

Attachment 1: Product information for AusPAR - Prevenar 20 - pneumococcal polysaccharide conjugate vaccine - Pfizer Australia Pty Ltd - PM-2021-04721-1-2 Final 16 May 2023. This is the Product Information that was approved with the submission described in this AusPAR. It may have been superseded. For the most recent PI, please refer to the TGA website at <<https://www.tga.gov.au/products/australian-register-therapeutic-goods-artg/product-information-one>>

▼ This vaccine is subject to additional monitoring **in Australia**. This will allow quick identification of new safety information. Healthcare professionals are asked to report any suspected adverse events at www.tga.gov.au/reporting-problems.

AUSTRALIAN PRODUCT INFORMATION – PREVENAR 20[®] (pneumococcal polysaccharide conjugate, 20-valent adsorbed) VACCINE

1. NAME OF THE MEDICINE

Pneumococcal polysaccharide conjugate vaccine (20-valent, adsorbed)

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

One dose (0.5 mL) contains:

Pneumococcal polysaccharide serotype 1 ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 3 ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 4 ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 5 ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 6A ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 6B ^{1,2}	4.4 µg
Pneumococcal polysaccharide serotype 7F ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 8 ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 9V ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 10A ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 11A ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 12F ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 14 ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 15B ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 18C ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 19A ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 19F ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 22F ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 23F ^{1,2}	2.2 µg
Pneumococcal polysaccharide serotype 33F ^{1,2}	2.2 µg

¹Conjugated to diphtheria CRM₁₉₇ protein (approximately 51 µg per dose)

²Adsorbed on aluminium phosphate (0.125 mg aluminium per dose)

For the full list of excipients, see section 6.1 List of excipients.

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3. PHARMACEUTICAL FORM

Suspension for injection.

The vaccine is a homogeneous white suspension.

4. CLINICAL PARTICULARS

4.1 Therapeutic indications

Active immunisation for the prevention of pneumococcal disease caused by *Streptococcus pneumoniae* serotypes 1, 3, 4, 5, 6A, 6B, 7F, 8, 9V, 10A, 11A, 12F, 14, 15B, 18C, 19A, 19F, 22F, 23F, and 33F in adults 18 years of age and older.

Prevenar 20 may not prevent disease caused by *S. pneumoniae* serotypes that are not contained in the vaccine.

Prevenar 20 should be used in accordance with official recommendations.

4.2 Dose and method of administration

Dosage

Adults 18 years of age and older

PREVENAR 20 is to be administered as a single dose to adults 18 years of age and older.

The need for revaccination with a subsequent dose of PREVENAR 20 has not been established. Refer to local recommendations.

Based on the clinical experience with a related pneumococcal conjugate vaccine (Prevenar 13), if the use of Pneumovax[®]23, pneumococcal vaccine polyvalent (23vPPV), is considered appropriate, PREVENAR 20 should be given first (see section 5.1 Pharmacodynamic properties).

Special populations

There are no data with PREVENAR 20 in special populations.

However, safety and immunogenicity studies of Prevenar 13 have been conducted in adults with human immunodeficiency virus (HIV) infection and following haematopoietic stem cell transplantation (HSCT); these are relevant to PREVENAR 20, since the vaccines are manufactured and formulated similarly and contain 13 of the same polysaccharide conjugates.

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Individuals at higher risk of pneumococcal infection (e.g., individuals with sickle cell disease or HIV infection), including those previously vaccinated with 1 or more doses of 23vPPV, were recommended to receive at least 1 dose of Prevenar 13.

In individuals with a hematopoietic stem cell transplant (HSCT), the recommended immunisation series with Prevenar 13 consisted of 4 doses of Prevenar 13, each of 0.5 mL. The primary series consisted of 3 doses, with the first dose given 3 to 6 months after HSCT and with an interval of at least 1 month between doses. A booster dose was recommended 6 months after the third dose (see section 5.1 Pharmacodynamic properties).

The recommended dosing of Prevenar 13 may be considered in guiding vaccination with PREVENAR 20 in these populations. For immune responses to pneumococcal vaccines in immunocompromised individuals, see section 4.4 Special warnings and precautions for use. The use of PREVENAR 20 in special populations should be guided by official recommendations.

Method of administration

PREVENAR 20 should be administered as soon as possible after being removed from refrigeration.

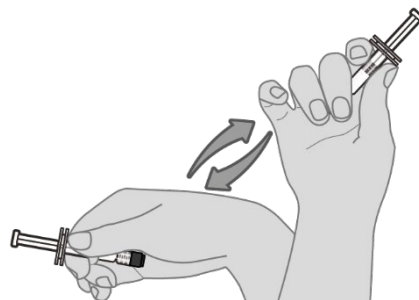
For intramuscular use only. Product is for single use in one patient only. Discard any residue.

