the investigator as related to investigational product.

PFIZER CONFIDENTIAL SDTM Creation: DDMMMYYYY (HH:MM) Source Data: xxxx Table Generation: DDMMMYYYY (HH:MM) (Data Cutoff date: ddMmmYYYY, Data Snapshot Date: ddMmmYYYY) Output File: (CDISC)/C4591001/abcd XNNN



Note: Subjects who had no serological or virological evidence (prior to 7 days after receipt of the last dose) of past SARS-CoV-2 infection (ie, N-binding antibody [serum] negative at Visit 1 and SARS-CoV-2 not detected by NAAT [nasal swab] at Visits 1 and 2, and had negative NAAT (nasal swab) at any unscheduled visit prior to 7 days after Dose 2) were included in the analysis.

- a. N = number of subjects in the specified group.
- b. n1 = Number of subjects meeting the endpoint definition.
- c. Total surveillance time in 1000 person-years for the given endpoint across all subjects within each group at risk for the endpoint. Time period for COVID-19 case accrual is from 7 days after Dose 2 to the end of the surveillance period for the overall row and from start to the end of the range stated for each time interval.
- d. n2 = Number of subjects at risk for the endpoint.
- e. Confidence interval (CI) for VE is derived based on the Clopper and Pearson method adjusted for surveillance time.

  PFIZER CONFIDENTIAL SDTM Creation: DDMMMYYYY (HH:MM) Source Data: abcdefgh Table Generation: DDMMMYYYY (HH:MM) (Cutoff date: ddMmmYYYY, Snapshot Date: ddMmmYYYY) Output File: (CDISC)/C4591001/abcd XNNN

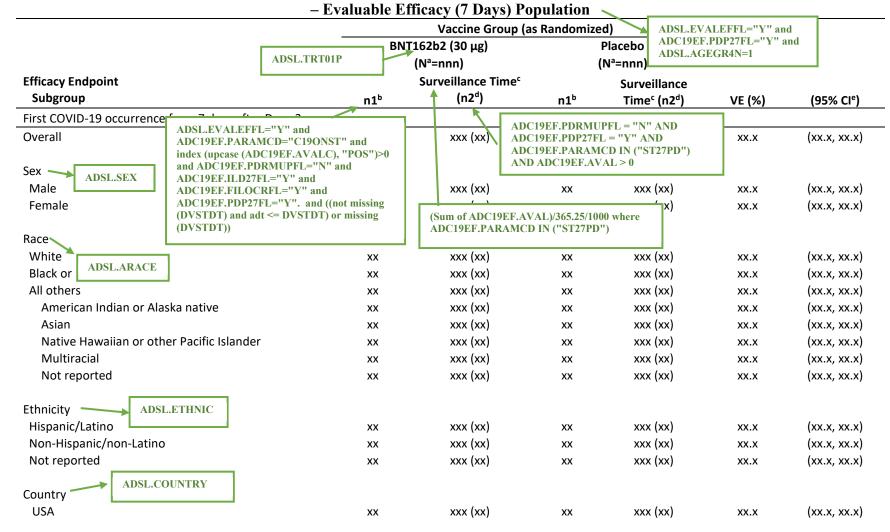
Vaccine Efficacy – First COVID-19 Occurrence From 7 Days After Dose 2 – Blinded Placebo-Controlled Follow-up Period – Subjects 12 Through 15 Years of Age and With or Without Evidence of Infection Prior to 7 Days After Dose 2 – Evaluable Efficacy (7 Days) Population

Programming note: for tables 11: remove footnote "Note: Subjects had no serological.."

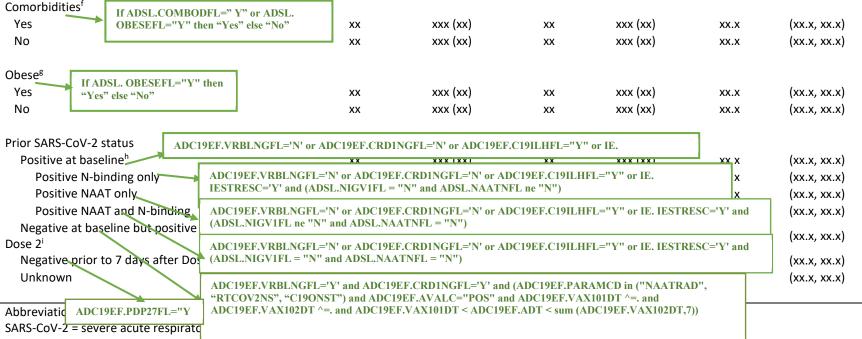
Follow same annotations as table 10 except remove ADC19EF. PDP27FL = "Y" from subset condition as this table is for subject With or Without Evidence of Infection Prior to 7 Days After Dose 2

