Epidemiology of Guillain-Barré Syndrome and Risk Associated with Exposure to ABRYSVO Among Vaccinees 18-59 Years of Age in the United States

First published: 27/06/2025

Last updated: 01/08/2025

Study Ongoing

Administrative details

EU PAS number

EUPAS1000000629

Study ID

1000000629

DARWIN EU® study

No

Study countries

United States

Study description

ABRYSVO is a bivalent, adjuvanted RSVpreF vaccine that has been approved for use in the United States (US) in adults 18-59 years of age at increased risk of respiratory syncytial virus-associated lower respiratory tract disease (RSV-LRTD), pregnant individuals at 32-36 weeks gestational age of pregnancy for the prevention of RSV-LRTD in infants, and in adults ≥60 years of age.
This is a post-authorization safety study (PASS) to monitor the incidence of Guillain-Barré Syndrome (GBS) in ABRYVSO-vaccinated adults 18-59 years of age at increased risk of RSV-LRTD.
This protocol additionally includes analyses of the epidemiology and natural history of GBS in the US. A better understanding of the epidemiology of GBS in the US, including preceding risk factors and contemporaneous background rates, is important to contextualize the risk of GBS after vaccinations and can inform vaccine safety studies of GBS risk.

Study status

Ongoing

Research institutions and networks

Institutions

Pfizer

First published: 01/02/2024

Last updated: 01/02/2024

Institution

Harvard Pilgrim Health Care Institute

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Institution

Contact details

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Primary lead investigator

Jenny Sun

Primary lead investigator

Study timelines

Date when funding contract was signed

Planned: 12/12/2024

Actual: 12/12/2024

Study start date

Planned: 01/07/2025

Actual: 28/07/2025

Data analysis start date

Planned: 01/03/2029

Date of interim report, if expected
Planned: 30/09/2027

Date of final study report
Planned: 31/01/2030

Sources of funding

- Pharmaceutical company and other private sector

More details on funding

Pfizer 100%

Study protocol

C3671072_PROTOCOL- RSV VACCINE PASS FOR 18-59 YEARS_V3.0_27MAY2025.pdf (2.04 MB)

Regulatory

Was the study required by a regulatory body?
Yes

Is the study required by a Risk Management Plan (RMP)?
Non-EU RMP only

Other study registration identification numbers and links

C3671072

Methodological aspects

Study type

Study type list

Study topic:

Human medicinal product

Study type:

Non-interventional study

Scope of the study:

Disease epidemiology

Safety study (incl. comparative)

Data collection methods:

Secondary use of data

Study design:

This is a PASS using a cohort study design to monitor the incidence of GBS in ABRYVSO-vaccinated adults 18-59 years of age at increased risk of RSV-LRTD. Additionally, analyses of the epidemiology and natural history of GBS in the US

will also be conducted.

Main study objective:
Signal Detection: Among non-pregnant individuals 18-59 years at increased risk of RSV-LRTD, compare observed GBS case counts after ABRYSVO vaccination against expected GBS case counts via rapid cycle analysis (RCA).

Signal Evaluation: Among non-pregnant individuals 18-59 years of age, assess risk of GBS in the 21 days
or 42 days (depending on length of risk window) following ABRYSVO vaccination using a self-controlled risk interval design.

Study Design

Non-interventional study design
Cohort

Study drug and medical condition

Medicinal product name
ABRYSVO

Anatomical Therapeutic Chemical (ATC) code
(J07BX05) respiratory syncytial virus vaccines
respiratory syncytial virus vaccines

Medical condition to be studied
Guillain-Barre syndrome

Population studied

Short description of the study population

The source population for the GBS epidemiology component of the study will be individuals age ≥18 years with incident GBS from up to 3 national health plans.

The source population for the signal detection component of the study will include non-pregnant individuals 18-59 years of age at increased risk of RSV-LRTD and administered ABRYSVO or a comparator vaccine.

The source population for the signal evaluation component will include non-pregnant individuals 18-59 years of age who received ABRYSVO vaccination.

Age groups

- Adults (18 to < 65 years)

Study design details

Setting

Individuals must meet all of the following inclusion criteria to be eligible for inclusion in the GBS epidemiology and incidence analysis:
Research eligible at the participating research partner (RP);
≥18 years of age during the study period, January 2017 – December 2024;
Have ≥365 days of medical and pharmacy coverage preceding cohort entry, with gaps of ≤45 days permitted (they are considered administrative gaps, not lapses in health plan coverage); and
Meet the algorithm for incident GBS (outlined in protocol Table 1).

