McMaster University | Health Forum

Appendices

Rapid evidence synthesis appendices

Efficacy and effectiveness of respiratory syncytial virus vaccines and monoclonal antibodies against lower respiratory tract disease in older adults and infants

7 March 2025

[MHF product code: RS 127]

Appendix 1: Detailed search strategy

Databases searched:

- EMBASE + MEDLINE via OVID
- Preprint via Web of Science (Preprint Citation Index includes arXiv, bioRxiv, chemRxiv, medRxiv, and Preprints.org.)
- Clinical trials registry: https://clinicaltrials.gov/search?cond=Respiratory%20Syncytial%20Virus&intr=RSV%20Vaccine&firstPost=2024-08-19

Search limits: No

Database retrieval:

Databases	20/01/2025
EMBASE + MEDLINE via OVID	1913
Preprint	11
Clinical trials	18
Duplicates	143
TOTAL	1799

EBM & MEDLINE via OVID search:

#1	exp respiratory syncytial virus vaccine/
#2	("respiratory syncytial virus vaccin*" or "RSV vaccin*" or "respiratory syncytial virus immunization" or "RSV immunization").ab,ti.
#3	(AREXVY or "GSK RSV vaccin*" or "GlaxoSmithKline RSV vaccin*").mp. [mp=ti, ab, hw, tn, ot, dm, mf, dv, kf, fx, dq, bt, nm, ox, px, rx, ui, sy, ux, mx]
#4	RSVPreF3.mp. [mp=ti, ab, hw, tn, ot, dm, mf, dv, kf, fx, dq, bt, nm, ox, px, rx, ui, sy, ux, mx]
#5	(ABRYSVO or "Pfizer RSV vaccin*" or "Pfizer respiratory syncytial virus vaccin*").mp. [mp=ti, ab, hw, tn, ot, dm, mf, dv, kf, fx, dq, bt, nm, ox, px, rx, ui, sy, ux, mx]
#6	RSVpreF.mp. [mp=ti, ab, hw, tn, ot, dm, mf, dv, kf, fx, dq, bt, nm, ox, px, rx, ui, sy, ux, mx]
#7	("mRESVIA" or "mRNA-1345" or "Moderna RSV vaccin*").mp. [mp=ti, ab, hw, tn, ot, dm, mf, dv, kf, fx, dq, bt, nm, ox, px, rx, ui, sy, ux, mx]

#8	nirsevimab.mp. [mp=ti, ab, hw, tn, ot, dm, mf, dv, kf, fx, dq, bt, nm, ox, px, rx, ui, sy, ux, mx]
#9	monoclonal antibod*.ab,ti.
#10	exp respiratory syncytial virus/
#11	9 and 10
#12	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 11
#13	(effectiveness or efficacy or protection).mp. [mp=ti, ab, hw, tn, ot, dm, mf, dv, kf, fx, dq, bt, nm, ox, px, rx, ui, sy, ux, mx]
#14	12 and 13
#15	remove duplicates from 14

Preprint citation search:

#1	(TS=(AREXVY OR rsvpref OR ABRYSVO OR RSVpreF OR BEYFORTUS OR nirsevimab OR mRESVIA)) AND TS=(effectiveness OR efficacy OR protection)

Appendix 2: Summary of studies reporting on the efficacy of RSV immunization products

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (type of publication, vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome

Curran 2024 (1)	• Population studied
	  ○ Older adults (aged ≥60 years)
	• Type of immunization product
	  ○ AREXVY™ (RSVPreF3 OA)
	• Comparator
	  ○ Individuals receiving placebo
	• Testing
	  ○ Nucleic acid testing RT-PCR
	• Outcome measures
	  ○ Nirsevimab efficacy
	• RSV-related outcome
	  ○ Infection
	  ○ Lower respiratory tract disease (LRTD)
	  ○ Medically attended LRTD
	  ○ Acute respiratory infection (ARI)
	  ○ Hospitalization
	• Timeframe (specimens collected timepoints)
	• One RSV season
		Type of publication: Peer reviewed
		
		Study design: Observer blind, multi-country, randomized trial
		
		Analysis: Vaccine efficacy (VE) was estimated using the conditional exact binomial method based on the Poisson model
		
		Setting and country: Not reported
			• 24,960 adults over the age of 60 were included in the analysis; participants were randomized to receive placebo (n = 12,494) or the vaccine (RSVPreF3 OA) (n = 12,466)	• VE against RSV-confirmed ARI with medically attended visits was 79.0% (95% CI 54.3–91.5)
				• VE against RSV-confirmed LRTD with medically attended visits: 87.5% (95% CI 58.9–97.6)

Walsh 2023 (2)	• Population studied
	  ○ Older adults (aged ≥60 years)
	• Type of immunization product
	  ○ ABRYSVO™ (RSVpreF) by Pfizer
	• Comparator
	  ○ Individuals receiving placebo
	• Testing
	  ○ Nucleic acid testing-RT-PCR
	• Outcome measures
	  ○ RSVpreF efficacy
	• RSV-related outcome
	  ○ Lower respiratory tract illness (LRTI)
	• Timeframe (specimens collected timepoints)
	  ○ Baseline (31 August 2021 to 14 July 2022)
		Type of publication: Peer reviewed
		
		Study design: Phase three, multinational, double-blinded, randomized, placebo-controlled trial
		
		Analysis: Used a risk ratio-based approach to calculate vaccine efficacy, comparing the incidence of RSV-associated LRTI and acute respiratory illness between the vaccine and placebo groups, with confidence intervals calculated using a conditional exact test adjusted for interim analysis using Pocock error spending
			• 34,284 participants received one intramuscular 120 ug dose of RSVpreF (n = 17,215) or placebo (n = 17,069)	• The authors reported on the efficacy against RSV-associated LRTI based on signs and symptoms and overall
				  ○ RSVpreF efficacy against RSV-associated LRTI with two signs or symptoms: 66.7% (96.66% CI 28.8–85.8)
				  ○ RSVpreF efficacy against RSV-associated LRTI with three signs or symptoms: 85.7% (96.66% CI 32.0–98.7)
				  ○ RSVpreF efficacy against RSV-associated ARI: 62.1% (95% CI 37.1–77.9)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (type of publication, vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
		Setting and country: 240 sites located in Argentina, Canada, Finland, Japan, the Netherlands, South Africa, and the United States		
Kampmann 2023 (3)	• Population studied ○ Children (0 to 2 years old) • Type of immunization product ○ Maternal ABRYSVO™ (RSVpreF) by Pfizer • Comparator ○ Individuals receiving placebo • Testing ○ Nucleic acid testing-RT-PCR • Outcome measures ○ RSVpreF efficacy • RSV-related outcome ○ Medically attended severe RSV-associated LRTI ○ Medically attended RSV-associated LRTI ○ Hospitalization ○ All-cause medically attended lower respiratory illness • Timeframe (specimens collected timepoints) ○ Baseline (17 June 2020 to 2 October 2022) ○ Followed up (from 72 hours to 1 or 2 years after birth)	Type of publication: Peer reviewed Study design: Phase three, multinational, randomized, placebo-controlled trial Analysis: Binominal distribution of the number of cases of disease in the RSV vaccine group and given the total number of cases in both groups, with adjusted confidence intervals to account for interim analyses and multiple endpoints, while also employing sensitivity analyses and subgroup assessments for comprehensive evaluation of the vaccine's effects Setting and country: Multicentre, 18 countries (Argentina, Australia, Brazil, Canada, Chile, Denmark, Finland, Gambia, Japan, Mexico, the Netherlands, New Zealand, Philippines, South Korea, South Africa, Spain, Taiwan, and the United States)	• The study randomized 7,358 pregnant women at 24–36 weeks' gestation who received a single 120 µg intramuscular injection of bivalent RSVpreF vaccine (n = 3,682) or placebo (n = 3,676) • 3,570 infants whose mothers received RSVpreF and 3,558 infants whose mothers received placebo were included	• VE against medically attended severe RSV-associated LRTI ○ Within 90 days after birth: 81.8% (99.5% CI 40.6–96.3) ○ Within 120 days after birth: 73.9% (97.58% CI 45.6–88.8) ○ Within 150 days after birth: 70.9% (97.58% CI 44.5–85.9) ○ Within 180 days: 69.4% (97.58% CI 44.3–84.1) • VE against medically attended RSV-associated LRTI ○ Within 90 days after birth: 57.1% (99.5% C 14.7–79.8) ○ Within 120 days after birth: 56.8% (97.58% C 31.2–73.5) ○ Within 150 days after birth: 52.5% (97.58% C 28.7–68.9) ○ Within 180 days after birth: 51.3 (97.58% C 29.4–66.8) • VE against RSV-associated hospitalization: ○ Within 90 days after birth: 67.7% (99.17% CI 15.9–89.5) ○ Within 180 days after birth: 56.8% (99.17% CI 10.1–80.7) • VE against medically attended RSV-associated respiratory tract illness (exploratory analysis): ○ Within 90 days after birth: 39.1% (95% CI 16.7–55.7) ○ Within 180 days after birth: 37.9% (95% CI 24.0–49.5) • VE against medically attended LRTI from any cause: ○ Within 90 days after birth: 7.0% (99.17% CI −22.3–29.3)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (type of publication, vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome

Papi 2023 (4)	• Population studied
	  ○ Older adults (aged ≥60 years)
	• Type of immunization product
	  ○ AREXVY™ (RSVPreF3-OA) by GlaxoSmithKline
	• Comparator
	  ○ Individuals receiving placebo
	• Testing
	  ○ Nucleic acid testing-RT-PCR
	• Outcome measures
	  ○ RSVPreF3-OA efficacy
	• RSV-related outcome
	  ○ LRTD
	  ○ Acute respiratory infection (ARI)
	  ○ Severe LRTD
	• Timeframe (specimens collected timepoints)
	  ○ Enrollment between 25 May 2021 to 31 January 2022
	  ○ Maximum follow-up 10.1 months
		Type of publication: Peer reviewed
		
		Study design: Phase three, multinational, randomized, placebo-controlled trial
		
		Analysis: One minus the relative risk with the use of the conditional exact binomial method based on the Poisson model
		
		Setting and country: Multinational including 17 countries in Africa, Asia, Australia, Europe and North America
			• The trial included 24,966 adults aged 60 years or older (mean age 69.5 years), with approximately 39% having coexisting conditions associated with increased risk of severe RSV disease
			• Participants were randomly assigned in a 1:1 ratio to receive either a single 0.5 ml dose of the RSVPreF3 OA vaccine (containing 120 µg of RSVPreF3 antigen and the AS01E adjuvant system) (n = 12,467) or placebo (n = 12,499), injected into the deltoid muscle of the non-dominant arm before the RSV season
				• VE against LRTD: 82.6% (96.95% CI 57.9–94.1)
				• VE against severe LRTD: 94.1% (95% CI 62.4–99.9)
				• VE against RSV-related ARI: 71.7% (95% CI 56.2–82.3)
				• VE against RSV-LRTD by RSV subtype:
				  ○ RSV A: 84.6% (95% CI 32.1–98.3)
				  ○ RSV B: 80.9% (95% CI 49.4–94.3)
				• VE against RSV-ARI by RSV subtype:
				  ○ RSV A-related: 71.9% (95% CI 39.7–88.2)
				  ○ RSV B: 70.6% (95% CI 49.6- 83.7)
				• VE against RSV-LRTD by age group:
				  ○ 60-69 years: 81.0% (95% CI 43.6–95.3)
				  ○ 70-79 years: 93.8% (95% CI 60.2–99.9)
				  ○ ≥70 years: 84.4% (95% CI, 46.9–97.0)
				  ○ ≥80 years: 33.8% (95% CI –477.7–94.5)
				• VE against RSV-LRTD by baseline characteristics:
				  ○ With coexisting conditions: 94.6% (95% CI 65.9–99.9)
				  ○ Prefrail: 92.9% (95% CI 53.4–99.8)
				  ○ Fit: 80.0% (95% CI 46.7–94.0)

Simões 2023 (5)	• Population studied
	  ○ Infants born preterm (≥29 to <35 weeks gestational age)
	  ○ healthy infants born at term or late preterm (≥35 weeks gestational age)
	• Type of immunization product
	  ○ Anti-RSV monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi
	• Comparator
	  ○ Individuals receiving placebo
	• Testing
	  ○ Nucleic acid testing-RT-PCR
	• Outcome measures
	  ○ Nirsevimab efficacy
	• RSV-related outcome
	  ○ Medically attended RSV lower respiratory tract infection (LRTI)
	  ○ Hospital admission
		Type of publication: Peer reviewed
		