# Vaccine Efficacy – First COVID-19 Occurrence From 7 Days After Dose 2, by Subgroup – Blinded Placebo-Controlled Follow-up Period

- Subjects 12 Through 15 Years of Age and Without Evidence of Infection Prior to 7 Days After Dose 2



## Analysis Data Reviewer's Guide



Note: Subjects who had no serological or virological evidence (prior to 7 days after receipt of the last dose) of past SARS-CoV-2 infection (ie, N-binding antibody [serum] negative at Visit 1 and SARS-CoV-2 not detected by NAAT [nasal swab] at Visits 1 and 2 and had negative NAAT (nasal swab) at any unscheduled visit prior to 7 days after Dose 2) were included in the analysis.

- a. N = number of subjects in the specified group.
- b. n1 = Number of subjects meeting the endpoint definition.
- c. Total surveillance time in 1000 person-years for the given endpoint across all subjects within each group at risk for the endpoint. Time period for COVID-19 case accrual is from 7 days after Dose 2 to the end of the surveillance period.
- d. n2 = Number of subjects at risk for the endpoint.
- e. Confidence interval (CI) for VE is derived based on the Clopper and Pearson method adjusted for surveillance time.
- f. Comorbidities are defined as having at least one of the Charlson comorbidity index category or obesity (BMI ≥95th percentile).
- g. Obese is defined as BMI ≥95th percentile from the growth chart. Refer to the CDC growth charts at https://www.cdc.gov/growthcharts/html_charts/bmiagerev.htm.
- h. Positive N-binding antibody result at Visit 1, positive NAAT result at Visit 1, or medical history of COVID-19.
- i. Negative N-binding antibody result and negative NAAT result at Visit 1, positive NAAT result at Visit 2 or at unscheduled visit, if any, prior to 7 days after Dose 2
- j. Negative N-binding antibody result at Visit 1, negative NAAT result at Visit 1 and Visit 2, and negative NAAT result at unscheduled visit, if any, prior to 7 days after Dose 2.

PFIZER CONFIDENTIAL SDTM Creation: DDMMMYYYY (HH:MM) Source Data: abcdefgh Table Generation: DDMMMYYYY (HH:MM) (Cutoff date: ddMmmYYYY, Snapshot Date: ddMmmYYYY) Output File: (CDISC)/C4591001/abcd XNNN

#### Programming note:

- 1) Remove any rows with zero counts if present in both the treatment groups. If n1 is zero across both placebo and bnt then delete that row in the table. This applies to all the similar tables in the document.
- 2) Prior Infection status rows (Prior SARS-CoV-2 Status and subrows) will be only part of 7 days post dose 2, Eval efficacy population, Dose 2 All-Available population With or Without evidence of infection tables. This section is to be presented only for table 13. Add 'unknown' row if there are subjects with unclassified status due to missing test.

Vaccine Efficacy – First COVID-19 Occurrence From 7 Days After Dose 2, by Subgroup – Blinded Placebo-Controlled Follow-up Period – Subjects 12 Through 15 Years of Age and With or Without Evidence of Infection Prior to 7 Days After Dose 2 – Evaluable Efficacy (7 Days) Population

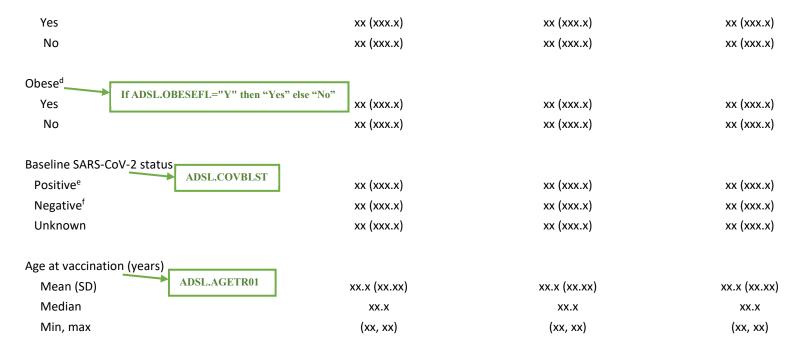
Programming Note: Remove the "Note: Subjects who had no ...".