Individuals must meet all of the following inclusion criteria to be eligible for inclusion in the medical record review and exploratory data mining analyses:

Research eligible at the participating RP;
≥18 years of age during the study period, January 2017 – December 2024;
Have ≥365 days of medical and pharmacy coverage preceding cohort entry, with gaps of ≤45 days permitted; and
Meet the algorithm for incident GBS (outlined in protocol Table 1).

Comparators

GBS, defined as a diagnosis (G61.0) in the primary position in the inpatient setting or, incident GBS in any setting and any position, with a hospitalization within 7 days, again with GBS as the primary diagnosis.

If the signal evaluation phase commences due to a statistically significant positive association between risk of GBS and ABRYSVO vaccination from one of the rapid cycle analyses in the signal detect phase, then medical record confirmation of GBS cases in the SCRI study will be conducted as part of the signal evaluation.

Outcomes

Outcome for rapid cycle analysis (RCA) – Incident GBS will be identified using the same algorithm as Research Question 1, which is based on Goud and colleagues work: a GBS diagnosis (G61.0) in the primary position in the inpatient setting or, incident GBS in any setting and any position, with a hospitalization within 7 days, again with GBS as the primary diagnosis. Incidence will be defined using a 365-day washout for G61.0 or G65.0 in any care setting. GBS cases will not be confirmed via medical record review for any RCA, although a statistically significant positive association between risk of GBS and ABRYSVO vaccination from an RCA would trigger medical record review for the subsequent SCRI study.

Outcome for SCRI design study – If the SCRI study commences due to a statistically significant positive association between risk of GBS and ABRYSVO vaccination from one of the RCAs, medical record confirmation of GBS cases in the SCRI study will be conducted as part of the signal evaluation. The medical record associated with the inpatient encounter where GBS was diagnosed will be requested.
The record for the first subsequent ambulatory encounter with a neurologist, if applicable, will also be requested. If the SCRI study commences after 4 seasons of the RCA in the absence of a statistically significant finding of increased risk, GBS cases will not be confirmed via medical record review, but rather results will be adjusted based on the PPVs from Research Question 1.

Data analysis plan
To evaluate the epidemiology of GBS, annual incidence rates and corresponding 95% CIs for GBS will be estimated overall and for subgroups (e.g., age, sex, comorbidities, and region), showing how and to what degree incidence rates vary across groups and over the study period.
Descriptive statistics of adults who meet the GBS algorithm will be reported regarding their demographics, clinical characteristics, risk factors, treatment, and outcomes.

In the signal detection phase of the study, observed ABRYSVO-exposed GBS cases will be compared against expected GBS counts using sequential hypothesis testing.

In the signal evaluation phase of the study, case-centered logistic regression will be used to estimate incidence rate ratios with 95% CIs and attributable risk with 95% CIs per 100,000 doses and 100,000 person-years.

Data management

ENCePP Seal

The use of the ENCePP Seal has been discontinued since February 2025. The ENCePP Seal fields are retained in the display mode for transparency but are no longer maintained.

Data sources

Data source(s), other

The GBS epidemiology and safety study will be conducted using health plan administrative claims data held by up to 3 national health plans (e.g., Carelon, Humana, and CVS Health).
These Research Partners (RPs) participate in the US FDA’s Sentinel System.
Other RPs may be included.
These RPs participate in the US Food and Drug Administration's (FDA) Sentinel System.
For this analysis, the most recently available data refreshed for the Sentinel System will be leveraged if possible, or sites will create a study-specific refresh as needed.

The GBS etiology medical record review objective will be conducted using administrative billing data from approximately 3 regional integrated delivery systems, or other appropriate data sources, with geographic diversity. EHRs from within each RP will primarily be used for abstraction, review, and adjudication of the identified cases; if cases are seen at hospitals outside of the RP, charts may be requested.

Data sources (types)

Administrative healthcare records (e.g., claims)

Electronic healthcare records (EHR)

Use of a Common Data Model (CDM)

CDM mapping

Yes

CDM Mappings

CDM name

Sentinel

CDM website

https://www.sentinelinitiative.org/methods-Data-tools/sentinel-common-Data-model

Data quality specifications

Check conformance

Unknown

Check completeness

Unknown

Check stability

Unknown

Check logical consistency

Unknown

Data characterisation

Data characterisation conducted

No