One dose (0.5 mL) of PREVENAR 20 should be administered intramuscularly, preferably in the deltoid muscle, with care to avoid injection into or near nerves and blood vessels. The vaccine should not be injected in the gluteal area. Do not inject PREVENAR 20 intravascularly.

Preparation for Administration

Step 1. Vaccine resuspension

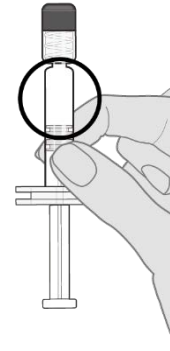
Hold the pre-filled syringe horizontally between the thumb and the forefinger and shake vigorously until the contents of the syringe are a homogeneous white suspension. Do not use the vaccine if it cannot be re-suspended.



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Step 2. Visual inspection

Visually inspect the vaccine for large particulate matter and discoloration prior to administration. Do not use if large particulate matter or discoloration is found. If the vaccine is not a homogenous white suspension, repeat Steps 1 and 2.



Step 3. Remove syringe cap

Remove the syringe cap from the Luer lock adapter by slowly turning the cap counter-clockwise while holding the Luer lock adapter.

Note: Care should be taken to ensure that the extended plunger rod is not depressed while removing the syringe cap.



Step 4. Attach a sterile needle

Attach a needle appropriate for intramuscular administration to the pre-filled syringe by holding the Luer lock adapter and turning the needle clockwise.

4.3 Contraindications

Hypersensitivity to the active substance, diphtheria toxoid, or to any of the excipients listed in Section 6.1 List of excipients.

4.4 Special warnings and precautions for use

Traceability

In order to improve the traceability of biological medicinal products, the name and the batch number of the administered product should be recorded in the Australian Immunisation Register.

Hypersensitivity

As with all injectable vaccines, appropriate medical treatment and supervision must always be readily available in case of a rare anaphylactic event following the administration of the vaccine (see section 4.8 Adverse effects (undesirable effects)).

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Concurrent illness

Vaccination should be postponed in individuals suffering from acute severe febrile illness. However, the presence of a minor infection, such as a cold, should not result in the deferral of vaccination.

Thrombocytopenia and coagulation disorders

The vaccine must be administered with caution to individuals with thrombocytopenia or a bleeding disorder since bleeding may occur following an intramuscular administration.

The risk of bleeding in patients with coagulation disorders needs to be carefully evaluated before intramuscular administration of any vaccine, and subcutaneous administration should be considered if the potential benefit clearly outweighs the risks.

Protection against pneumococcal disease

PREVENAR 20 will only protect against *Streptococcus pneumoniae* serotypes included in the vaccine, and will not protect against other microorganisms that cause invasive disease or pneumonia. As with any vaccine, PREVENAR 20 may not protect all individuals receiving the vaccine from pneumococcal disease or pneumonia.

Immunocompromised individuals

Safety and immunogenicity data on PREVENAR 20 are not available for individuals in immunocompromised groups and vaccination should be considered on an individual basis.

Based on experience with pneumococcal vaccines, some individuals with altered immunocompetence may have reduced immune responses to PREVENAR 20.

Individuals with impaired immune responsiveness, whether due to the use of immunosuppressive therapy, a genetic defect, HIV infection, or other causes, may have reduced antibody response to active immunisation. The clinical relevance of this is unknown.

Safety and immunogenicity data with Prevenar 13 are available for a limited number of individuals with HIV infection, or with a HSCT (see sections 4.8 Adverse effects (undesirable effects) and 5.1 Pharmacodynamic properties).

In adults across all studied age groups, formal non-inferiority criteria were met although numerically lower geometric mean titres were observed with PREVENAR 20 for most of the serotypes compared to PREVENAR 13 (see section 5.1), however the clinical relevance of this observation for immunocompromised individuals is unknown.

Use in the elderly

No dose adjustment or special precautions are applicable to use in the elderly.

Of the 4263 adults in the 3 studies (B7471006, B7471007, B7471008) of the clinical development program who received PREVENAR 20, 668 (15.7%) were 65 through 69 years of age, 398 (9.3%) were 70 through 79 years of age, and 72 (1.7%) were 80 years of age and

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older. PREVENAR 20 has been shown to be safe and immunogenic in the geriatric population regardless of prior pneumococcal vaccination (see Section 5.1 Pharmacodynamic properties).