Follow same annotations as table 12 except remove ADC19EF. PDP27FL = "Y" from subset condition as this table is for subject With or Without Evidence of Infection Prior to 7 Days After Dose 2

Mock Table 14

Demographic Characteristics – Blinded Placebo-Controlled Follow-up Period – Subjects 12 Through 15 Years of Age and Without Evidence of Infection Prior to 7 Days After Dose 2 – Evaluable Ferrage (7 Days Age 2 – Evaluable Ferrage

and Without Evidence of Infectio	n Prior to 7 Days After Do	se 2 – Evaluab	77 IV 47 IV 70	
	Vaccine Group (as		ADSL.EVALEFFL="Y" and ADC19EF.PDP27FL="Y" and ADSL.AGEGR4N=1	
	BNT162b2 (30 μg)	Placebo	Total	
ADSL.TRT01P	(N ^a =xx)	(N ^a =xx)	(Na=xx)	
	n ^b (%)	n⁵ (%)	n ^b (%)	
Sex ADSL.SEX				
Male	xx (xxx.x)	xx (xxx.x)	xx (xxx.x)	
Female	xx (xxx.x)	xx (xxx.x)	xx (xxx.x)	
Race ADSL.ARACE				
White	xx (xxx.x)	xx (xxx.x)	xx (xxx.x)	
Black or African American	xx (xxx.x)	xx (xxx.x)	xx (xxx.x)	
All others				
American Indian or Alaska Native	xx (xxx.x)	xx (xxx.x)	xx (xxx.x)	
Asian	xx (xxx.x)	xx (xxx.x)	xx (xxx.x)	
Native Hawaiian or other Pacific Islander	xx (xxx.x)	xx (xxx.x)	xx (xxx.x)	
Multiracial	xx (xxx.x)	xx (xxx.x)	xx (xxx.x)	
Not reported	xx (xxx.x)	xx (xxx.x)	xx (xxx.x)	
Ethnicity ADSL.ETHNIC				
Hispanic/Latino	xx (xxx.x)	xx (xxx.x)	xx (xxx.x)	
Non-Hispanic/non-Latino	xx (xxx.x)	xx (xxx.x)	xx (xxx.x)	
Not reported	xx (xxx.x)	xx (xxx.x)	xx (xxx.x)	
Country ADSL.COUNTRY USA	xx (xxx.x)	xx (xxx.x)	xx (xxx.x)	
Comorbidities ^c If ADSL.COMBODFL="Y" or ADSL OBESEFL="Y" then "Yes" else "No"				



- a. N = number of subjects in the specified group, or the total sample. This value is the denominator for the percentage calculations.
- b. n = Number of subjects with the specified characteristic.
- c. Number of subjects who have 1 or more comorbidities that increase the risk of severe COVID-19 disease: defined as subjects who had at least one of the Charlson comorbidity index category or BMI  $\geq$ 95th percentile.
- d. Obese is defined as BMI ≥95th percentile from the growth chart. Refer to the CDC growth charts at https://www.cdc.gov/growthcharts/html_charts/bmiagerev.htm.
- e. Positive N-binding antibody result at Visit 1, positive NAAT result at Visit 1, or medical history of COVID-19.
- f. Negative N-binding antibody result at Visit 1, negative NAAT result at Visit 1, and no medical history of COVID-19.

  PFIZER CONFIDENTIAL SDTM Creation: DDMMMYYYY (HH:MM) Source Data: abcdefgh Table Generation: DDMMMYYYY (HH:MM) (Cutoff date: ddMmmYYYY, Snapshot Date: ddMmmYYYY) Output File: (CDISC)/C4591001/abcd_XNNN

Programming note: for without evidence of infection don't show "Baseline SARS-CoV-2 status section". Also adjust the footnotes accordingly.

Demographic Characteristics – Blinded Placebo-Controlled Follow-up Period – Subjects 12 Through 15 Years of Age and With or Without Evidence of Infection Prior to 7 Days After Dose 2 – Evaluable Efficacy (7 Days) Population

Follow same annotations as table 14 except remove ADC19EF. PDP27FL = "Y" from subset condition as this table is for subject With or Without Evidence of Infection Prior to 7 Days After Dose 2

## Appendix II: Analysis plan AE windowing logic

AEs that occurred on the same day of a dose and without detailed AE start time are considered as occurring after dose but not considered as immediate AEs. An immediate AE is defined as an AE that occurred within 30 minutes (including 30 minutes) after dose.