		Study design: Double-blind, randomised, placebo-controlled controlled trials
		
		Analysis: VE was estimated in the intention-to-treat population using a Poisson regression model with robust variance adjusted for age and location and multiple imputation; a pre-specified subgroup analysis assessed data by hemisphere, age at randomisation, sex, ancestry or ethnic group, weight at baseline, country, and geographical region; post-hoc exploratory endpoints of health resource use, outpatient
			• The study included 2,350 infants (1,564 receiving nirsevimab, 786 receiving placebo), with gestational ages ranging from 29 weeks to full term, and a median age of 2 months at randomization
			• Nirsevimab was administered as a single intramuscular injection before the RSV season, with weight-based dosing of 50 mg for infants <5 kg and 100 mg for infants ≥5 kg, compared to placebo
				• Nirsevimab efficacy (Relative Risk Reduction, RRR) against medically attended RST-LRTI: 79.5% (95% CI 65.9–87.7)
				• Nirsevimab efficacy against hospital admission for medically attended RST-LRTI: 77.3% (95% CI 50.3–89.7)
				• Nirsevimab efficacy against very severe RST-LRTI: 86.0% (95% CI 62.5–94.8)
				• Nirsevimab efficacy against medically attended LRTI of any cause: 35.4% (95% CI 21.5–46.9)
				• Nirsevimab efficacy against hospital admission for respiratory illness of any cause: 43.8% (95% CI 18.8–61.1)
				• Reduction in outpatient visits for LRTI: 41.9% (95% CI 25.7–54.6)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (type of publication, vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
	• Timeframe (specimens collected timepoints) ○ Follow-up (infants were followed up for 150 days post-dose)	visits, and antibiotic use were also assessed. Setting and country: Multinational • Phase 2b trial: 164 sites across 23 countries in Europe, North America, South America, and Australasia • MELODY primary cohort: 160 sites across 21 countries in Europe, North America, Asia, South Africa • MEDLEY: 126 sites across 25 countries in Europe, North America, Asia, and South Africa		

Drysdale 2023 (6)	• Population studied
	  ○ Children (0 to 12 months old)
	• Type of immunization product
	  ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi
	• Comparator
	  ○ Unvaccinated individuals
	• Testing
	  ○ Diagnostic testing using a test designated by hospital policy
	• Outcome measures
	  ○ Nirsevimab efficacy
	• RSV-related outcome
	  ○ Hospitalization
	  ○ LRTI
	  ○ Severe RSV-LRTI
	  ○ Hospitalization from all-cause LRTI
	• Timeframe (specimens collected timepoints)
	  ○ Baseline (8 August 2022 to 28 February 2023)
	  ○ Follow-up (6 months, with intention to follow-up again on day 366)
		Type of publication: Peer reviewed
		
		Study design: Phase 3b, open-label, two-group, randomized trial
		
		Analysis: A time-to-first event analysis and Cox proportional-hazard regression model was used adjusted for age group and country; P values and Bonferroni corrections were calculated for primary and secondary endpoints
		
		Setting and country: 235 sites in France, Germany, and the United Kingdom
			• Healthy infants 12 months or younger, born at gestational age ≥29 weeks who were entering their first RSV season, were invited to participate
			• A total of 8,058 infants participated in this study (4,037 vaccinated, 4,021 standard care)
			• Infants were randomized to receive the nirsevimab vaccine or standard care
			  ○ Doses were 50 mg for children weighing less than 5 kg or 100 mg for children weighing over 5 kg
				• Nirsevimab efficacy against RSV-LRTI hospitalization: 83.2% (95% CI 67.8–92.0)
				  ○ By age at randomization:
				  ▪ ≤3 months: 89.6% (95% CI 73.8–96.8)
				  ▪ >3 to 6 months: 58.7% (95% CI –47.9–90.7)
				  ▪ >6 months: 76.5% (95% CI –17.9–97.6)
				  ○ By weight at randomization:
				  ▪ <5 kg: 82.1% (95% CI 59.1–93.3)
				  ▪ ≥5 kg: 85.2% (95% CI 57.0–96.2)
				  ○ By gestational age:
				  ▪ <37 weeks: 78.3% (95% CI 33.5–94.7)
				  ▪ ≥37 weeks: 84.4% (95% CI 64.9–94.1)
				  ○ By sex:
				  ▪ Male: 82.4% (95% CI 60.0–93.4)
				  ▪ Female: 84.4% (95% CI 54.2–96.1)
				  ○ By timing of randomization:
				  ▪ During the RSV season: 83.0% (95% CI 67.3–91.9)
				• Nirsevimab efficacy against severe RSV-LRTI: 75.7% (95% CI 32.8–92.9)
				• The vaccinated group showed superior efficacy to standard care 75.4% (95% CI 34.0–90.8)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (type of publication, vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome

				• Nirsevimab efficacy against hospitalization for RSV-LRTI by country:
				  ○ France: 89.6% (95% CI 58.8–98.7)
				  ○ Germany: 74.2% (95% CI 27.9–92.5)
				  ○ United Kingdom: 83.4% (95% CI 34.3–97.6)
				• The efficacy of standard care against hospitalization for RSV-LRTI by country:
				  ○ France: 89.4% (95% CI 54.1–97.5)
				  ○ Germany: 74.2% (95% CI 30.6–90.4)
				  ○ United Kingdom: 83.5% (95% CI 32.9–96.0)
				• VE against all-cause-LRTI hospitalization: 58.0% (95% CI 39.7–71.2)

Dieussaert 2024 (7)	• Population studied
	  ○ Children (0 to 6 months)
	• Type of immunization product
	  ○ Maternal AREXVY™ (RSVPreF3-Mat) by GlaxoSmithKline
	• Comparator
	  ○ Individuals receiving placebo
	• Testing
	  ○ Other (extract the information from the study)
	• Outcome measures
	  ○ RSVPreF3-Mat efficacy
	  ○ Relative risk
	• RSV-related outcome
	  ○ LRTD
	  ○ Severe LRTD
	• Timeframe (specimens collected timepoints)
	  ○ Baseline (pregnant women were enrolled between 24 weeks 0 days and 34 weeks 0 days of gestation from 20 November 2020 to 25 February 2022)
	  ○ Follow-up (infants from birth to 6 months of age)
		Type of publication: Peer reviewed
		
		Study design: Double-blind, randomized, placebo-controlled trial
		
		Analysis: VE was calculated using a Bayesian model and the equation: 1-relative risk; an interim safety analysis was also performed
		
		Setting and country: 24 countries
			• 5,328 pregnant women received RSVPreF3-Mat (n = 3,557) or placebo (n = 1,771)
			• Data was analyzed from 3,426 infants in the vaccinated group and 1,711 in the placebo group
				• RSVPreF3-Mat against RSV-LRTD: 65.5% (95% CI 37.5–82.0)
				• RSVPreF3-Mat against severe medically assessed RSV-LRTD: 69.0% (95% CI 33.0–87.6)

Ison 2024 (8)	• Population studied
	  ○ Older adults (aged ≥60 years)
	• Type of immunization product
		Type of publication: Peer reviewed
		
		Study design: Randomized, placebo-controlled trial
			• Season one the study included 24,973 participants; 12,470 received RSVPreF3 OA and 12,503 received placebo	• RSVPreF3 efficacy of one dose of RSVPreF3 OA over two seasons:
				  ○ 67.2% (97.5 % CI 48.2–80.0) against RSV-LRTD

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (type of publication, vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
	○ AREXVY™ (RSVPreF3 OA) by GlaxoSmithKline • Comparator ○ Individuals receiving placebo • Testing ○ Quantitative RT-PCR • Outcome measures ○ RSVPreF3 efficacy • RSV-related outcome ○ LRTD ○ Medically attended LRTD ○ Severe LRTD ○ Acute respiratory infection • Timeframe (specimens collected timepoints) ○ April 2022 to 31 March 2023 ○ Follow up (two RSV seasons, median follow-up of 17.8 months)	Analysis: This study uses the conditional exact binomial method based on a Poisson model to estimate over the course of two seasons the efficacy of 1 RSVPreF3 OA dose followed by revaccination a year later against RSV-associated LRTD, severe RSV-LRTD, and RSV-associated acute respiratory infection (ARI) in adults ≥60 years old; season, age, and region were covariates in the model; secondary analyses were performed for efficacy based on RSV subtype, season, year, age, comorbidities, and frailty Setting and country: 17 countries (Belgium, Canada, Estonia, Finland, Germany, Italy, Japan, Mexico, Poland, South Korea, Russian Federation, Spain, United Kingdom, United States, Australia, New Zealand, and South Africa)	• In season two 19,990 of the original participants were included; 4,966 (24.8%) were revaccinated, 4,991 (25.0%) received a placebo as their second dose (but had previously received the first vaccine dose), and 10,033 (50.2%) received their second placebo dose • Administration of RSVPreF3 OA or a placebo over the course of two seasons; this resulted in three interventions: RSV_revaccination group with two doses of the vaccine; RSV_1dose group with one dose of the vaccine followed by one placebo; and the placebo group that received two placebo doses.	○ 78.8% (95% CI 52.6–92.0) against severe RSV-LRTD ○ 52.7% (95% CI 40.0–63.0) against RSV-ARI ○ 73.1% (95% CI 49.4–86.9) against medically attended RSV-LRTD ○ 52.0% (95% CI 27.3–69.1) against medically attended RSV-ARI • RSVPreF3 efficacy of one dose of RSVPreF3 OA over two seasons against RSV-LRTD by virus subtype: ○ 80.5% (95% CI 54.0–93.2) for RSV-A ○ 59.7% (95% CI 35.8–75.5) for RSV-B • RSVPreF3 efficacy of one dose of RSVPreF3 OA over two seasons against RSV-LRTD by age group: ○ 60–69 years: 65.4% (95% CI 40.4–80.9) ○ 70–79 years: 74.9% (95% CI 48.4–89.2) ○ ≥70 years: 69.3% (95% CI 43.4–84.6) ○ ≥80 years: 38.4% (95% CI –118.2–86.1) • RSVPreF3 efficacy of one dose of RSVPreF3 OA by presence of coexisting conditions (for RSV-LRTD over 2 seasons): ○ ≥1 coexisting condition: 66.7% (95% CI 41.8–82.0) ○ ≥1 cardiorespiratory condition: 73.8% (95% CI 47.9–88.2) ○ ≥1 endocrine or metabolic condition: 63.1% (95% CI 17.4–85.4) • RSVPreF3 efficacy of one dose of RSVPreF3 OA over two seasons against RSV-LRTD among: ○ Pre–frail participants: 73.3% (95% CI 42.4–89.2) ○ Fit participants: 66.2% (95% CI 44.3–80.4) • VE of one dose of RSVPreF3 OA against RSV-LRTD: ○ Over one season (6.7 months median follow-up): 82.6% (95% CI 57.9–94.1) ○ Over one year: 78.9% (95% CI 57.6–90.5) ○ until mid-season 2 (13.9 months median follow-up): 77.3% (95% CI 60.2–87.9) ○ Over 2 seasons (17.8 months median follow-up): 67.2% (95% CI 48.2–80.0)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (type of publication, vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome

				• Over season two only, VE of one dose of RSVPReF3 OA:
				  ○ Against RSV-LRTD: 56.1% (95% CI 28.2–74.4)
				  ○ Against severe RSV-LRTD: 64.2% (95% CI 6.2–89.2)
				  ○ Against RSV-ARI: 40.6% (95% CI 19.0–57.0)
				  ○ RSV-A: 76.4% (95% CI 33.8–93.9)
				  ○ RSV-B: 43.9% (95% CI 1.0–69.9)
				  ○ Age ≥70 years: 62.1% (95% CI 18.4–84.6)
				  ○ Age 60–69 years: 50.9% (95% CI 6.1–76.3)
				  ○ Age 70–79 years: 66.2% (95% CI 18.9–88.3)
				  ○ ≥1 co-existing condition: 51.5% (95% CI 7.4–76.6)
				  ○ ≥1 cardiorespiratory condition: 66.5% (95% CI 24.2–87.4)
				
				RSVPreF3-Mat efficacy of RSV (revaccination regimen)
				• The VE of two doses of RSVPreF3 OA (second dose is given one year following the first dose) over two seasons:
				  ○ Against RSV-LRTD: 67.1% (97.5% CI 48.1–80.0)
				  ○ Against severe RSV-LRTD: 78.8% (95% CI 52.5–92.0)
				  ○ Against RSV-ARI: 60.3% (95% CI 48.8–69.5)
				• RSVPreF3-Mat efficacy of two doses of RSVPreF3 OA over two seasons against RSV-LRTD by virus subtype was:
				  ○ 55.9% (95% CI 16.8–78.2) for RSV-A
				  ○ 72.1% (95% CI 52.5–84.5) for RSV-B
				• RSVPreF3-Mat efficacy of two doses of RSVPreF3 OA over two seasons against RSV-LRTD by age group:
				  ○ 60–69 years: 71.6% (95% CI 48.9–85.2)
				  ○ 70–79 years: 66.2% (95% CI 35.7–83.6)
				  ○ ≥70 years: 61.9% (95% CI 33.0–79.6)
				  ○ ≥80 years: 38.6% (95% CI –117.2–86.2)
				• RSVPreF3-Mat efficacy of two doses of RSVPreF3 OA over two seasons against RSV-LRTD by co-existing conditions