Paediatric use

PREVENAR 20 is not approved for use in children or adolescents.

The safety and efficacy of PREVENAR 20 in children and adolescents aged less than 18 years of age have not yet been established. Limited data are available in this age group.

Effects on laboratory tests

No data available.

4.5 Interactions with other medicines and other forms of interactions

Different injectable vaccines should always be given at different vaccination sites.

PREVENAR 20 can be administered concomitantly with influenza vaccine, adjuvanted (Fluad Quadrivalent [QIV]) and COVID-19 mRNA vaccine (Comirnaty [tozinameran]) (see Section 5.1).

It has been demonstrated in adults 50 years of age and older that Prevenar 13 may be administered concomitantly with the seasonal trivalent or quadrivalent inactivated influenza vaccine (TIV or QIV) with no interference with the immune responses to TIV or QIV. Safety and immunogenicity of Prevenar 13 are relevant to PREVENAR 20, since the vaccines are manufactured similarly and contain 13 of the same polysaccharide conjugates.

Do not mix PREVENAR 20 with other vaccines/medicinal products in the same syringe.

4.6 Fertility, pregnancy and lactation

Effects on fertility

No human data on the effect of PREVENAR 20 on fertility are available. PREVENAR 20 showed no adverse effects on mating or fertility in a combined fertility, embryofetal development and pre/postnatal study in which female rabbits were administered the human dose (0.5 mL) of the vaccine intramuscularly 17 and 3 days prior to mating, and on gestation days 10 and 24.

Use in pregnancy - Pregnancy Category B1

There are no data from the use of PREVENAR 20 in pregnant women.

In an animal study where female rabbits were administered the human dose (0.5 mL) of the vaccine intramuscularly 17 and 3 days prior to mating, and on gestation days 10 and 24, there were no effects on pregnancy, parturition, fetal abnormalities, or pup survival and growth.

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Serotype-specific antibodies against each of the 20 vaccine serotypes were detected in does, fetuses and pups.

Administration of PREVENAR 20 in pregnancy should only be considered when the potential benefits outweigh any potential risks for the mother and fetus.

Use in lactation

It is unknown whether PREVENAR 20 is excreted in human milk.

4.7 Effects on ability to drive and use machines

PREVENAR 20 has no, or negligible, influence on the ability to drive and use machines. However, some of the effects mentioned under section 4.8 Adverse effects (undesirable effects) may temporarily affect the ability to drive or use machines.

4.8 Adverse effects (undesirable effects)

Summary of the safety profile

Adults 18 years of age and older

The safety of PREVENAR 20 was evaluated in 4,552 participants 18 years of age and older in six clinical trials (two Phase 1, one Phase 2, and three Phase 3), and 2,496 participants in the control groups.

In the Phase 3 trials, 4,263 participants received PREVENAR 20, which included 1,798 adults 18 through 49 years of age, 334 adults 50 through 59 years of age, and 2,131 adults 60 years of age and older (1,138 were 65 years of age and older). Of the Phase 3 PREVENAR 20 recipients, 3,639 adults were naïve to pneumococcal vaccines, 253 had received Pneumovax 23 (pneumococcal polysaccharide vaccine [23-valent]; 23vPPV) (≥ 1 to ≤ 5 years prior to enrolment), 246 had received Prevenar 13 only (≥ 6 months prior to enrolment), and 125 had received both Prevenar 13 followed by 23vPPV (the dose of 23vPPV ≥ 1 -year prior to enrolment).

Participants in the Phase 3 trial B7471007 (Pivotal Study 1007), were evaluated for adverse events for 1 month after vaccination, and serious adverse events through 6 months after vaccination. This study included 447 participants 18 to 49 years of age, 445 participants 50 to 59 years of age, 1,985 participants 60 to 64 years of age, 624 participants 65 to 69 years of age, 319 participants 70 to 79 years of age, and 69 participants ≥ 80 years of age.

The most frequent adverse reactions ($> 10\%$) after vaccination with PREVENAR 20 in Phase 3 trials in adults ≥ 18 years of age were pain at the injection site ($> 40\%$), muscle pain ($> 30\%$), fatigue ($> 20\%$) and headache ($> 10\%$). A slightly lower frequency of reactogenicity events was associated with greater age.

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In Study 1007 participants 18 to 59 years of age, the most commonly reported adverse reactions were pain at the injection site (> 70%), muscle pain (> 50%), fatigue (> 40%), headache (> 30%), and joint pain and injection site swelling (> 10%), while the most frequent in participants older than 60 years of age were pain at the injection site (> 50%), muscle pain and fatigue (> 30%), headache (> 20%), and joint pain (> 10%). These were usually mild or moderate in intensity and resolved within a few days after vaccination.