AEs without start time and started on the same day of Dose x or AEs (with start time) started on or after the timepoint of dose x are included in 'AE's from dose x to 7 days after dose x', 'AE's from dose x to 1 months after dose x' and 'AE's from dose x to 6 months after dose x' etc. window. Dose x could be Dose 1, Dose 2, Dose 3 (first dose of BNT162b2 [30 µg]) or Dose 4 (second dose of BNT162b2 [30 µg]).

ADAE.VPHASE is derived based on AE window per the table below:

	VPHASE	Comments
Pre-Vaccination	Event start before Dose 1	Blinded placebo- controlled period
Vaccination 1	Event start on or after Dose 1 and before Dose 2	Blinded placebo- controlled period
Vaccination 2	Event started on or after dose 2 and before or on the day of 1 month follow-up visit after dose 2 (ADSL.V01DT)  See details in below section for ADSL.V01DT	Blinded placebo- controlled period
Follow Up 1	Event start after the day of 1 month follow-up visit after dose 2 (ADSL.V01DT) and before or on the day of 6 months follow-up visit after dose 2 (ADSL.V02DT) See details in below section for ADSL.V02DT	Blinded placebo- controlled period
Follow Up 2	Event start after the day of 6 months follow-up visit after dose 2 (ADSL.V02DT) and before unblinding	Blinded placebo- controlled period
After unblinding and before Vaccination 3	Event start on or after unblinding (for subjects unblinded without dose 3)	Open-label follow-up period
	Event start on or after unblinding and before dose 3 (for subjects unblinded and take dose 3)	Open-label follow-up period
Vaccination 3	Event start on or after dose 3 and before dose 4	Open-label follow-up period
Vaccination 4	Event start on or after dose 4 and before or on 1 month follow-up visit after dose 4 (ADSL.V03DT) See details in below section for ADSL.V03DT	Open-label follow-up period

	VPHASE	Comments
Follow Up 3	Event start after 1 month follow-up visit after dose 4 and before or on the day of 6 months follow-up visit after dose 4 (ADSL.V04DT)  See details in below section for ADSL.V04DT	Open-label follow-up period
Follow Up 4	Event start after the day of 6 months follow-up visit after dose 4 (ADSL.V04DT)	Open-label follow-up period

For AE's from dose 1 to 1 month after dose 2 (Blinded placebo-controlled period):

• Dose 1 start date <= ae start date <= 1 month follow-up date or the day before unblinding which one is earlier (ADSL.V01DT)

V01DT is the blood sample collected date from visit 3.

If visit 3 blood sample collection date is not available from CO dataset, then use the date of visit 3 from SV dataset.

Else if date of visit 3 is not available, then use date of dose 2 + 35 days

Else if date of dose 2 is not available, then use date of dose 1+35+23 days

Note: if a subject was unblinded before visit 3 (V01DT), then ADSL.V01DT was reset to the day before unblinding. ADSL.V01DT=min (V01DT, ADSL.UNBLNDDT-1).

For AE's from dose 1 to 6 months after dose 2 (Blinded placebo-controlled period):

• Dose 1 start date <= ae start date <= 6 months follow-up date or the day before unblinding which one is earlier (ADSL.V02DT)

V02DT is the blood sample collected date from visit 4.

If visit 4 blood sample collection date is not available from CO dataset, then use the date of visit 4 from SV dataset.

Else if date of visit 4 from SV dataset is not available, then use date of dose 2 + 189 days

Else if date of dose 2 is not available, then use date of dose 1+189+23 days

Note: if a subject was unblinded before visit 4 (V02DT), then ADSL.V02DT was reset to the day before unblinding. ADSL.V02DT=min (V02DT, ADSL.UNBLNDDT-1).

For AE's from dose 1 to 6 months after dose 2 (Whole study period without considering unblinding):

• Dose 1 start date <= ae start date <= 6 months follow-up date (ADSL.V02OBDT)

V02OBDT is the blood sample collected date from visit 4.

If visit 4 blood sample collection date is not available from CO dataset, then use the date of visit 4 from SV dataset.