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (type of publication, vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
				○ ≥1 condition: 75.1% (95% CI 53.6–87.8) ○ ≥1 cardiorespiratory condition: 81.3% (95% CI 58.6–92.9) ○ ≥1 endocrine or metabolic condition: 67.5% (95% CI 24.2–88.0) • RSVPreF3-Mat efficacy of two doses of RSVPreF3 OA over two seasons against RSV-LRTD by frailty status: ○ Pre-frail participants: 77.3% (95% CI 49.1–91.4) ○ Fit participants: 62.2% (95% CI 38.8–77.5) • Over season two only, VE of two doses of RSVPReF3 OA: ○ 55.9% (95% CI 27.9–74.3) against RSV-LRTD ○ 64.1% (95% CI 5.9–89.2) against severe RSV-LRTD ○ 55.8% (95% CI 37.5–69.5) against RSV-ARI
Griffin 2020 (9)	• Population studied ○ Children (0 to one year old) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Individuals receiving placebo • Testing ○ Nucleic acid testing-RT-PCR • Outcome measures ○ Nirsevimab efficacy • RSV-related outcome ○ Hospitalization ○ Medically attended LRTI • Timeframe (specimens collected timepoints) ○ Baseline (November 2016 to November 2017) ○ Follow-up (days 8, 31, 91, 151, and 361 after receiving nirsevimab/placebo)	Type of publication: Peer reviewed Study design: Randomized, placebo-controlled trial Analysis: This study uses a Poisson regression model to evaluate nirsevimab against RSV-associated medically attended LRTI and RSV-associated hospitalization in infants ≤1 year old who were born preterm (gestational age at birth of 29 weeks 0 days to 34 weeks 6 days); a Cochran-Mantel-Haenszel test and Kaplan-Meier curves were used for secondary analyses; subgroup analyses were performed for efficacy based on hemisphere, age, sex, race, gestational age, and siblings (twins/triplets) Setting and country: 164 sites in 23 countries (Argentina, Australia,	• 1,453 infants ≤1 year old included; 969 (66.7%) received nirsevimab, 484 (33%) received placebo • Administration of nirsevimab, a long-acting monoclonal antibody against RSV	• Nirsevimab efficacy against medically attended RSV-associated lower respiratory tract infection: 70.1% (95% CI 52.3–81.2) • Nirsevimab efficacy against hospitalization for RSV-associated lower respiratory tract infection: 78.4% (95% CI 51.9–90.3) • Nirsevimab efficacy against all-cause medically attended lower respiratory tract infection: 23.5% (95% CI 7.1–37.0) • Nirsevimab efficacy against all-cause respiratory-related hospitalization: 42.5% (95% CI 16.3–60.5) • Nirsevimab efficacy against medically attended RSV-associated lower respiratory tract infection through 150 days post-dose: ○ Hemisphere: ▪ Northern: 76.0% (95% CI 52.9–87.1) ▪ Southern: 69.0% (95% CI 39.9–84.1) ○ Age at randomization: ▪ ≤3 months: 84.2% (95% CI 51.9–87.3) ▪ 3 to ≤6 months: 61.2% (95% CI 21.3–80.8) ▪ >6 months: 65.2% (95% CI -2.5–88.2) ○ Sex: ▪ Female: 82.1% (95% CI 62.0–91.5)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (type of publication, vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
		Belgium, Brazil, Bulgaria, Canada, Chile, Czech Republic, Estonia, Finland, France, Hungary, Italy, Latvia, Lithuania, New Zealand, Poland, South Africa, Spain, Sweden, Turkey, United Kingdom, United States)		▪ Male: 62.3% (95% CI 29.4–79.8) ○ Race: ▪ Caucasian: 71.7 % (95% CI 52.5–83.1) ▪ Non-Caucasian: 76.5% (95% CI 23.5–92.8) ○ Gestational age: ▪ ≥29 to ≤32 weeks: 75.7% (95% CI 49.5–88.3) ▪ >32 weeks: 70.4% (95% CI 44.7–84.2) ○ Sibling enrolled in study: ▪ Yes: 74.4% (95% CI 33.0–90.2) ▪ No: 72.5% (95% CI 52.5–84.0)
Otsuki 2024 (10)	• Population studied ○ Children (0 to two years old) • Type of immunization product ○ Maternal ABRYSVO™ (RSVpreF) by Pfizer • Comparator ○ Individuals receiving placebo • Testing ○ Nucleic acid testing-RT-PCR • Outcome measures ○ RSVpreF efficacy • RSV-related outcome ○ Medically attended LRTI ○ Hospitalization ○ Severe LRTI • Timeframe (specimens collected timepoints) ○ Baseline (12 November 2020 to 2 September 2022) ○ Follow-up (weekly up to 6 months after birth, then monthly up to 12 or 24 months after birth)	Type of publication: Peer reviewed Study design: Randomized controlled trial Analysis: VE of maternal RSVpreF against medically attended RSV-LRTI (RSV-MA-LRTI), severe RSV-MA-LRTI, RSV-associated hospitalization, and all-cause medically attended LRTI (MA-LRTI) in infants was calculated using the equation 1-(hP/[1-P]) Setting and country: Japan	• 462 maternal participants ≤49 years old at 24–36 weeks' gestation were vaccinated with RSVpreF (n = 230) or placebo (n = 232) • 434 infants were followed after birth (218 were born to mothers who received RSVpreF, 216 were born to mothers who received placebo) until 12 or 24 months old • Maternal administration of RSVpreF	• VE against RSV-associated medically attended lower respiratory tract infection (RSV-MA-LRTI): ○ Within 90 days after birth: 100.0% (95% CI 30.9–100.0) ○ Within 120/150/180/210/240/270 days after birth: 87.6% (95% CI 7.2–99.7) ○ Within 360 days after birth: 75.1% (95% CI –24.7–97.4) • VE against severe RSV-MA-LRTI: ○ Within 90 days after birth: 100.0% (95% CI –140.9–100.0) ○ Within 120/150/180 days after birth: 75.1% (95% CI –151.5–99.5) • VE against RSV-associated hospitalization: ○ Within 90 days after birth: 100.0% (95% CI –8.6–100.0) ○ Within 120/150/180/360 days after birth: 80.1% (95% CI –77.9–99.6) • VE against all-cause MA-LRTI: ○ 53.6% (95% CI –21.0–84.0) within 90 days after birth ○ 16.2% (95% CI –72.1–59.7) within 120 days after birth ○ 0.5% (95% CI –91.5–48.3) within 150 days after birth ○ 4.3% (95% CI –72.4–47.0) within 180 days after birth ○ 25.4% (95% CI –26.4–56.4) within 360 days after birth

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (type of publication, vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome

Schmoele-Thoma 2022 (11)	• Population studied
	  ○ Adults (aged 18 to 50 years)
	• Type of immunization product
	  ○ ABRYSVO™ (RSVpreF) by Pfizer
	• Comparator
	  ○ Individuals receiving placebo
	• Testing
	  ○ Reverse-transcriptase – quantitative polymerase-chain-reaction (RT-qPCR)
	• Outcome measures
	  ○ RSVpreF efficacy
	• RSV-related outcome
	  ○ Infection
	• Timeframe (specimens collected timepoints)
	  ○ Follow-up (days 1–12, 28, and 155 post-challenge)
		Type of publication: Peer reviewed
		
		Study design: Phase 2a, single-centre, randomized, double-blind, exploratory study
		
		Analysis: VE against RSV infection was estimated using the equation (1 – incidence rate ratio) x 100% using the intention to treat population
		
		Setting and country: Not reported
			• 70 participants were randomized to receive the RSVpreF vaccine (n = 35) or placebo (n = 35)
			• 62 participants (31 in each group) were challenged with the RSV A Memphis 37b preparation
			• 60 participants completed the full 12-day observation
				• VE against symptomatic RSV infection confirmed by viral detection on two consecutive days: 86.7% (95% CI 53.8–96.5)
				• VE against symptomatic RSV infection confirmed by two quantifiable RT-qPCR results on ≥2 consecutive days: 100.0% (95% CI 72.8–100.0)
				• VE against culture-confirmed symptomatic RSV infection: 100.0% (95% CI 67.7–100.0)
				• VE against RSV infection regardless of symptom:
				  ○ With RT-qPCR results on ≥2 consecutive days: 75.0% (95% CI 38.4–90.6)
				  ○ With a quantifiable culture-confirmed infection: 100.0% (95% CI 72.8–100.0)

Walsh 2024 (12)	• Population studied
	  ○ Older adults (aged ≥60 years)
	• Type of immunization product
	  ○ ABRYSVO™ (RSVpreF) by Pfizer
	• Comparator
	  ○ Individuals receiving placebo
	• Testing
	  ○ Quantitative RT-PCR
	• Outcome measures
	  ○ RSVpreF efficacy
	• RSV-related outcome
	  ○ LRTD
	  ○ Acute respiratory infection
	• Timeframe (specimens collected timepoints)
	  ○ Follow-up (days 2, 3, 7, and 15 and 1 month post-injection)
		Type of publication: Letter to the editor
		
		Study design: International phase 3, double-blind, randomized, placebo-controlled trial
		
		Analysis: VE was calculated using case count ratio, calculated as 1 – (P/[1–P]), where P is the number of RSVpreF cases divided by the total number of cases; cases in season 1 and season 2 were pooled to estimate the VE across both seasons
		
		Setting and country: 240 sites across Argentina, Canada, Finland, Japan, the Netherlands, South Africa, and the United States
			• 18,050 participants (aged ≥60 years) were at risk in the RSVpreF group at the end of season 1
			• 16,164 participants were at risk in the RSVpreF group at the end of season 2
			• Across both seasons, 18,050 participants in the RSVpreF group were at risk at some point
			• 18,074 participants (aged ≥60 years) were at risk in the placebo group at the end of season 1
			• 16,059 participants in the placebo group remained at risk at the end of season 2
			• Across both seasons, 18,074 participants in the placebo group were at risk at some point
				• VE of RSVpreF vaccine across seasons one and two combined
				  ○ RST-LRTI ≥3 symptoms: 81.5% (95% CI 63.3–91.6)
				  ○ RST-LRTI ≥2 symptoms: 58.8% (95% CI 43.0–70.6)
				  ○ RSV-associated acute respiratory illness (ARI): 44.3% (95% CI 33.2–53.7)
				• VE of RSVpreF vaccine end of season one
				  ○ RST-LRTI ≥3 symptoms: 88.9% (95% CI 53.6–98.7)
				  ○ RST-LRTI ≥2 symptoms: 65.1% (95% CI 35.9–82.0)
				  ○ RSV-associated ARI: 62.2% (95% CI 44.4–74.9)
				• VE of RSVpreF vaccine end of season two
				  ○ RST-LRTI ≥3 symptoms: 77.8% (95% CI 51.4–91.1)
				  ○ RST-LRTI ≥2 symptoms: 55.7% (95% CI 34.7–70.4)
				  ○ RSV-associated ARI: 36.9% (95% CI 22.2–48.9)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (type of publication, vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome

				• VE of RSVpreF vaccine against RSV-A and RSV-B
				  ○ RSV-A: 80.6% (95% CI 52.9%–93.4)
				  ○ RSV-B: 86.4% (95% CI 54.6%–97.4)

Wilson 2023 (13)	• Population studied
	  ○ Adults (age 60 years and older)
	• Type of immunization product
	  ○ mRNA-1345
	• Comparator
	  ○ Individuals receiving placebo
	• Testing
	  ○ Reverse transcription polymerase chain reaction
	• Outcome measures
	  ○ mRNA-1345 efficacy
	• RSV-related outcome
	  ○ RSV-associated lower respiratory disease
	  ○ RSV-associated acute respiratory disease
	• Timeframe (specimens collected timepoints)
	  ○ 17 November 2021 to 31 October 2022
		Type of publication: Peer reviewed
		
		Study design: Randomized, double-blind, placebo-controlled, phase 2–3 trial
		
		Analysis: VE against RSV-associated lower respiratory disease was estimated using the equation (1 – hazard ratio) x 100%
		