Tabulated list of adverse reactions

Tabulated lists of adverse reactions from the Phase 3 clinical trials and postmarketing experience are presented below.

Adverse reactions from clinical trials

As PREVENAR 20 contains the same 13 serotype-specific capsular polysaccharide conjugates and the same vaccine excipients as Prevenar 13, the adverse reactions already identified for Prevenar 13 have been adopted for PREVENAR 20.

Table 1 presents adverse reactions reported in Phase 3 trials of PREVENAR 20, based on the highest frequency among adverse reactions, local reactions, or systemic events after vaccination in any PREVENAR 20 group. In clinical trials, the safety profile of PREVENAR 20 was similar to that of Prevenar 13. No new adverse reactions were identified as compared to Prevenar 13, and none of the reported serious adverse events were considered related to PREVENAR 20.

Adverse reactions are listed by system organ class, in decreasing order of frequency and seriousness. The frequency is defined as follows: very common ($\geq 1/10$), common ($\geq 1/100$ to $< 1/10$), uncommon ($\geq 1/1,000$ to $< 1/100$), rare ($\geq 1/10,000$ to $< 1/1,000$), very rare ($< 1/10,000$), not known (cannot be estimated from available data).

Table 1. Adverse reactions from PREVENAR 20 Clinical Trials

System Class	Organ	Very Common	Common	Uncommon	Frequency Not Known
Immune system disorders				Hypersensitivity reaction, including face oedema, dyspnoea, bronchospasm	
Metabolism and nutrition disorders					Decreased appetite ^a
Nervous system disorders		Headache			
Gastrointestinal disorders				Diarrhoea ^a Nausea Vomiting ^a	

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Table 1. Adverse reactions from PREVENAR 20 Clinical Trials

System Class	Organ	Very Common	Common	Uncommon	Frequency Not Known
Skin and subcutaneous tissue disorders				Rash ^a Angioedema	
Musculoskeletal and connective tissue disorders		Joint pain Muscle pain			
General disorders and administration site conditions		Vaccination-site pain/tenderness Fatigue	Vaccination-site induration/swelling ^a Vaccination-site erythema ^a Pyrexia	Vaccination-site pruritus Lymphadenopathy Vaccination-site urticaria Chills ^a	

a. Event reported in Prevenar 13 clinical trials with Very Common frequency (> 1/10). Decreased appetite was not reported in adult Phase 3 trials of PREVENAR 20 therefore, the frequency is not known.

Adverse reactions from post-marketing experience

Table 2 includes adverse experiences that have been spontaneously reported during Prevenar 13 postmarketing use and may also be seen with PREVENAR 20. The postmarketing safety experience with Prevenar 13 is relevant to PREVENAR 20, as PREVENAR 20 contains all components (polysaccharide conjugates and excipients) of Prevenar 13. Because these events were reported voluntarily from a population of uncertain size, it is not possible to reliably estimate their frequency or to establish, for all events, a causal relationship to vaccine exposure.

Table 2. Adverse reactions from Prevenar 13 post-marketing experience

System Organ Class	Frequency Not Known
Immune system disorders	Anaphylactic/anaphylactoid reaction, including shock
Skin and subcutaneous tissue disorders	Erythema multiforme
General disorders and administration site conditions	Vaccination-site dermatitis

Events reported spontaneously in Prevenar 13 postmarketing experience; therefore, the frequencies could not be estimated from available data and are thus considered as not known.

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Additional information in special populations in studies with Prevenar 13

Adults (≥ 18 years of age) with HIV infection have similar frequencies of adverse reactions in Table 1, except that pyrexia (5% to 18%) and vomiting (8% to 12%) were very common and nausea (< 1% to 3%) common.

Adults (≥ 18 years of age) with an HSCT have similar frequencies of adverse reactions in Table 1, except that pyrexia (4% to 15%), vomiting (6% to 21%), and diarrhoea (25% to 36%) were very common.

Safety with concomitant vaccine administration in adults

The safety profile was similar when PREVENAR 20 was administered with or without influenza vaccine, adjuvanted (Fluad Quadrivalent [QIV]).

PREVENAR 20 administered together with COVID-19 mRNA vaccine (Comirnaty [tozinameran]) was observed to have a tolerability profile similar to COVID-19 mRNA vaccine (Comirnaty [tozinameran]) administered alone, and an overall safety profile consistent with PREVENAR 20 or COVID-19 mRNA vaccine (Comirnaty [tozinameran]) given alone.