Else if date of visit 4 from SV dataset is not available, then use date of dose 2 + 189 days

Else if date of dose 2 is not available, then use date of dose 1 + 189 + 23 days

ADSL.V03DT is the date of visit 103 (1-month post dose 4 for follow-up vaccination period) from SV after unblinding. If date of visit 103 from SV dataset is not available, then use date of dose 4 + 35 days

Else if date of dose 4 is not available, then use date of dose 3 + 35 + 23 days

ADSL.V04DT is the date of visit 104 (6-months post dose 4 for follow-up period) from SV after unblinding. If date of visit 104 from SV dataset is not available, then use date of dose 4 + 189 days

Else if date of dose 4 is not available, then use date of dose 3 + 189 + 23 days

## **Appendix III: Handling of Incomplete Dates**

#### Adverse events

Incomplete AE start and stop dates were imputed as follows:

Imputation only applied to partial AE start dates (missing day, missing both month and day). The purpose of imputation was only for allocating analysis interval on AE summary, the original partial date format was recorded or kept in the data and listings. No imputation on Diary data from subjects or symptom resolved date from Investigator collected as partial date. No imputation is carried out for completely missing AE start dates. No imputation is carried out for partial or completely missing AE stop dates. All information on AE stop date was used for imputation logic check as part of the imputation rules for partial AE start date.

Pfizer imputation rule applied:

Rules	Programming Logic
General rules	Imputation only applies to partial AE start dates (missing day, missing both month and day). The purpose of imputation is only for allocating analysis interval on AE summary, the original partial date format should be recorded or kept in the data and listings. No imputation on Diary data from subjects or symptom resolved date from Investigator collected as partial date.  General Pfizer imputation rule applied: For Start date:  - For missing Day: impute Day = first day of the month (01), e.g.  November 1990 is treated as 01NOV1990  - For missing Month and Day: impute Month = first month of the year (JAN), impute Day = first day of the month (01), e.g. 1990 is treated as 01JAN1990

Rules	Programming Logic
	- For missing Day: impute Day = last day of the month (30 or 31), e.g. November 1990 is treated as 30NOV1990
	- For missing Month and Day: impute Month = first month of the year (DEC), impute Day = last day of the month (31), e.g. 1990 is treated as 31DEC1990
completely missing start dates	No imputation
completely missing stop dates	No imputation
partial stop dates	No imputation
the day portion of ASTDTM was initially missing	<ul> <li>Apply general imputation first, after general Pfizer imputation rule is applied, compare the month of the AE start date (ASTDTM) with the month of subsequent doses/vaccinations (EXSTDTC)</li> <li>If the start date MONTH and YEAR of (ASTDTM) and any of the subsequent dose dates MONTH and YEAR of (EXSTDTC) are equal, and the stop date (AENDTM) is later than the dose date (EXSTDTC), whether the stop date (AENDTM) comes from partial or complete dates, or AE stop date is missing then reset ASTDTM to numeric value of first EXSTDTC of that month.</li> <li>Otherwise if the AE start date MONTH and YEAR of (ASTDTM) do not match any month of subsequent doses/vaccination (EXSTDTC) MONTH and YEAR, or the stop date (AENDTM) comes from partial or complete dates is earlier than corresponding EXSTDTC, don't do the second imputation and retain the first imputation</li> </ul>
day and month portion of ASTDTM were initially missing	• Apply general imputation first, compare the imputed AE start date (ASTDTM) with the dosing dates (EXSTDTC) in the same calendar year and the AE stop date (AENDTM). If the stop date is earlier than the earliest dosing date in the same calendar year, the AE start date will remain the first day of the calendar year. Otherwise, the AE start date (ASTDTM) will be imputed to the earliest dosing date (EXSTDTC) in that calendar year that is less than the AE stop date (AENDTM).

### Concomitant medications/medical histories

Incomplete CM/MH start and stop dates were imputed as follows:

Imputation applied to partial CM/MH start dates and stop dates (missing day, missing both month and day). For partial start dates, if missing start day, the first day of the month was used; if missing start month and day, the first month of the year was used. For partial stop dates, if missing stop day, the last day of the month was used; if missing stop month and day, the last month of the year was used.

## Appendix IV: External files used during ADaM dataset creation

The following files were used in the creation of specific ADaM datasets to identify specific subsets of subjects (e.g., phase 1, phase 2, phase 3) as well as categories of medical history data used as comorbidities. A copy of the data included in these files was combined into a supplemental datadefinitions.pdf file and is linked to the define.xml package for reference.