		Setting and country: 22 countries (not reported in detail)
			• 35,541 participants were randomized, where 17,793 participants were assigned to the mRNA-1345 group and 17,748 were assigned to the placebo group
			• The mean age of the participants at enrollment was 68.1 years, 49.0% were women, 36.1% were non-White, and 34.5% were Hispanic or Latino
			• One or more coexisting conditions were reported by 29.3% of the participants, with 1.1% reporting a history of congestive heart failure and 5.5% reporting a history of chronic obstructive pulmonary disease (COPD)
			• A total of 21.9% of the participants were assessed as vulnerable or frail, as defined according to the Edmonton Frailty score
			• All participants who had undergone randomization completed at least one visit or surveillance contact 14 days after injection
				• Efficacy against RSV-associated lower respiratory disease with at least two signs or symptoms: 83.7% (95.88% CI 66.0–92.2)
				• Efficacy against RSV-associated lower respiratory disease with at least three signs or symptoms: 82.4% (96.36% CI 34.8–95.4)
				• Efficacy against RSV-associated acute respiratory disease with at least two signs or symptoms: 68.4% (95% CI 50.9–79.7)

Appendix 3: Summary of studies reporting on the effectiveness of RSV immunization products

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome

Ares-Gómez 2024 (14)	• Population studied
	  ○ Children (0 to 2 years old)
	• Type of immunization product
	  ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi
	• Comparator
	  ○ Unvaccinated individuals
	• Testing
	  ○ Nucleic acid testing-RT-PCR
	• Outcome measures
	  ○ Nirsevimab effectiveness
	• RSV-related outcome
	  ○ Lower respiratory tract disease (LRTD) (lower respiratory tract illness)
	  ○ Hospitalization
	  ○ Severe LRTD (requiring oxygen support)
	• Timeframe (specimens collected timepoints)
	  ○ Baseline (all infants born from 1 April to 15 December 2023)
	  ○ Follow-up (25 September to 31 December 2023)
		Type of publication: Peer reviewed
		
		Study design: Longitudinal prospective study
		
		Analysis: This study employed Poisson regression and Cox proportional hazards models to estimate nirsevimab effectiveness against RSV-related hospitalizations in infants, adjusting for factors like enrollment group, sex, and residential area
		
		Setting and country: Hospitals, Galicia, Spain
			• The study focused on infants in Galicia, Spain, including 10,259 eligible for nirsevimab (6,919 in the catch-up group born between 1 April and 24 September 2023, and 3,340 in the seasonal group born between 25 September 25 and 15 December 2023), with 91.7% receiving the immunization, and 851 (8.3%) did not receive nirsevimab
			• Administration of nirsevimab, a long-acting monoclonal antibody against RSV
				• These effectiveness estimates were based on data collected during the first three months of the nirsevimab immunization campaign in Galicia, Spain
				  ○ Nirsevimab effectiveness against RSV-related lower respiratory tract illness (LRTI) hospitalizations: 82.0% (95% CI 65.6–90.2)
				  ○ Nirsevimab effectiveness against severe RSV-related LRTI requiring oxygen support: 86.9% (95% CI 69.1–94.2)
				  ○ Nirsevimab effectiveness against all-cause LRTI hospitalizations: 69.2% (95% CI 55.9–78.0)

Estrella-Porter 2024 (15)	• Population studied
	  ○ Children (0 to 2 years old, born from 1 April 2023 onwards)
	• Type of immunization product
	  ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi
	• Comparator
	  ○ Unvaccinated individuals
	• Testing
	  ○ Nucleic acid testing-RT-PCR
	• Outcome measures
	  ○ Relative risk
		Type of publication: Peer reviewed
		
		Study design: Observational retrospective study
		
		Analysis: Vaccine effectiveness was calculated using multivariate logistic regression, controlling for factors such as breastfeeding intention, mother's country of origin, gestational weeks, and campaign group, to derive an adjusted odds ratio comparing
			• The study included 27,362 children born from 1 April 2023 onwards in the Valencian Community, Spain, with 24,223 receiving the intervention and 3,139 serving as non-immunized comparators
			• The intervention consisted of administering nirsevimab, as pre-exposure prophylaxis against RSV to newborns, infants under 6 months, and high-risk children up to 24
				• Relative risk of RSV infection: 0.30 (95% CI 0.23–0.39)
				• Adjusted odds ratio for RSV infection: 0.26 (95% CI 0.20–0.35) and nirsevimab effectiveness: 73.7%

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
	○ Odds ratio • RSV-related outcome ○ Infection ○ Hospitalization • Follow-up ○ From 1 October 2023 onwards	RSV infection rates between immunized and non-immunized infants Setting and country: Valencian Community (healthcare centres and maternity services) in Spain	months old, starting from 1 October 2023, in various healthcare settings	
Ezpeleta 2024 (16)	• Population studied ○ Children (0 to 2 years old) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Unvaccinated individuals • Testing ○ Nucleic acid testing-RT-PCR • Outcome measures ○ Nirsevimab effectiveness ○ Incidence rate • RSV-related outcome ○ Hospitalization ○ Emergency department (ED) visits ○ ICU admission ○ Lower respiratory tract infection • Timeframe (specimens collected timepoints) ○ Baseline ○ Follow-up (from birth until 28 January 2024, or until the first confirmed RSV specimen)	Type of publication: Peer reviewed Study design: Population-based study, prospective cohort design Analysis: This study used epidemiological surveillance, assessing nirsevimab effectiveness using Cox regression models adjusted for sex and week of birth, with nirsevimab immunization as a time-dependent variable, estimating effectiveness as (1 – hazard ratio) × 100 for various RSV-related outcomes Setting and country: Navarre, Spain	• The study included 1,177 infants born in Navarre, Spain from October to December 2023, followed up until 28 January 2024 • Nirsevimab was administered at birth to 92% of the infants, with most receiving it within seven days after birth	• Nirsevimab effectiveness against RSV-LRTI related hospitalization: 88.7% (95% CI 69.6–95.8) ○ By sex: ▪ Male: 91.5% (95% CI 66.8–97.8) ▪ Female: 81.5% (95% CI 15.0–96.0) ○ By birth month: ▪ October: 88.2% (95% CI 40.2–97.7) ▪ November: 91.6% (95% CI 62.0–98.2) ▪ December: 80.6% (95% CI –143.0–98.5) • Vaccine efficacy (VE) against RSV-related emergency room consultations: 89.0% (95% CI 73.7–95.4) • VE against RSV-related ICU admissions: 85.9% (95% CI 13.2–97.7)
Moline 2024 (17)	• Population studied ○ Children (0 to two years old) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Unvaccinated individuals • Testing	Type of publication: Peer reviewed Study design: Test-negative case-control design Analysis: The study estimated nirsevimab effectiveness against RSV-associated hospitalization using multivariable logistic	• The New Vaccine Surveillance Network, a platform to monitor acute respiratory illness, was used to monitor data from children younger than 18 • Children were invited to participate in this study if they were younger than 6 months as of 1 October 2023 (or born	• Nirsevimab against RSV-associated hospitalization: 90% (95% CI 75–96)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
	○ Nucleic-acid testing RT-PCR • Outcome measures ○ Nirsevimab effectiveness • RSV-related outcome ○ Infection ○ Hospitalization • Timeframe (specimens collected timepoints) ○ Baseline (1 October 2023 to 29 February 2024) ○ Follow-up	regression, adjusting for age at enrollment in months, month of illness, enrollment site, and presence of one or more high-risk medical conditions for severe RSV disease Setting and country: Seven pediatric academic medical centres, United States	after that date), were hospitalized with acute respiratory illness during 1 October 2023 to 29 February 2024 • A total of 699 infants were included in the study; 407 cases (58%) and 292 controls (42%) • 59 (8%) of participants had previously received nirsevimab	
López-Lacort 2024 (18)	• Population studied ○ Children (0 to 2 years old) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ If none of above, extract the information from the study • Testing ○ Other (extract the information from the study) • Outcome measures ○ Nirsevimab effectiveness • RSV-related outcome ○ Lower respiratory tract infection • Timeframe (specimens collected timepoints) ○ Baseline ○ Follow-up	Type of publication: Peer reviewed Study design: Test-negative design Analysis: Bayesian logistic regression was used and supported by a sensitivity analysis to estimate vaccine effectiveness Setting and country: Five hospitals in Spain	• Infants eligible for nirsevimab immunization were eligible for the study • Surveillance lasted between 1 October 2023 to 10 January 2024 • Immunisation was considered from data of vaccine, ranging from 26 September 2023 to 14 December 2025 • Proportion of infants immunized in hospital cases was compared to immunized infants in the general area	• Nirsevimab effectiveness against RSV-associated LRTI hospital admission (screening method): ○ 69.3% (95% CI 36.4–86.2) in Valencia ○ 86.9% (95% CI 77.1–92.9) in Murcia ○ 97% (95% CI 87.7–99.6) in Valladolid • Nirsevimab effectiveness against RSV lower respiratory tract infection hospital admission (overall from all three regions): 84.4% (95% CI 76.8–90.0) • RSV-LRTI hospitalizations (test-negative design): 70.2% (95% CI 38.3–88.5) in Valencia and Murcia • Nirsevimab effectiveness against RSV-negative lower respiratory tract infection hospital admissions (screening method – sensitivity analysis): ○ 19.6% (95% CI –18.0–82.3) in Valencia ○ 27.5% (95% CI –27.5–63.4) in Murcia ○ 32.4% (95% CI –27.5–63.4) for overall (Valencia and Murcia)
Lassoued 2024 (19)	• Population studied ○ Children (0 to 12 months) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Unvaccinated individuals • Testing ○ Antigen	Type of publication: Peer reviewed Study design: Test-negative case-control study Analysis: This study uses multivariate logistic regression to estimate the effectiveness of nirsevimab against RSV-positive bronchiolitis in infants aged <12	• 883 (453 case patients, 430 controls) infants in France aged <12 months who received a diagnosis of bronchiolitis within the PARI network; 62 (13.7) case patients and 177 (41.2%) control patients were immunized with nirsevimab	• The nirsevimab effectiveness against RSV-positive bronchiolitis in outpatients: 79.7% (95% CI 67.7–87.3) • The nirsevimab effectiveness against RSV-positive bronchiolitis in outpatients by age: ○ For <3 months old, 65.5% (95% CI –0.8–94.0) ○ For 3–6 months old, 87.8% (95% CI 66.9–95.5) ○ For >6 months old, 82.0% (95% CI 62.2–91.5) • Nirsevimab effectiveness against RSV-positive bronchiolitis in outpatients for preterm infants

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome

	• Outcome measures
	  ○ Nirsevimab effectiveness
	• RSV-related outcome
	  ○ Bronchiolitis due to RSV
	• Timeframe (specimens collected timepoints)
	  ○ Baseline (15 September 2023 to 1 February 2024)
		months, adjusting for factors including age, sex, birth term, birth weight, previous bronchiolitis, number of children per household, month of diagnosis, childcare settings, and region; subgroup analyses were performed for effectiveness of nirsevimab based on infant's age and gestational age at birth
		
		Setting and country: Paediatric and Ambulatory Research in Infectious diseases surveillance network (PARI) involving 107 ambulatory paediatricians, France
			• Administration of nirsevimab, a long-acting monoclonal antibody against RSV	(gestational age <37 weeks) was 56.6% (95% CI –1.2–92.5)
				• Nirsevimab effectiveness against RSV-positive bronchiolitis in outpatients for full term-born infants (gestational age ≥37 weeks) was 77.7% (95% CI 62.5–86.8)

Assad 2024 (20)	• Population studied
	  ○ Children (0 to 12 months old)
	• Type of immunization product
	  ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi
	• Comparator
	  ○ Unvaccinated individuals
	• Testing
	  ○ Nucleic acid testing-RT-PCR
	• Outcome measures
	  ○ Nirsevimab effectiveness
	• RSV-related outcome
	  ○ Hospitalization
	  ○ RSV-associated bronchiolitis
	• Timeframe (specimens collected timepoints)
	  ○ Baseline (15 October 2023 to 10 December 2023)
		Study design: Prospective matched case-control study
		
		Analysis: This study uses a conditional logistic-regression model and a multivariate regression model to estimate the effectiveness of nirsevimab against hospitalization for RSV-positive bronchiolitis in infants aged <12 months, adjusting for sex, gestational age at birth, birth weight, and risk factors for severe bronchiolitis; vaccine effectiveness was additionally estimated by age group, paediatric intensive care unit admission, ventilatory support, and present of at least one risk factor for severe bronchiolitis
		
		Setting and country: Six tertiary hospitals around metropolitan France
			• 1,035 patients younger than 12 months (690 cases, 345 controls) from tertiary hospitals in France; 60 (8.7%) case patients and 97 (28.1%) control patients were immunized with nirsevimab
			• Administration of nirsevimab, a long-acting monoclonal antibody against RSV
				• Nirsevimab effectiveness against hospitalization for RSV-associated bronchiolitis: 83.0% (95% CI 73.4–89.2)
				• Nirsevimab effectiveness against hospitalization for RSV-associated bronchiolitis by age:
				  ○ For <3 months old, 82.4% (95% CI 69.3–89.9)
				  ○ For ≥3 months old, 82.7% (95% CI 52.8–93.7)
				• Nirsevimab effectiveness against RSV-positive bronchiolitis leading to PICU admission: 69.6% (95% CI 42.9–83.8)
				• Nirsevimab effectiveness against RSV-positive bronchiolitis leading to ventilatory support: 67.2% (95% CI 38.6–82.5)
				• Nirsevimab effectiveness for infants with ≥ one risk factor for severe bronchiolitis: 64.8% (95% CI –17.2–89.4)