Reporting suspected adverse effects

Reporting suspected adverse reactions after registration of the medicinal product is important. It allows continued monitoring of the benefit-risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions at www.tga.gov.au/reporting-problems.

4.9 Overdose

Overdose with PREVENAR 20 is unlikely due to its presentation as a single dose pre-filled syringe. In the event of overdose, monitoring of vital functions and possible symptomatic treatment is recommended.

For information on the management of overdose, contact the Poisons Information Centre on 131126 (Australia).

5. PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: vaccines, pneumococcal vaccines; ATC code: J07AL02

Mechanism of action

PREVENAR 20 contains 20 pneumococcal capsular polysaccharides all conjugated to a CRM₁₉₇ carrier protein, which modifies the immune response to the polysaccharide from a T-cell independent response to a T-cell dependent response. The T-cell dependent response

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leads to both an enhanced antibody response and generation of memory B-cells, allowing for an anamnestic (booster) response on re-exposure to the bacteria.

Vaccination with PREVENAR 20 induces serum antibody production and immunologic memory against the serotypes contained within the vaccine.

Protection against pneumococcal disease is conferred mainly by opsonophagocytic killing of *S. pneumoniae*. PREVENAR 20 generates functional antibodies as measured by opsonophagocytic activity (OPA). An opsonic antibody titre that is predictive of protection against invasive pneumococcal disease or pneumococcal pneumonia has not been established.

Disease burden for adults

S. pneumoniae (pneumococcus) is the most frequent bacterial cause of community-acquired pneumonia (CAP) and has been estimated to be responsible for approximately 30% of all CAP cases requiring hospitalisation in adults in developed countries, with the majority of cases considered nonbacteraemic. In addition, bacteraemic pneumonia is the most common manifestation of invasive pneumococcal disease (IPD) (approximately 80% of cases) in adults. Based on surveillance data, the pneumococcal serotypes in PREVENAR 20 may be responsible for at least 63% to 76% (depending on country) of IPD in older adults in Europe.

PREVENAR 20 effectiveness

No efficacy studies have been performed for PREVENAR 20, however the efficacy and effectiveness of Prevenar 13 are relevant to PREVENAR 20, since the vaccines are manufactured similarly and contain 13 of the same polysaccharide conjugates.

Prevenar 13 efficacy study in adults 65 years of age and older

The efficacy of Prevenar 13 against vaccine-type (VT) pneumococcal community-acquired pneumonia (CAP) and IPD was assessed in a randomised, double-blind, placebo-controlled study (CAPI TA) conducted over approximately 4 years in the Netherlands. A total of 84,496 subjects, 65 years and older, received a single dose of either Prevenar 13 or placebo in a 1:1 randomisation; 42,240 subjects were vaccinated with Prevenar 13 and 42,256 subjects were vaccinated with placebo.

The primary objective was to demonstrate the efficacy of Prevenar 13 in the prevention of a first episode of confirmed VT-CAP (defined as presence of ≥ 2 specified clinical criteria; chest X-ray consistent with CAP as determined by a central committee of radiologists; and positive VT-specific Urinary Antigen Detection assay (UAD) or isolation of VT *S. pneumoniae* from blood or other sterile site). The secondary objectives were to demonstrate the efficacy of Prevenar 13 in the prevention of a first episode of 1) confirmed non-bacteraemic/non-invasive (NB/NI) VT-CAP (an episode of VT-CAP for which the blood culture result and any other sterile site culture results were negative for *S. pneumoniae*) and 2) VT-IPD (the presence of *S. pneumoniae* in a sterile site).

Surveillance for suspected pneumonia and IPD began immediately after vaccination and continued through identification of a pre-specified number of cases. Subjects who had a CAP

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or IPD episode with symptom onset less than 14 days after vaccination were excluded from all analyses.

The median duration of follow up per subject was 3.93 years (0-4.95 years). Prevenar 13 demonstrated statistically significant vaccine efficacy (VE) in preventing first episodes of VT pneumococcal CAP, non-bacteraemic/non-invasive (NB/NI) VT pneumococcal CAP, and VT-IPD (Table 3).