ID	File Name	Comments
Rheumatic	report-cci-rheumatic-	Used for ADMH creation to flag the medical history terms with comorbidities
	06aug2021.xlsx	(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Renal	report-cci-renal-30oct2020.xlsx	Used for ADMH creation to flag the medical history terms with comorbidities
		(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Pulmonary	report-cci-pulmonary-	Used for ADMH creation to flag the medical history terms with comorbidities
	30oct2020.xlsx	(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Periph vasc	report-cci-periph-vasc-	Used for ADMH creation to flag the medical history terms with comorbidities
	30oct2020.xlsx	(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Peptic ulcer	report-cci-peptic-ulcer-	Used for ADMH creation to flag the medical history terms with comorbidities
	30oct2020.xlsx	(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Mod sev liver	report-cci-mod-sev-	Used for ADMH creation to flag the medical history terms with comorbidities
	liver-06aug2021.xlsx	(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Mild liver	report-cci-mild-liver-	Used for ADMH creation to flag the medical history terms with comorbidities
	30oct2020.xlsx	(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
MI	report-cci-mi-30oct2020.xlsx	Used for ADMH creation to flag the medical history terms with comorbidities
		(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Metastatic	report-cci-metastatic-	Used for ADMH creation to flag the medical history terms with comorbidities
tumour	tumour-30oct2020.xlsx	(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Lymphoma	report-cci-lymphoma-	Used for ADMH creation to flag the medical history terms with comorbidities
	30oct2020.xlsx	(record level)

## Analysis Data Reviewer's Guide

ID	File Name	Comments
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Leukemia	report-cci-leukemia-	Used for ADMH creation to flag the medical history terms with comorbidities
	30oct2020.xlsx	(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Hemiplegia	report-cci-hemiplegia-	Used for ADMH creation to flag the medical history terms with comorbidities
	30oct2020.xlsx	(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Diabetes	report-cci-diabetes-without-	Used for ADMH creation to flag the medical history terms with comorbidities
without	comp-30oct2020.xlsx	(record level)
comp		Used for ADSL creation to flag the subject with comorbidities (subject level)
Diabetes	report-cci-diabetes-with-	Used for ADMH creation to flag the medical history terms with comorbidities
with comp	comp-06aug2021.xlsx	(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Dementia	report-cci-dementia-	Used for ADMH creation to flag the medical history terms with comorbidities
	30oct2020.xlsx	(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
CHF	report-cci-chf-30oct2020.xlsx	Used for ADMH creation to flag the medical history terms with comorbidities
		(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Cerebrovascu	report-cci- cerebrovascular-	Used for ADMH creation to flag the medical history terms with comorbidities
lar	30oct2020.xlsx	(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Any	report-cci-any-	Used for ADMH creation to flag the medical history terms with comorbidities
malignancy	malignancy-	(record level)
	06aug2021.xlsx	Used for ADSL creation to flag the subject with comorbidities (subject level)
AIDS HIV	report-cci-aids-hiv-	Used for ADMH creation to flag the medical history terms with comorbidities
	30oct2020.xlsx	(record level)
		Used for ADSL creation to flag the subject with comorbidities (subject level)
Comorbidity	comorbidity-	Used for ADMH creation to derive the Charlson Comorbidity Index categories by
Categories	categories.xlsx	record level. One MH term may meet multiple Charlson Comorbidity Index
		categories.
Phase2	first-c4591001-360-participants-	Used for ADSL creation to flag the subjects from Phase 2 DS360 subset
	enrolled-v1-13aug20-	
	update.xlsx	
Phase3	newlist-c4591001-6k-	Used for ADSL creation to flag the subjects from Phase 3 DS6000 subset

## Analysis Data Reviewer's Guide

ID	File Name	Comments
DS6000	participants-enrolled-v3-	
	17sep2020.csv	
HIV PT	201114-hiv-preferred-terms.xlsx	Used for ADSL creation to flag the HIV Positive subjects
EUA 12-25	c4591001-subject-list-for-12-	Used for ADSL creation to flag the subjects from EUA 12-25 subset
Age group	25-immuno-analysis-	
	27jan2021.xlsx	
BMI scale	bmi-12-15-scale.xlsx	Used for ADSL creation to flag the obese subjects for 12-15 years age group