Agüera 2024 (21)	• Population studied ○ Children (0 to 12 months old) • Type of immunization product	Type of publication: Peer reviewed	• 234 children up to 12 months old, 141 cases and 93 controls;	• Nirsevimab effectiveness against hospitalization for RSV-associated LRTI: 81.0% (95% CI 60.9–90.7)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
	○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Unvaccinated individuals • Testing ○ Nucleic acid testing-RT-PCR • Outcome measures ○ Nirsevimab effectiveness • RSV-related outcome ○ Hospitalization ○ Bronchiolitis Score of Sant Joan de Déu (BROSJOD) ○ Need for oxygen support ○ Lengths of hospital stay (LOS) • Timeframe (specimens collected timepoints) ○ November 2023 to February 2024	Study design: Test-negative case-control Analysis: Multivariate analysis using a logistic regression model adjusted for age, weight, and presence of one or more preexisting conditions was used to estimate the effectiveness of nirsevimab against hospitalization due to RSV-associated bronchiolitis and severe RSV disease, BROSJOD score at admission, need for oxygen support, and LOS; subgroup analyses were performed by age and presence of comorbidities Setting and country: Hospital Sant Juan de Déu Barcelona, Hospital Universitari General de Catalunya, and Hospital Nostra Senyora Meritxell, Spain and Andorra	181 patients were eligible for nirsevimab • 109 (46.6%) patients had received nirsevimab, 72 (30.8%) were eligible but had not been immunized, and 53 (22.6%) were not eligible • Administration of nirsevimab, a long-acting monoclonal antibody against RSV	• Nirsevimab effectiveness against hospitalization for RSV-LRTI among patients by age group: ○ <3 months old: 78.2% (95% CI 42.8–91.7) ○ 3–6 months old: 85.3% (95% CI 22.5–97.2) • Nirsevimab effectiveness against hospitalization for RSV-LRTI for patients without comorbidities: 82.4% (95% CI 59.5–92.4) • Nirsevimab effectiveness against hospitalization for RSV-LRTI for patients born at a gestational age < 36 weeks (preterm): 98.9% (95% CI 33–100) • Nirsevimab effectiveness against severe disease (defined as needing non-invasive ventilation or conventional mechanical ventilation): 85.6% (95% CI 41.7–96.4)
Coma 2024 (22)	• Population studied ○ Children (0 to 6 months old) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Unvaccinated individuals • Testing ○ Antigen • Outcome measures ○ Nirsevimab effectiveness • RSV-related outcome ○ Infection ○ Hospitalization ○ ED visits due to bronchiolitis ○ ICU admission	Type of publication: Peer reviewed Study design: Retrospective cohort study Analysis: The Kaplan-Meier estimator and Cox regression models were used to evaluate nirsevimab in preventing primary care attended bronchiolitis, RSV infection, viral pneumonia diagnosed in primary care, ED visits due to bronchiolitis, RSV-related hospitalization, and RSV-related ICU admission in infants; the analysis was adjusted for age at beginning of study, sex, area of residence, nationality, rurality, and socio-economic status; a final Cox	• 26,525 infants born between April and September 2023 • 23,127 (87.2%) had received nirsevimab • Administration of nirsevimab, a long-acting monoclonal antibody against RSV	• Nirsevimab effectiveness against specified outcomes: ○ Against RSV infection: 68. 9% (95% CI 51.7–80) ○ Against primary care attended bronchiolitis: 48.1% (95% CI 42.4–53.3) ○ Against viral pneumonia: 60.7% (95% CI 24.2–79.7) ○ Against hospital emergency visits due to bronchiolitis: 55.4% (95% CI 48.4–61.5) ○ Against hospital admission due to RSV bronchiolitis: 87.6% (95% CI 82.1–91.4) ○ Against ICU admission due to RSV bronchiolitis: 90.1% (95% CI 76.3–95.9)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
	○ Primary care attended bronchiolitis ○ Viral pneumonia diagnosed in primary care • Timeframe (specimens collected timepoints) ○ 1 October 2023 to 31 January 2024	regression model stratified by months of birth was performed Setting and country: Catalonia, Spain		
Paireau 2024 (23)	• Population studied ○ Children (0 to 9 months old) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Unvaccinated individuals • Testing ○ Multiplex PCR • Outcome measures ○ Nirsevimab effectiveness • RSV-related outcome ○ ICU admission for RSV bronchiolitis • Timeframe (specimens collected timepoints) ○ 15 September 2023 to 31 January 2024	Type of publication: Peer reviewed Study design: Test-negative case-control Analysis: A logistic regression model was used to estimate the VE on hospitalization to paediatric intensive care unit (PICU) for RSV-bronchiolitis in infants <5 months old (or <9 months old if they had comorbidities), adjusting for age group, sex, presence of comorbidities, prematurity, and time period Setting and country: 20 PICUs, metropolitan France	• 288 infants (238 cases and 50 controls), 58 (20%) had received nirsevimab prior to treatment in the PICU • Administration of nirsevimab, a long-acting monoclonal antibody against RSV	• Nirsevimab effectiveness against severe RSV-bronchiolitis cases requiring paediatric intensive care unit (PICU) admission: 75.9% (95% CI 48.5–88.7)
Barbas Del Buey 2024 (24)	• Population studied ○ Children (0 to 10 months old) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Unvaccinated individuals • Testing ○ Antigen ○ Nucleic acid testing-RT-PCR ○ RSV isolation test • Outcome measures ○ Nirsevimab effectiveness	Type of publication: Peer reviewed Study design: Prospective cohort study Analysis: A multivariable Cox regression model was used to estimate the effectiveness of nirsevimab. The model was adjusted for the following variables: sex, age, gestational age at birth, type of gestation, presence of comorbidities, net income of household, cumulative incidence of	• 37,067 (80.8% immunized) infants born between April and December 2023 were included in the population eligible for immunization • 33,859 were included in the analysis of nirsevimab effectiveness • Administration of nirsevimab, a long-acting monoclonal antibody against RSV	• Nirsevimab effectiveness against emergency care: ○ 66.7% (95% CI 61.0–71.6) in first month of follow-up ○ 58.1% (95% CI 53.5–62.3) in second month of follow-up ○ 47.3% (95% CI 41.2–52.9) in third month of follow-up ○ 33.8% (95% CI 21.8–43.9) in fourth month of follow-up ○ 16.7% (95% CI –5.9–34.5) in fifth month of follow-up • Nirsevimab effectiveness against hospitalization: ○ 93.6% (95% CI 89.7–96.1) in first month of follow-up ○ 92.5% (95% CI 89.9–94.4) in second month of follow-up

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome

	• RSV-related outcome
	  ○ Medically attended bronchitis/bronchiolitis
	  ○ Hospitalization
	  ○ ED visits
	  ○ ICU admission
	• Timeframe (specimens collected timepoints)
	  ○ Baseline (1 October 2023 to 29 February 2024)
		RSV infection in children aged 0 to 5 years old in the area of residence, and epidemiological week
		
		Setting and country: Primary care or hospital settings in Madrid region, Spain
				○ 91.1% (95% CI 86.9–94.0) in third month of follow-up
				○ 89.5% (95% CI 79.8–94.6) in fourth month of follow-up
				○ 87.6% (95% CI 67.7–95.3) in fifth month of follow-up
				• Nirsevimab effectiveness against intensive care:
				○ 94.4% (95% CI 87.3–97.5) in first month of follow-up
				○ 93.3% (95% CI 85.6–96.9) in second month of follow-up
				○ 92.1% (95% CI 64.0–98.3) in third month of follow-up
				○ 90.7% (95% CI –3.6–99.2) in fourth month of follow-up
				○ 89.0% (95% CI –207.3–99.6) in fifth month of follow-up
				• Nirsevimab effectiveness against medically attended bronchitis/bronchiolitis:
				○ At 15 days old:
				▪ 69.0% (95% CI 63.5–73.7) in first month of follow-up
				▪ 60.9% (95% CI 55.0–65.9) in second month of follow-up
				▪ 50.6% (95% CI 43.6–56.7) in third month of follow-up
				▪ 37.5% (95% CI 27.6–46.1) in fourth month of follow-up
				▪ 21.1% (95% CI 5.5–34.1) in fifth month of follow-up
				○ At 1 month old:
				▪ 68.2% (95% CI 62.6–73.0) in first month of follow-up
				▪ 59.8% (95% CI 54.1–64.9) in second month of follow-up
				▪ 49.3% (95% CI 42.4–55.3) in third month of follow-up
				▪ 35.9% (95% CI 26.1–44.4) in fourth month of follow-up
				▪ 19.0% (95% CI 3.5–32.0) in fifth month of follow-up
				○ At 3 months old:
				▪ 59.8% (95% CI 54.3–64.6) in first month of follow-up