Table 3. Vaccine efficacy for the primary and secondary endpoints of the CAPiTA study (per-protocol population)

Efficacy endpoint	Total number of episodes	Vaccine group		VE (%)	(95.2% CI)	p-value
		Prevenar 13 n	Placebo n			
Primary endpoint						
First case of confirmed VT pneumococcal CAP	139	49	90	45.6	(21.8, 62.5)	0.0006
Secondary endpoints						
First episode of confirmed NB/NI VT pneumococcal CAP	93	33	60	45	(14.2, 65.3)	0.0067
First episode of VT-IPD	35	7	28	75	(41.1, 90.9)	0.0005

Abbreviations: CAP = community-acquired pneumonia; CAPiTA = Community-Acquired Pneumonia Immunisation Trial in Adults; CI = confidence interval; N = number of participants; NB/NI = non-bacteraemic/non-invasive; IPD = invasive pneumococcal disease; VE = vaccine efficacy; VT = vaccine-type.

A post-hoc analysis was used to estimate the following public health outcomes against clinical CAP (as defined in the CAPiTA study, and based on clinical findings regardless of radiologic infiltrate or etiologic confirmation): vaccine efficacy, incidence rate reduction and number needed to vaccinate (see Table 4).

Table 4. Vaccine efficacy against clinical CAP*

	Episodes		VE ^a % (95% CI) (1-sided p-value)	Incidence per 100,000 PYO		IRR ^b (95% CI)	NNV ^c
	Prevenar 13	Placebo		Prevenar 13	Placebo		
All episodes analysis	1375	1495	8.1 (-0.6, 16.1) (0.034)	819.1	891.2	72.2 (-5.3, 149.6)	277
First episode analysis	1126	1214	7.3 (-0.4, 14.4) (0.031)	670.7	723.7	53.0 (-2.7, 108.7)	378

Abbreviations: CAP = community-acquired pneumonia; CI = confidence interval; IRR = incidence rate reduction; NNV = number needed to vaccinate; PYO = person-years of observation; VE = vaccine efficacy.

* Patients with at least 2 of the following: cough; purulent sputum, temperature > 38 °C or < 36.1 °C; pneumonia (auscultatory findings); leucocytosis; C-reactive protein value > 3 times the upper limit of normal; hypoxemia with a partial oxygen pressure < 60 mm Hg while breathing room air.

- A Poisson regression model with random effects was used to calculate VE.
- Per 100,000 person-years of observation. IRR is calculated as the incidence in the placebo group minus the incidence in the vaccine group, and was mathematically equivalent to VE × the incidence in the placebo group.
- Based on a 5-year duration of protection. NNV is not a rate but instead indicates the number of cases prevented for a given number of persons vaccinated. NNV also incorporates the length of the trial or duration of protection and is calculated as 1 divided by the product of the IRR and duration of protection (or length of trial) (= 1/[IRR × duration]).

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Although CAPiTA was not powered to demonstrate serotype specific VE, an evaluation of clinical CAP data (as defined in the CAPiTA study and based on clinical findings regardless of radiologic infiltrate or etiologic confirmation) was performed in a post-hoc analysis for serotypes with at least 10 outcomes in the placebo group. VE (95% CI) for the five evaluated serotypes against first clinical CAP episodes were: serotype 1, 20.0% (-83.1% to 65.8%); serotype 3, 61.5% (17.6% to 83.4%); serotype 6A, 33.3% (-58.6% to 73.2%); serotype 7F, 73.3% (40.5% to 89.4%); and serotype 19A, 45.2% (-2.2% to 71.5%).

PREVENAR 20 clinical trials in adults

Three Phase 3 clinical trials, B7471006, B7471007 and B7471008 (Study 1006, Study 1007 and Study 1008, respectively), were conducted in the United States and Sweden evaluating the immunogenicity of PREVENAR 20 in different adult age groups and in individuals who were either pneumococcal vaccine-naïve or who were previously vaccinated with Prevenar 13, 23vPPV, or both.

Each study included healthy adults and immunocompetent adults with stable underlying conditions including chronic cardiovascular disease, chronic pulmonary disease, renal disorders, diabetes mellitus, chronic liver disease, and medical risk conditions and behaviours (e.g., smoking) that are known to increase the risk of serious pneumococcal pneumonia and IPD. In the pivotal study (Study 1007), these risk factors were identified in 34%, 32%, and 26% of participants 60 years of age and over, 50 to 59 years of age, and 18 to 49 years of age, respectively. A stable medical condition was defined as a medical condition not requiring significant change in therapy in the previous 6 weeks (i.e., change to new therapy category due to worsening disease) or any hospitalisation for worsening disease within 12 weeks before receipt of the study vaccine.

In each study, immune responses elicited by PREVENAR 20 and the control pneumococcal vaccines were measured by an opsonophagocytic activity (OPA) assay. OPA assays measure functional antibodies to *S pneumoniae*.