## **Appendix V: Surveillance Times**

## Start-of-surveillance time:

For all VE-related endpoints in this study, the start-of-surveillance times are summarized as follows:

Endpoint's Associated	Start-of-Surveillance Time
Participant-Level Population	
Evaluable Efficacy (7 days)	Dose 2 + 7 days (Day 8 relative to Dose 2)
Dose 2 All-available Efficacy	Dose 2 + 7 days (Day 8 relative to Dose 2)
Dose 1 All-available Efficacy	Dose 1 (Day 1 relative to Dose 1)

### **End-of-surveillance time:**

The end of surveillance time is then determined considering the following events:

- 1. When the first COVID-19 case occurs.
- 2. When the participant's end of the study occurs due to, e.g. withdrawal or death or trial completion etc.
- 3. When the participant has first important protocol violation (only for analysis based on the evaluable efficacy population).
- 4. When the participant is unblinded at the time of being eligible for receipt of BNT162b2 or other reasons.

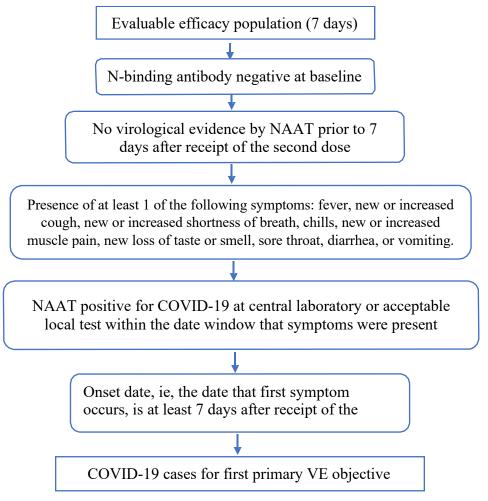
For all VE-related endpoints in this study, the end of a surveillance period for each participant is summarized below:

Endpoint's Associated Participant-Level Population	End-of-Surveillance Time
Evaluable Efficacy	Earliest of event (1), (2), (3) and (4)
Dose 2 All-available Efficacy	Earliest of event (1) and (2) and (4)
Dose 1 All-available Efficacy	Earliest of event (1) and (2) and (4)

Using the above start and stop times for surveillance time, the overall surveillance time is derived as: End-of-surveillance time – Start-of-surveillance time + 1

## **Appendix VI: Efficacy Flow Charts**

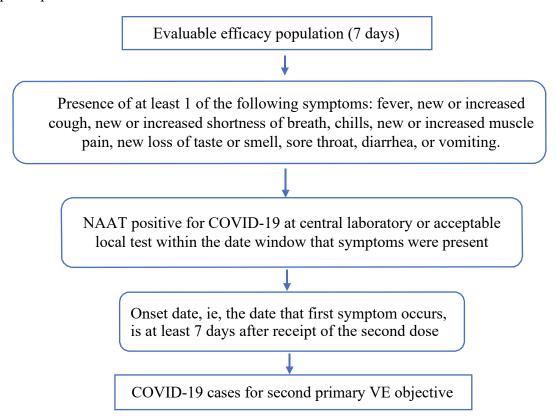
1. The flowchart for deriving the COVID-19 cases included below for the first primary endpoints in evaluable efficacy participants with no serological or virological evidence of past SARS-CoV-2 infection:



The central laboratory NAAT result will be used for the case definition, unless no result is available from the central laboratory,

in which case a local NAAT result may be used if it was obtained using 1 of the following assays:

- a. Cepheid Xpert Xpress SARS-CoV-2
- b. Roche cobas SARS-CoV-2 real-time RT-PCR test (EUA200009/A001)
- c. Abbott Molecular/RealTime SARS-CoV-2 assay (EUA200023/A001)
- 2. The flowchart for deriving the COVID-19 cases included below for the second primary endpoints in evaluable efficacy participants:



## **Appendix VII: Detailed subsetting for Analysis:**

- 1. Key Analysis Population Subsetting:
  - 1.1 Safety Analysis
  - 1.2 Efficacy Analysis