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
				▪ 49.2% (95% CI 44.4–53.6) in second month of follow-up ▪ 35.8% (95% CI 30.4–40.8) in third month of follow-up ▪ 18.9% (95% CI 10.0–27.0) in fourth month of follow-up ▪ –2.4% (95% CI –18.7–11.6) in fifth month of follow-up ○ At 5 months old: ▪ 48.3% (95% CI 40.9–54.9) in first month of follow-up ▪ 34.7% (95% CI 27.6–41.2) in second month of follow-up ▪ 17.5% (95% CI 9.1–25.2) in third month of follow-up ▪ –4.2% (95% CI –17.4–7.5) in fourth month of follow-up • Nirsevimab effectiveness against hospitalization at 150 days of follow-up: ○ 86.1% (95% CI 50.3–96.1) for 50 mg ○ 85.2% (95% CI 38.8–96.4) for 100 mg
Xu 2024 (25)	• Population studied ○ Children (0 to 2 years old) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Unvaccinated individuals • Testing ○ Nucleic acid testing-RT-PCR • Outcome measures ○ Nirsevimab effectiveness • RSV-related outcome ○ Medically attended RSV infection ○ Hospitalization ○ Outpatient visits ○ Severe RSV ○ All-cause LRTI ○ All-cause LRTI hospitalization ○ RSV-associated LRTI	Type of publication: Peer reviewed Study design: Test-negative case-control Analysis: Vaccine effectiveness was estimated using a multivariable logistic regression model adjusted for age, calendar months, and presence of at least one risk factor; effectiveness was additionally estimated by time since immunization and dosage Setting and country: Yale New Haven Health System, United States	• 3,090 infants born after 1 October 2022 (680 cases, 2,410 controls) • 330 (10.7%) were immunized with nirsevimab • Administration of nirsevimab, a long-acting monoclonal antibody against RSV	• Nirsevimab effectiveness against medically attended RSV infection: 68.4% (95% CI 50.3–80.8) ○ By time since immunization: ▪ At two weeks post–immunization: 79% (95% CI 63–91) ▪ At four weeks post-immunization: 76% (95% CI 60–87) ▪ At six weeks post-immunization: 73% (95% CI 56–84) ▪ At eight weeks post-immunization: 70% (95% CI 51–82) ▪ At 10 weeks post-immunization: 66% (95% CI 44–80) ▪ At 12 weeks post-immunization: 61% (95% CI 34–77) ▪ At 14 weeks post-immunization: 55% (95% CI 16–75) ▪ At 16 weeks post-immunization: 48% (95% CI –9–72) ▪ At 16+ weeks post-immunization: 39% (95% CI –53–70)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
	• Timeframe (specimens collected timepoints) ○ Baseline (1 October to 9 May 2024)			○ By dose: ▪ 50 mg: 66% (95% CI 42.1–81.4) ▪ 100 mg: 72.7% (95% CI 40.6–89.6) ▪ Any dosage: 68.4% (95% CI 50.3–80.8) • Nirsevimab effectiveness against outpatient visits: 61.6% (95% CI 35.6–78.6) ○ By time since immunization: ▪ At two weeks post-immunization: 75% (95% CI 53–89) ▪ At four weeks post-immunization: 71% (95% CI 48–86) ▪ At six weeks post-immunization: 67% (95% CI 44–83) ▪ At eight weeks post-immunization: 64% (95% CI 38–80) ▪ At 10 weeks post-immunization: 60% (95% CI 31–78) ▪ At 12 weeks post-immunization: 55% (95% CI 20–76) ▪ At 14 weeks post-immunization: 49% (95% CI 3–73) ▪ At 16 weeks post-immunization: 42% (95% CI –23-70) ▪ At 16+ weeks post-immunization: 33% (95% CI –63-68) ○ By dose: ▪ 50 mg: 58.1% (95% CI 21.5–79.5) ▪ 100 mg: 67.1% (95% CI 22.9–88.8) ▪ Any dosage: 61.6% (95% CI 35.6–78.6) • Nirsevimab effectiveness against hospitalization: 80.5% (95% CI 52.0–93.5) ○ By time since immunization ▪ At two weeks post-immunization: 91% (95% CI 71–98) ▪ At four weeks post-immunization: 88% (95% CI 67–97) ▪ At six weeks post-immunization: 86% (95% CI 61–96) ▪ At eight weeks post-immunization: 83% (95% CI 53–95) ▪ At 10 weeks post-immunization: 79% (95% CI 42–94)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
				▪ At 12 weeks post-immunization: 74% (95% CI 24–92) ▪ At 14 weeks post-immunization: 67% (95% CI –6–90) ▪ At 16 weeks post-immunization: 59% (95% CI –56–89) ▪ At 16+ weeks post-immunization: 49% (95% CI –149-88) o By dose: ▪ 50 mg: 77.8% (95% CI 39.6–93.7) ▪ 100 mg: 87.9% (95% CI 34.3–99.4) ▪ Any dosage: 80.5% (95% CI 52–93.5) • Nirsevimab effectiveness against severe RSV: 84.6% (95% CI 58.7–95.6) o By time since immunization: ▪ At two weeks post-immunization: 95% (95% CI 79–100) ▪ At four weeks post-immunization: 93% (95% CI 75–99) ▪ At six weeks post-immunization: 91% (95% CI 70–98) ▪ At eight weeks post-immunization: 88% (95% CI 61–97) ▪ At 10 weeks post-immunization: 84% (95% CI 48–96) ▪ At 12 weeks post-immunization: 78% (95% CI 21–94) ▪ At 14 weeks post-immunization: 69% (95% CI –25–93) ▪ At 16 weeks post-immunization: 58% (95% CI –99–91) ▪ At 16+ weeks post-immunization: 43% (95% CI –247–89) o By dose: ▪ 50 mg: 84.7% (95% CI 52.9–96.5) ▪ 100 mg: 85.8% (95% CI 17.9–99.3) ▪ Any dosage: 84.6% (95% CI 58.7–95.6) • Nirsevimab effectiveness against all-cause LRTI: o Full season (Oct.–May): 18.8% (95% CI –9.3–40.3) o Peak months (Oct.–Jan.): 38% (95% CI 4.7–60.9) o Peak months (Oct.–Dec.): 47.2% (95% CI 7.5–71.7)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
				○ Peak months (Nov.–Dec.): 49.4% (95% CI 10.7–72.9) ○ Off-peak months (Feb.–May): –14.2% (95% CI –75.6–26.7) • Nirsevimab effectiveness against all-cause LRTI hospitalization: ○ Full season (Oct.–May): 47.1% (95% CI 7.6–70.2) ○ Peak months (Oct.–Jan.): 78.3% (95% CI 50.8–91.1) ○ Peak months (Nov.–Dec.): 79.1% (95% CI 27.6–94.9) ○ Peak months (Oct.–Dec.): 80.5% (95% CI 36.8–95.1) ○ Off-peak months (Feb.–May): –59.5% (95% CI –287–32.6) • Nirsevimab effectiveness against RSV-associated LRTI: ○ At two weeks post-immunization: 84% (95% CI 62–95) ○ At four weeks post-immunization: 81% (95% CI 58–93) ○ At six weeks post-immunization: 79% (95% CI 54–91) ○ At eight weeks post-immunization: 76% (95% CI 49–89) ○ At 10 weeks post-immunization: 72% (95% CI 42–88) ○ At 12 weeks post-immunization: 68% (95% CI 32–86) ○ At 14 weeks post-immunization: 63% (95% CI 17–84) ○ At 16 weeks post-immunization: 58% (95% CI –1–82) ○ At 16+ weeks post-immunization: 52% (95% CI –29–81)
López-Lacort 2025(26)	• Population studied ○ Children (0 to <10 months old) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator	Type of publication: Pre-print Study design: Test-negative design (TND) Analysis: A Bayesian logistic regression model was used to analyze the effectiveness of	• 160 infants; 141 infants (88%) received nirsevimab • 29 infants (21%) were administered in hospital and 112 (79%) administered to catch-up group (targeted effort outside of hospital administration)	• The overall adjusted Nirsevimab effectiveness against medically attended RSV-LRTI (respiratory syncytial virus lower respiratory tract infections): 75.8% (95% CI 40.04–92.7), and 80.2% (95% CI 44.3–95.4) in the catch-up group

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
	○ Unvaccinated individuals ○ Individuals who tested negative for RSV • Testing ○ Nucleic acid testing-RT-PCR • Outcome measures ○ Nirsevimab effectiveness • RSV-related outcome ○ Medically attended RSV-LRTI (respiratory syncytial virus lower respiratory tract infections) in the primary care setting • Timeframe (specimens collected timepoints) ○ Baseline (1 November 2023 to 29 February 2024)	nirsevimab in preventing RSV-LRTI in infants <20 months of age (both overall and for catch-up infants); effectiveness was calculated using (1 – Odds Ratio) x 100% and random effects was calculated to account for primary care center variability Setting and country: Large primary care network in Valencia and Murcia regions of Spain	• 44 infants (27.5%) tested positive for RSV, with the other 116 serving as controls • Administration of nirsevimab, a monoclonal antibody against RSV	
Carbajal 2024 (27)	• Population studied ○ Children (0 to 12 months old) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Unvaccinated individuals • Testing ○ Nucleic acid testing-RT-PCR • Outcome measures ○ Nirsevimab effectiveness • RSV-related outcome ○ Hospitalization for all-cause bronchiolitis ○ Hospitalization for RSV-bronchiolitis ○ Severe RSV- bronchiolitis ○ ICU admission ○ ED visits for all-cause bronchiolitis ○ ED visits for RSV-bronchiolitis • Timeframe (specimens collected timepoints)	Type of publication: Peer reviewed Study design: Case-control study Analysis: The effectiveness of nirsevimab in reducing ED visits was calculated using odds ratio ((1 – Odds Ratio) x 100%) adjusted for week of ED visit, sex, and age; sensitivity analyses were also conducted including logistic regression analysis with age as a continuous variable; a Bayesian logistic model was used to predict RSV status in infants who did not undergo PCR sampling Setting and country: Paediatric emergency department, Armand Trousseau University Hospital, Paris, France	• 2,786 infants (864 case infants diagnosed with bronchiolitis, 1,922 control infants without bronchiolitis) • 178 (21%) case infants had received nirsevimab, 686 (79%) had not received • Of 864 infants diagnosed with bronchiolitis, 277 (32%) were RSV PCR tested • Of the 67 infants tested for RSV who had received nirsevimab, 22 (33%) tested positive	• VE against ED visits for all-cause bronchiolitis: 47% (95% CI 33–58) ○ By age: ▪ ≤3 months: 52% (95% CI 29–68) ▪ 3–6 months: 59% (95% CI 36–74) ▪ 6–12 months: 27% (95% CI –9-51) • Nirsevimab effectiveness against ED visits for RSV-associated bronchiolitis: 83% (95% CI 71–90) ○ By age groups: ▪ ≤3 months: 79% (95% CI 63–88) ▪ 3 to ≤6 months: 88% (95% CI 69–95) ▪ 6 to 12 months: 83% (95% CI 35–95) • Nirsevimab effectiveness against hospitalization for all-cause bronchiolitis: 59% (95% CI 42–72) ○ By age groups: ▪ ≤3 months: 58% (95% CI 33–73) ▪ 3 to ≤6 months: 66% (95% CI 33–83) ▪ 6 to 12 months: 50% (95% CI –17–79) • Nirsevimab effectiveness against RSV-associated bronchiolitis hospitalizations: 83% (95% CI 72–90) ○ By age groups: ○ ≤3 months: 78% (95% CI 62–88) ○ 3 to ≤6 months: 88% (95% CI 71–97) ○ 6 to 12 months: 89% (95% CI 72–97)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
	○ Baseline (14 October 2023 to 29 February 2024)			• Nirsevimab effectiveness against severe RSV-associated bronchiolitis: ○ Requiring supplemental oxygen: 91% (95% CI 78–96) ○ Requiring nasogastric tube feeding: 88% (95% CI 74–95) • Nirsevimab effectiveness against ICU admission: 67% (95% CI –100–95)
Rodríguez-Fernández 2024 (28)	• Population studied ○ Children (0 to <6 months old) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Unvaccinated individuals • Testing ○ Antigen ○ Nucleic acid testing-RT-PCR • Outcome measures ○ Nirsevimab effectiveness • RSV-related outcome ○ Hospitalization • Timeframe (specimens collected timepoints) ○ 1 October 2023 to 31 December 2023	Type of publication: Peer reviewed Study design: Case-control study Analysis: The effectiveness of nirsevimab in reducing hospitalization was calculated using (1 – Odds Ratio) x 100%; sensitivity analyses were also performed to compare seasons with lower RSV and other factors Setting and country: Gregorio Marañón Children's Hospital, Madrid, Spain	• 138 infants <6 months old, 32 admitted for bronchiolitis (21 with RSV bronchiolitis) • Of the 21 admitted for RSV bronchiolitis, six (28%) had received nirsevimab • Of the 11 admitted for bronchiolitis due to another cause, eight (72%) received nirsevimab	• Nirsevimab effectiveness against RSV hospitalization: 85% (95% CI 32–97)
Tartof 2024 (29)	• Population studied ○ Older adults (aged ≥65 years) • Type of immunization product ○ ABRYSVO™ (RSVpreF) by Pfizer • Comparator ○ Unvaccinated individuals • Testing ○ Other (Roche Diagnostics Cobas eplex respiratory pathogen panel 2) • Outcome measures ○ RSVpreF effectiveness • RSV-related outcome	Type of publication: Peer reviewed Study design: Test-negative case-control study Analysis: Vaccine effectiveness was assessed using 1 – Odds Ratio x 100%; the 95% confidence interval was reported; a multivariate logistic regression was used to calculate odds ratios, and the model was adjusted for month of encounter, age, sex, self-reported race and ethnicity,	• A total of 10,566 patients, 60 years or older, who had LRTD hospitalizations or ED encounters • 8,085 (76.5%) patients had a nasal swab, 5,649 (69.7%) were tested for RSV, and 7,047 (64.2%) patients were included in the final analysis	• RSVpreF vaccine effectiveness against RSV-related LRTD (hospitalizations and ED visits) ○ With strictly defined controls: 91% (95% CI 59–98) ○ With any controls: 90% (95% CI 59–97) • RSVpreF vaccine effectiveness against severe RSV-related LRTD hospitalizations and ED events (requiring oxygen supplementation): 89% (95% CI 13–99) • RSVpreF vaccine effectiveness against RSV-related LRTD hospitalizations: 87% (95% CI –8–98) • RSVpreF vaccine effectiveness against RSV-related LRTD hospitalizations in high-risk patients: 87% (95% CI –6–98) • RSVpreF vaccine effectiveness against RSV-related LRTD ED visits: 93% (95% CI 45–99)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
	○ Medically attended LRTD ○ ED visits ○ Severe LRTD ○ Death • Timeframe (specimens collected timepoints) ○ Baseline (24 November 2023 to 9 April 2024)	modified Charlson score, and healthcare use the year before recruitment Setting and Country: Kaiser Permanente Southern California, United States	• 8.8% (n = 623) of participants tested positive for RSV, 3.2% (n = 223) had received RSVpreF • 3.4% (n = 221) of RSV-negative participants were vaccinated with RSVpreF • The analysis with strictly defined controls included 623 cases and 804 controls	
Chauvel 2024 (30)	• Population studied ○ Children (0 to 2 years old) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Unvaccinated individuals • Testing ○ Nucleic acid testing-RT-PCR • Outcome measures ○ Nirsevimab effectiveness • RSV-related outcome ○ Lower respiratory infection hospitalizations • Timeframe (specimens collected timepoints) ○ Baseline (October 2023 to February 2024)	Type of publication: Peer reviewed Study design: Retrospective observational study Analysis: Nirsevimab effectiveness was estimated using the following calculation: 1 – (odds of immunization among RSV infants compared with immunization coverage in the birth cohort); the calculation was adjusted for week of birth Setting and Country: Hospices Civils de Lyon, France	• A total of 83 infants younger than 6 months, born in the Hospices Civils de Lyons, and hospitalized during the 2023 to 2024 RSV season, were included in this study • 41 participants were born while nirsevimab was offered, 51.2% (n = 21) of these patients were immunized • For context, the nirsevimab campaign began in France after 15 September 2023 and infants were offered the vaccine after discharge	• Nirsevimab effectiveness against RSV lower respiratory tract infection hospitalization: 78.3% (95% CI 55.9–89.5)
Moline 2024 (31)	• Population studied ○ Children (0 to two years old) • Type of immunization product ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Unvaccinated individuals • Testing ○ Nucleic acid testing RT-PCR • Outcome measures ○ Nirsevimab effectiveness	Type of publication: Peer reviewed Study design: Test-negative case-control design study Analysis: Multivariable logistic regression models were utilized and adjusted for site, age in months, month of enrollment, and presence of one or more high-risk medical conditions for severe RSV disease; nirsevimab effectiveness	• 1,616 infants younger than 8 months on 1 October 2023 or born after were included in the analysis of nirsevimab effectiveness; 765 were cases and 851 were controls • 1% (n = 10) of case patients and 15% (n = 126) of control patients had received nirsevimab	• Nirsevimab effectiveness: ○ RSV-associated hospitalization: 93% (95% CI 82–97) ○ RSV medically attended RSV-associated acute respiratory illness (ARI): 89% (95% CI 79–94)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome

	• RSV-related outcome
	  ○ Medically attended acute respiratory infection
	  ○ Hospitalization
	• Timeframe (specimens collected timepoints)
	  ○ Baseline (1 October 2023 to 31 April 2024)
		was calculated using (1 – adjusted odds ratio) x 100%
		
		Setting and country: Seven unnamed academic medical centres in the New Vaccine Surveillance Network, United States		

Jimeno Ruiz 2024 (32)	• Population studied
	  ○ Children (0 to 2 years old)
	• Type of immunization product
	  ○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi
	• Comparator
	  ○ Unvaccinated individuals
	• Testing
	  ○ Antigen
	  ○ Nucleic acid testing RT-PCR
	• Outcome measures
	  ○ Nirsevimab effectiveness
	  ○ Nirsevimab efficacy
	• RSV-related outcome
	  ○ Hospitalization
	  ○ Lower respiratory tract infection
	  ○ ICU admission
	  ○ Severe LRTI
	• Timeframe (specimens collected timepoints)
	  ○ Baseline (1 October 2018 to 31 March 2019; 1 October 2019 to 31 March 2020; 1 October 2022 to 31 March 2023; 1 October 2023 to 31 March 2024)
		Type of publication: Peer reviewed
		
		Study design: Retrospective observational study
		
		Analysis: Poisson regression models and Cox proportional hazards models were used; the efficacy of Nirsevimab against RSV hospitalization was calculated as (1 – point estimate) x 100 and 95% confidence intervals were generated
		
		Setting and country: Three hospitals in Spain
			• A total of 646 infants less than 6 months of age at the beginning of the study period, from three hospitals in Spain were included in this study
			• 77 patients were included in the season that nirsevimab was available; 26 (33.85) received nirsevimab and 51 (66.2%) did not
				• Nirsevimab effectiveness against RSV-related LRTI hospitalizations:
				  ○ Under 3 months: 79.3% (95% CI 65.7–88.3)
				  ○ Ages 3–6 months: 66.9% (95% CI 36.2–84.7)
				• Nirsevimab effectiveness against RSV-related LRTI hospitalizations requiring oxygen support:
				  ○ Under 3 months: 77.3% (95% CI 58.3–88.8)
				  ○ Ages 3–6 months: 91.7% (95% CI 60.8–99.5)
				• Nirsevimab effectiveness against hospitalizations involving ICU admission:
				  ○ Under 3 months: 68.7% (95% CI 43.7–83.8)
				  ○ Ages 3–6 months: 67.9% (95% CI –20.2-95.0)
				• Nirsevimab effectiveness against LRTI hospitalizations requiring non-invasive mechanical ventilation (NIMV) and/or high-flow nasal oxygen (HFNO):
				  ○ Under 3 months: 78.0% (95% CI 59.5–89.1)
				  ○ Ages 3–6 months: 91.4% (95% CI 59.0–99.5)
				• Nirsevimab effectiveness against cases requiring intermittent mandatory ventilation (IMV):
				  ○ Under 3 months: 87.2% (95% CI 31.8–99.3)
				  ○ Ages 3–6 months: No events recorded
				• Nirsevimab effectiveness against RSV-related LRTI hospitalizations with all possible complications:
				  ○ Under 3 months: 77.3% (95% CI 60.1–88.1)
				  ○ Ages 3–6 months: 83.4% (95% CI 44.2–97.3)
				• Nirsevimab effectiveness against RSV hospitalizations with all possible complications:
				  ○ For under 3 months: 75.8%
				  ○ Age 3–6 months: 64.5%

Lefferts 2024 (33)	• Population studied
	  ○ Children (0 to 2 years old)
	• Type of immunization product
		Type of publication: Peer reviewed
		
		Study design: Test-negative case-control
			• 472 children aged <20 months on 1 October 2023 or born after that date were included; 68 (14%) patients tested	• Nirsevimab effectiveness against medically attended ARI: 82% (95% CI 62–91)
				  ○ Among children in their first RSV season: 76% (95% CI 42–90)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
	○ Monoclonal antibody BEYFORTUS™ (nirsevimab) by Sanofi • Comparator ○ Unvaccinated individuals • Testing ○ Nucleic acid testing-RT-PCR • Outcome measures ○ Nirsevimab effectiveness • RSV-related outcome ○ Hospitalization ○ Acute respiratory infection ○ Acute respiratory disease ○ Outpatient visits • Timeframe (specimens collected timepoints) ○ Baseline (31 October 2023 to 30 June 2024)	Analysis: Odds ratios of medically attended acute respiratory illness (ARI) associated with RSV was evaluated using multivariable logistic regression adjusted for age, sex, calendar month, residence community type, and presence of underlying conditions; effectiveness of nirsevimab was estimated as (1 – adjusted odds ratio) x 100% Setting and country: Yukon-Kuskokwim Delta region, Alaska, United States	positive for RSV and 404 (86%) tested negative • 48% of included patients had received nirsevimab; 15% (n = 10) of patients testing positive for RSV had received nirsevimab compared to 54% (n = 217) of patients testing negative	○ Among children in their second RSV season: 88% (95% CI 48–97) ○ Seven to 89 days after nirsevimab receipt: 90% (95% CI 68–97) ○ 90 to 179 days after nirsevimab receipt: 77% (95% CI 31–92) • Nirsevimab effectiveness against RSV-associated hospitalization: 93% (95% CI 64–99) ○ Among children in their first RSV season: 89% (95% CI 32–98)
Payne 2024 (34)	• Population studied ○ Older adults (aged ≥60 years) • Type of immunization effectiveness ○ AREXVY™ (RSVPreF3) by GlaxoSmithKline ○ ABRYSVO™ (RSVpreF) by Pfizer • Comparator ○ Unvaccinated individuals • Testing ○ Antigen ○ Nucleic acid testing-RT-PCR • Outcome measures ○ RSVPreF3 effectiveness • RSV-related outcome ○ Hospitalization ○ ED visits ○ ICU admission ○ Death • Timeframe (specimens collected timepoints) ○ Baseline (1 October 2023 to 31 March 2024)	Type of publication: Peer reviewed Study design: Test-negative design analysis study Analysis: VE against hospitalizations and emergency department encounters was calculated as (1 – adjusted odds ratio (OR)) x 100%; odds ratios were calculated with multivariable logistic regression models adjusted for age, race and ethnicity, sex, calendar day, Social Vulnerability Index quartile, non-respiratory underlying conditions, respiratory underlying conditions, and Health and Human services geographical region Setting and country: VISION EHR network from Kaiser Permanente Northwest (Oregon and	• 36,706 hospitalizations of patients ≥60 years old with RSV-like illness and RSV testing during the study period were identified, with 34,780 (95%) being linked to RSV-negative tests and 1,926 (5%) being linked to RSV-positive tests • 3,275 (9%) had received an RSV vaccine, 3,230 (9%) of virus negative patients were vaccinated, and 45 (2%) of virus-positive patients were vaccinated • 37,842 emergency department patients ≥60 years old with RSV-like illness and RSV testing during the study period were identified, with 35,082 (93%) being linked to RSV negative tests and 2,760 (7%)	• RSVPreF3 effectiveness against hospitalization for immunocompetent ≥60 years old: 80% (95% CI 71–85) • RSVPreF3 effectiveness against hospitalization for immunocompetent 60–74 years old: 81% (95% CI 66–90) • RSVPreF3 effectiveness against hospitalization for immunocompetent ≥75 years old: 79% (95% CI 68–86) • RSVPreF3 effectiveness for ≥60 year olds with critical illness (ICU admission or death): 81% (95% CI 52-92) • RSVPreF3 effectiveness against hospitalization for immunocompromised ≥60 year olds: 73% (95% CI 48–85) • RSVPreF3 effectiveness against ED encounters for ≥60 year olds: 77% (95% CI 70–83) • RSVPreF3 effectiveness against ED encounters for 60–74 years: 75% (95% CI 62–84) • RSVPreF3 effectiveness against ED encounters for ≥75 year olds: 78% (95% CI 69–85) • By Time Since Vaccination: ○ Hospitalization: ▪ 14–59 days post-vaccination: 90% (95% CI 79–95)

Reference (author year) with URL	Clinical trial characteristics	Study characteristics (Type of publication, Vaccine effectiveness analysis methods, setting and country)	Sample description and intervention	Summary of key findings in relation to the outcome
		Washington), University of Colorado (Colorado), Intermountain Health (Utah), Regenstrief Institute (Indiana), HealthPartners (Minnesota and Wisconsin), and Kaiser Permanente Northern California (California) containing 230 hospitals and 245 emergency departments, United States	being linked to RSV positive tests • 3,166 (8%) had received an RSV vaccine; 3,105 (9%) of virus-negative patients were vaccinated and 61 (2%) of virus-positive patients were vaccinated	▪ ≥60 days post-vaccination: 73% (95% CI 60–82) ○ Emergency Department Encounters: ▪ 14–59 days post-vaccination: 85% (95% CI 77–91) ▪ ≥60 days post-vaccination: 70% (95% CI 58–78)
Surie 2024 (35)	• Population studied ○ Older adults (aged ≥60 years) • Type of immunization product ○ AREXVY™ (RSVPreF3) ○ ABRYSVO™ (RSVpreF) • Comparator ○ Unvaccinated individuals • Testing ○ Nucleic acid testing-RT-PCR • Outcome measures ○ RSVPreF3 effectiveness ○ RSVpreF effectiveness • RSV-related outcome ○ Hospitalization • Timeframe (specimens collected timepoints) ○ Baseline (1 October 2023 to 31 March 2024)	Type of publication: Peer reviewed Study design: Test-negative, case-control study Analysis: Vaccine efficacy against hospitalization was estimated using the equation (1 – adjusted odds ratio) x 100%; multivariable logistic regression was used to determine the odds ratio; the model was adjusted for age, sex, race and ethnicity, region, and calendar month Setting and country: 24 hospitals in 19 states, United States	• 2,978 adults aged 60 years and older, 367 (12.3%) were RSV case patients and 2,611 (87.7%) were control patients • Median age was 72 years • Median Charlson Comorbidity Index score was 5 and 720 were immunocompromised • Nine (2.5%) of the 367 case patients and 256 (9.8%) of 2,611 control patients were vaccinated with a median interval between vaccination and illness onset of 84 days	• VE against RSV-associated hospitalization: 75% (95% CI 50–87) • VE against RSV-associated hospitalization with inverse probability of vaccination weighting: 79% (95% CI 56–90) • VE against RSV-associated hospitalization by age: ○ 60 to 74 years: 75% (95% CI 31–91) ○ 75 years and older: 76% (95% CI 40–91)