Table 5. Summary of Patient Demographics for Clinical Trials in Adults

Study #	Study design	Dosage, route of administration	Study subjects (n)^a	Demographics
B7471007	Phase 3, multicenter, randomised, double-blind study with an age-based 3-cohort design	Cohort 1: One IM dose of PREVENAR 20/Saline or Prevenar 13/23vPPV (Vaccination 1/ Vaccination 2) Cohorts 2 and 3: One IM dose of PREVENAR 20 or Prevenar 13	Cohort 1 (≥60 years) PREVENAR 20/saline: 1507 Prevenar 13/23VPPV: 1490 Cohort 2 (50-59 years) PREVENAR 20: 334 Prevenar 13: 111 Cohort 3 (18-49 years) PREVENAR 20: 335 Prevenar 13: 112	Cohort 1: Sex: 1221 M/1776 F Age: mean (min/max): 64.6 (60/91) years Cohort 2: Sex: 181 M/264 F Age: mean (min/max): 54.9 (48 ^b /59) years Cohort 3: Sex: 156 M/291 F Age: mean (min/max): 34.0 (18/60 ^b) years

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B7471006	Phase 3, multicenter, randomised, open-label study with a 3-cohort design based on prior pneumococcal vaccination status	Cohort A: One IM dose of PREVENAR 20 or Prevenar 13 Cohort B: One IM dose of PREVENAR 20 or 23vPPV Cohort C: One IM dose of PREVENAR 20	Cohort A: (prior vaccination with 23vPPV ≥ 1 year and ≤ 5 years) PREVENAR 20: 253 Prevenar 13: 122 Cohort B: (prior vaccination with Prevenar 13 ≥ 6 months) PREVENAR 20: 246 Prevenar 13: 127 Cohort C: (prior vaccination with Prevenar 13 followed by 23vPPV) PREVENAR 20: 125	Cohort A: Sex: 171 M/204 F Age: mean (min/max): 69.8 (65/84) years Cohort B: Sex: 167 M/206 F Age: mean (min/max): 70.7 (65/92) years Cohort C: Sex: 60 M/65 F Age: mean (min/max): 70.8 (65/81) years
B7471008	Phase 3, multicenter, randomised, double-blind, lot consistency study with a 4-arm parallel design	One IM dose of PREVENAR 20 (Lot 1, 2 or 3) or Prevenar 13	18-49 years, pneumococcal vaccine naïve Pooled PREVENAR 20: 1463 Prevenar 13: 245	Pooled PREVENAR 20: Sex: 492 M/971 F Age: mean (min/max): 35.4 (18/49) years Prevenar 13: Sex: 101 M/144 F Age: mean (min/max): 35.0 (18/49) years

Abbreviations: M: male; F: female

a. Number of subjects vaccinated.

b. One subject was incorrectly enrolled in Cohort 3 (18-49 years of age) rather than Cohort 1 (≥ 60 years of age), and one subject was incorrectly enrolled in Cohort 2 (50-59 years of age) rather than Cohort 3 (18-49 years of age).

Comparison of immune responses of PREVENAR 20 to Prevenar 13 and 23vPPV in Pneumococcal Vaccine Naïve Adults

In a randomised, active-controlled, double-blind non-inferiority clinical trial (Pivotal Study 1007) of PREVENAR 20 in the United States and Sweden, pneumococcal vaccine-naïve adults 18 years of age and older were enrolled into 1 of 3 cohorts based on their age at enrolment (18 to 49, 50 to 59, and ≥ 60 years of age) enrolment and randomised to receive either PREVENAR 20 or control. Participants 60 years of age and older were randomised (1:1 ratio) and received PREVENAR 20 (n = 1,507) followed 1 month later with saline placebo or Prevenar 13 (n = 1,490) followed 1 month later with 23vPPV. Participants 18 to 49 years of age and 50 to 59 years of age were randomly assigned (3:1 ratio) and received a dose of PREVENAR 20 (18 to 49 years of age: n = 335, 50 to 59 years of age: n = 334) or Prevenar 13 (18 to 49 years of age: n = 112, 50 to 59 years of age: n = 111).

Serotype-specific OPA geometric mean titres (GMTs) were measured before the first vaccination and 1 month after each vaccination. Non-inferiority of immune responses, OPA GMTs 1 month after vaccination, with PREVENAR 20 to a control vaccine for a serotype was declared if the lower bound of the 2-sided 95% confidence interval (CI) for the GMT ratio (PREVENAR 20/Prevenar 13; PREVENAR 20/23vPPV) for that serotype was greater than 0.5.