	Analysis Population		Number of Subjects (N)			
Table			BNT162b2			Subset Condition for
Category		Sub-Category	(30 µg)	Placebo	Total	Total N
Efficacy	Dose 1 All- Available Efficacy		1131	1129	2260	Refer to <u>Appendix I</u> for more details. ADSL.AAI1EFFL="Y" and ADSL.AGEGR4N =1
	Dose 2 All- Available Efficacy	Subjects without evidence of infection prior to 7 days after dose 2	1061	1037	2098	Refer to <u>Appendix I</u> for more details. ADSL.AAI2EFFL="Y" and ADC19EF.PDP27FL="Y" and ADSL.AGEGR4N =1
	Evaluable Efficacy Evaluable Efficacy	Subjects without evidence of infection prior to 7 days after dose 2	1057	1030	2087	Refer to <u>Appendix I</u> for more details. ADSL.EVALEFFL="Y" and ADC19EF.PDP27FL="Y" and ADSL.AGEGR4N=1
		Subjects with or without evidence of infection prior to 7 days after dose 2	1119	1109	2228	Refer to <u>Appendix I</u> for more details ADSL.EVALEFFL="Y" and ADSL.AGEGR4N =1

2. Adverse Event Analysis Reporting Period Subsetting:

D		Subset condition to determine the AEs within corresponding reporting period. (Note: Additional subset for analysis			
Reporting Period		population is needed)			
Blinded Placebo-	From dose 1 to unblinding (the day	All AEs	ADAE.AECAT="ADVERSE EVENT" and ADAE.VPHASEN in		
Controlled Follow-up	before unblinding)		(1,2,3,99)		
Period		New AEs	ADAE.AECAT="ADVERSE EVENT" and ADAE.VPHASEN in		
		after the	(1,2,3,99) and ADAE.DATCHGFL="Y"		
		EUA			
		Snapshot			
Blinded Placebo-	From dose 1 to 6 Month after dose 2	All AEs	ADAE.AECAT="ADVERSE EVENT" and ADAE.VPHASEN>=1 and .		
Controlled Follow-up	Note: This is for subjects originally		<adae.astdt<=adsl.v02obdt< td=""></adae.astdt<=adsl.v02obdt<>		
Period + Open-label	received BNT162b2 and with at least	New AEs	ADAE.AECAT="ADVERSE EVENT" and ADAE.VPHASEN>=1 and		
follow-up period for	6 months of follow-up time after dose	after the	. <adae.astdt<=adsl.v02obdt <="" adae.datchgfl="Y" and="" td=""></adae.astdt<=adsl.v02obdt>		
subjects who	2 (28*6 days after dose 2), Including	EUA			
originally received	all of the AEs within 6-month after	Snapshot			
BNT162b2	dose 2 regardless of unblinding or not	_			
Open-label	Immediate adverse event after dose 3	All AEs	ADAE.AECAT="ADVERSE EVENT" and ADAE.AEIMMFL="Y" and		
vaccination period	(1st dose of BNT162b2 after		ADAE.VPHASEN in (5, 6)		
for subjects who	unblinding)/dose 4 (2nd dose of				
received placebo and	BNT162b2 after unblinding)				
then received	From dose 3 (1st dose of BNT162b2	All AEs	ADAE.AECAT="ADVERSE EVENT" and ADAE.VPHASEN=5 and		
BNT162b2 After	after unblinding) to 7 days after dose 3		ADSL.VAX201DT<=ADAE.ASTDT <=ADSL.VAX201DT+7		
unblinding	From dose 4 (2 nd dose of BNT162b2	All AEs	ADAE.AECAT="ADVERSE EVENT" and ADAE.VPHASEN=6 and		
	after unblinding) to 7 days after dose 4		ADSL.VAX202DT<=ADAE.ASTDT <=ADSL.VAX202DT+7		
	From dose 3 (1st dose of BNT162b2	All AEs	ADAE.AECAT="ADVERSE EVENT" and ADAE.VPHASEN>=5 and		
	after unblinding) to the date of cutoff		ADAE.VPHASEN ne 99 and . <adae.astdt<=adsl.x1csrdt< td=""></adae.astdt<=adsl.x1csrdt<>		
Open-label follow-up	From unblinding date to the date of	All AEs	ADAE.AECAT="ADVERSE EVENT" and ADAE.VPHASEN>=4 and		
period for subjects	cutoff		ADAE.VPHASEN ne 99 and . <adae.astdt<=adsl. td="" x1csrdt<=""></adae.astdt<=adsl.>		
who originally					
received BNT162b2					

Note: Immediate AEs were those events occurring within the first 30 minutes after each dose, which were flagged as "Y" in ADAE.AEIMMFL.