Appendix 4: Documents excluded at the final stage of reviewing

Hyperlinked title	Reason for exclusion
Use of respiratory syncytial virus vaccines in adults aged ≥60 years: Updated recommendations of the advisory committee on immunization practices – United States, 2024	Wrong study design
A randomized, double-blind, placebo-controlled, phase 1 study to evaluate the safety, reactogenicity, and immunogenicity of single vaccination of Ad26.RSV.preF-based regimen in Japanese adults aged 60 years and older	Wrong outcome
Single-dose nirsevimab prevents RSV infection	Wrong study design
Abrysvo demonstrates continued efficacy in older adults through second RSV season	Wrong study design
Nirsevimab in the prevention of respiratory syncytial virus bronchiolitis	Unable to retrieve full text
Safety and efficacy of nirsevimab in a universal prevention program of respiratory syncytial virus bronchiolitis in newborns and infants in the first year of life in the Valle D'Aosta region, Italy, in the 2023–2024 epidemic season	Wrong outcome
Adjuvanted vaccine to prevent respiratory syncytial virus in adults ages 60 years and older	Wrong study design
RSVpreF vaccine (Abrysvo°) during pregnancy to prevent RSV infection in the woman's child after birth	Unable to retrieve full text
89. The impact of nirsevimab on an RSV season in all infants: Data from the HARMONIE study	Wrong study design
1936. Efficacy of one dose of the Respiratory Syncytial Virus (RSV) prefusion F protein vaccine (RSVPreF3 OA) in adults ≥ 60 years of age persists for 2 RSV seasons	Wrong study design
HARMONIE study: The next chapter in the respiratory syncytial virus story	Wrong study design
1634. Respiratory syncytial virus-associated health care utilization in the pivotal phase 3 trial RSV vaccine efficacy study in older adults immunized against RSV disease (RENOIR)	Wrong study design
1630. Clinical profile of Acute Respiratory Illness (ARI) events in the phase 3 trial the RSV vaccine efficacy study in older adults immunized against RSV disease (RENOIR)	Wrong study design
Two vaccines (Arexvy and Abrysvo) for prevention of RSV disease	Unable to retrieve full text
EPH154 modeled head-to-head comparison of nirsevimab and rsvpref maternal vaccine in the US	Wrong study design
Nirsevimab (Beyfortus) to prevent RSV infection in infants	Unable to retrieve full text
Respiratory syncytial virus candidate vaccine attenuates the severity of breakthrough infections	Wrong study design
The quest for a respiratory syncytial virus vaccine for older adults: Thinking beyond the F protein	Wrong study design
Efficacy and safety of bivalent respiratory syncytial virus (RSVpreF) vaccine in older adults	Wrong study design
Respiratory syncytial virus (RSV) prefusion F protein candidate vaccine (RSVpreF3 OA) is efficacious in adults >= 60 years of age (YOA)	Wrong study design
Three dose levels of a maternal respiratory syncytial virus vaccine candidate are well tolerated and immunogenic in a randomized trial in nonpregnant women	Wrong outcome
Effectiveness and cost-effectiveness of RSV infant and maternal immunization programs: A case study of Nunavik, Canada	Wrong study design
New long-acting monoclonal antibody reduces RSV infections in healthy preterm infants	Wrong study design
The efficacy and impact in heathy infants of nirsevimab on medically attended RSV lower respiratory tract infection	Wrong study design
901. MEDI8897 prevents serious RSV disease in healthy preterm infants	Wrong study design
Nirsevimab (Beyfortus) for prevention of severe RSV disease in young children	Unable to retrieve full text
A phase III, randomized, multi-country study to evaluate the lot-to-lot consistency of GSK's investigational RSV maternal vaccine and the immune response, safety and reactogenicity of RSV maternal vaccine when co-administered with GSK's quadrivalent influenza D-QIV vaccine in healthy non-pregnant women 18-49 years of age *	Unable to retrieve full text
A phase 3, observer-blind, randomized, placebo controlled study to evaluate the non inferiority of the immune response and safety of the RSVPreF3 OA investigational vaccine in adults 50-59 years of age, including adults at increased risk of respiratory syncytial virus lower respiratory tract disease, compared to older adults ≥60 years of age *	Unable to retrieve full text
A phase III, randomized, open-label, active vaccine-controlled crossover study to evaluate the reactogenicity, safety and immune response of unadjuvanted RSV maternal vaccine in healthy non-pregnant girls from 9 to 17 years of age, and in non-pregnant adult women from 18 to 49 years of age	Unable to retrieve full text

Hyperlinked title	Reason for exclusion
Phase II randomized, observer-blind, placebo-controlled, multi-country study in healthy non-pregnant women 18-45 years of age to evaluate the safety, reactogenicity and immunogenicity of a 1st intramuscular dose of GSK Biologicals' investigational RSV maternal vaccine (GSK388550A) when given alone and given in co-administration with a single intramuscular dose of Boostrix (US formulation SB776423 or exUS formulation SB263855) and to evaluate the safety, reactogenicity and immunogenicity of a 2nd dose of the RSV maternal vaccine *	Unable to retrieve full text
A phase 3, randomized, double blind, multi country study to evaluate consistency, safety, and reactogenicity of 3 lots of RSVPreF3 OA investigational vaccine administrated as a single dose in adults aged 60 years and above *	Unable to retrieve full text
A phase 3, open-label, randomized, controlled, multicountry study to evaluate the immune response, safety and reactogenicity of RSVPreF3 OA investigational vaccine when co-administered with FLU HD vaccine in adults aged 65 years and above *	Unable to retrieve full text
A phase III, open-label, randomized, controlled, multi-country study to evaluate the immune response, safety and reactogenicity of an RSVPreF3 OA investigational vaccine when co-administered with FLU aQIV (inactivated influenza vaccine – adjuvanted) in adults aged 65 years and above *	Unable to retrieve full text
A phase 3, open-label, randomized, controlled, multi-country study to evaluate the immune response, safety and reactogenicity of RSVPreF3 OA investigational vaccine when co-administered with FLU-QIV vaccine in adults aged 60 years and above	Unable to retrieve full text
A respiratory syncytial virus (RSV) prefusion F protein candidate vaccine (RSVPreF3-OA) is efficacious in adults ≥ 60 years of age (YOA)	Wrong Study Design
The efficacy and impact in heathy infants of nirsevimab on medically attended RSV lower respiratory tract infection	Wrong study design
Efficacy and safety of an Ad26.RSV.preF–RSV preF protein vaccine in older adults	Wrong intervention
Live-attenuated vaccines prevent respiratory syncytial virus-associated illness in young children	Wrong intervention
Long-term efficacy and immunogenicity of Ad26.RSV.preF-RSV preF protein vaccine (CYPRESS): a randomised, double-blind, placebo-controlled, phase 2b study	Wrong intervention

*: We used the title on the Clinical Trial's official study protocol (linked PDF at the bottom of the trial page). Trials often update their names as studies evolve, so we used the protocol's title and the clinical trial link to ensure consistency and accuracy

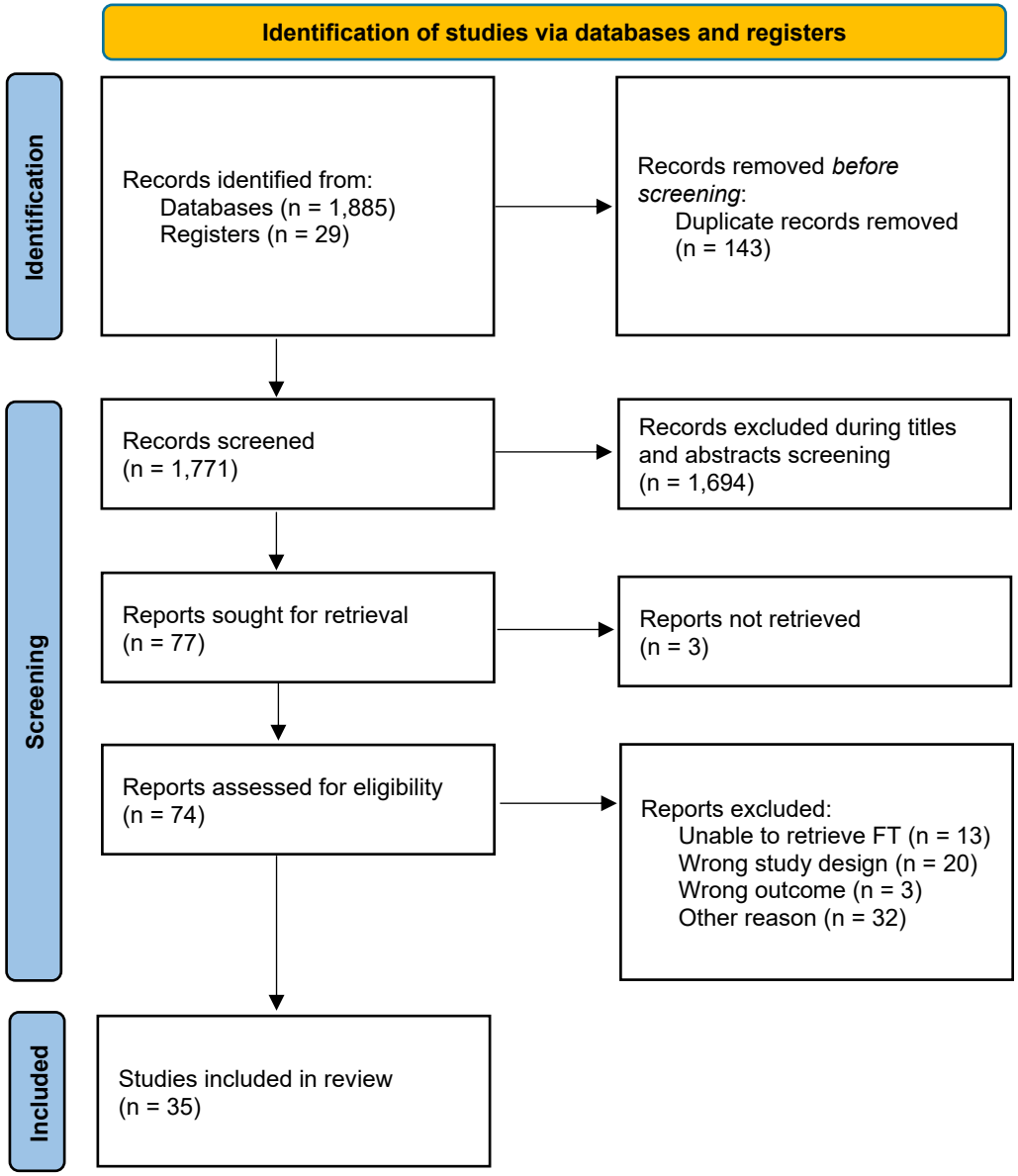
Appendix 5: The ROBINS-I assessment for non-randomized trials included in the synthesis

First author, published year	Confounding	Selection of participants into the study	Classification of interventions	Deviations from intended interventions	Missing data	Measurement of outcomes	Selection of the reported result	Overall bias
Agüera, 2024	Moderate	Low	Low	Low	Low	Low	Low	Moderate
Ares-Gómez, 2024	Moderate	Low	Low	Low	Low	Low	Low	Moderate
Assad, 2024	Serious	Moderate	Low	Low	Low	Moderate	Low	Serious
Barbas Del Buey, 2024	Moderate	Low	Low	Low	Low	Low	Low	Moderate
Carbajal, 2024	Serious	Moderate	Low	Low	Low	Low	Low	Serious
Coma, 2024	Moderate	Low	Low	Low	Low	Low	Low	Moderate
Estrella-Porter, 2024	Moderate	Low	Low	Low	Low	Low	Low	Moderate
Ezpeleta, 2024	Moderate	Low	Low	Low	Low	Low	Low	Low
Lassoued, 2024	Moderate	Low	Low	Low	Low	Moderate	Low	Low
López-Lacort, 2024	Moderate	Low	Low	Low	Low	Low	Low	Moderate
López-Lacort, 2025	Moderate	Low	Low	Low	Low	Low	Low	Moderate
Moline, 2024	Moderate	Low	Low	Low	Low	Low	Low	Moderate
Paireau, 2024	Moderate	Low	Low	Low	Low	Low	Low	Moderate
Rodríguez-Fernández, 2024	Serious	Moderate	Low	Low	Low	Moderate	Moderate	Serious
Xu, 2024	Moderate	Low	Low	Low	Low	Moderate	Low	Moderate
Tartof, 2024	Moderate	Moderate	Low	Low	Moderate	Low	Low	Moderate
Surie, 2024	Moderate	Moderate	Low	Low	Unclear	Low	Low	Moderate
Jimeno Ruiz, 2024	Moderate	Moderate	Low	Low	Moderate	Low	Low	Moderate
Payne, 2024	Moderate	Moderate	Moderate	Low	Low	Low	Low	Moderate
Moline, 2024	Moderate	Moderate	Moderate	Moderate	Low	Low	Low	Serious
Lefferts, 2024	Moderate	Moderate	Low	Low	Low	Low	Low	Moderate
Chauvel, 2024	Moderate	Moderate	Low	Low	Low	Low	Moderate	Moderate

Appendix 6: The RoB 2 assessment for randomized trials included in the synthesis

First author, published year	Randomization process	Deviations from intended interventions	Missing outcome data	Measurement of the outcome	Selection of the reported result	Overall bias
Curran, 2024	Low	Low	Low	Low	Low	Low
Drysdale, 2023	Low	Some concerns	Low	Some concerns	Low	Some concerns
Dieussaert, 2024	Low	Low	Low	Low	Some concerns	Some concerns
Griffin, 2020	Low	Low	Low	Low	Low	Low
Ison, 2024	Low	Low	Low	Low	Low	Low
Kampmann, 2023	Low	Low	Low	Low	Some concerns	Some concerns
Otsuki, 2024	Low	Low	Low	Low	Low	Low
Papi, 2023	Low	Low	Low	Low	Low	Low
Schmoele-Thoma, 2022	Low	Low	Low	Low	Low	Low
Simões, 2023	Low	Low	Low	Low	Low	Low
Walsh, 2023	Low	Low	Low	Low	Low	Low
Walsh, 2024	Low	Low	Low	Low	Low	Low
Wilson, 2023	Low	Low	Low	Low	Low	Low

Appendix 7: PRISMA flow diagram



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