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In adults 60 years of age and older, immune responses to all 13 matched serotypes elicited by PREVENAR 20 were non-inferior to the immune responses to the serotypes elicited by Prevenar 13 1 month after vaccination. Immune responses to 6 out of the 7 additional serotypes induced by PREVENAR 20 were non-inferior to the immune responses to these same serotypes induced by 23vPPV one month after vaccination.

The response to serotype 8 missed the pre-specified statistical non-inferiority criterion (the lower bound of the 2-sided 95% CI for the GMT ratio being 0.49 versus >0.50) (Table 6). The clinical relevance of this single data point is unknown, particularly since supportive analyses for other serotype 8 endpoints showed favourable outcomes. These include 22.1 geometric mean fold rise (GMFR) from before vaccination to 1 month post-vaccination, for serotype 8 in the PREVENAR 20 group, 77.8% of participants achieved a ≥ 4 -fold rise in OPA titres from before vaccination to 1 month after vaccination, and 92.9% of participants achieved OPA titres \geq LLOQ 1 month after vaccination; these were within the corresponding ranges observed for the 13 serotypes in the Prevenar 13 control group.

Table 6. OPA GMTs 1 month after vaccination in adults 60 years of age and older given PREVENAR 20 compared to Prevenar 13 for the 13 matched serotypes and 23vPPV for the 7 additional serotypes (Study 1007)^{a,b,c,d}

	PREVENAR 20 (N = 1157–1430)	Prevenar 13 (N = 1390–1419)	23vPPV (N = 1201–1319)	Vaccine comparison GMT ratio ^e (95% CI) ^e
	GMT ^e	GMT ^e	GMT ^e	
Serotype				
1	123	154		0.80 (0.71, 0.90)
3	41	48		0.85 (0.78, 0.93)
4	509	627		0.81 (0.71, 0.93)
5	92	110		0.83 (0.74, 0.94)
6A	889	1165		0.76 (0.66, 0.88)
6B	1115	1341		0.83 (0.73, 0.95)
7F	969	1129		0.86 (0.77, 0.96)
9V	1456	1568		0.93 (0.82, 1.05)
14	747	747		1.00 (0.89, 1.13)
18C	1253	1482		0.85 (0.74, 0.97)
19A	518	645		0.80 (0.71, 0.90)
19F	266	333		0.80 (0.70, 0.91)

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Table 6. OPA GMTs 1 month after vaccination in adults 60 years of age and older given PREVENAR 20 compared to Prevenar 13 for the 13 matched serotypes and 23vPPV for the 7 additional serotypes (Study 1007)^{a,b,c,d}

	PREVENAR 20 (N = 1157–1430)	Prevenar 13 (N = 1390–1419)	23vPPV (N = 1201–1319)	Vaccine comparison
	GMT^e	GMT^e	GMT^e	GMT ratio^e (95% CI)^e
23F	277	335		0.83 (0.70, 0.97)
Additional Serotypes				
8	466		848	0.55 (0.49, 0.62)
10A	2008		1080	1.86 (1.63, 2.12)
11A	4427		2535	1.75 (1.52, 2.01)
12F	2539		1717	1.48 (1.27, 1.72)
15B	2398		769	3.12 (2.62, 3.71)
22F	3666		1846	1.99 (1.70, 2.32)
33F	5126		3721	1.38 (1.21, 1.57)

Abbreviations: CI = confidence interval; GMT = geometric mean titre; LLOQ = lower limit of quantitation; N = number of participants; OPA = opsonophagocytic activity; 23vPPV = pneumococcal polysaccharide vaccine (23-valent).

- Study 1007 was conducted in the United States and in Sweden.
- Non-inferiority for a serotype was met if the lower bound of the 2-sided 95% CI for the GMT ratio (ratio of PREVENAR 20/comparator) was greater than 0.5 (2-fold criterion for non-inferiority).
- Assay results below the LLOQ were set to 0.5 × LLOQ in the analysis.
- Evaluable immunogenicity population.
- GMTs and GMT ratios as well as the associated 2-sided CIs were based on analysis of log-transformed OPA titres using a regression model with vaccine group, sex, smoking status, age at vaccination in years, and baseline log transformed OPA titres.

Immunogenicity in pneumococcal vaccine naïve adults 18 through 59 years of age

In Study 1007, described above, participants 50 through 59 years of age and participants 18 through 49 years of age were randomly assigned (3:1 ratio) to receive 1 vaccination with PREVENAR 20 or Prevenar 13. Serotype-specific OPA GMTs were measured before vaccination and 1 month after vaccination. Higher immune responses were observed in younger adults compared with older adults. A non-inferiority analysis of PREVENAR 20 in the younger age group versus PREVENAR 20 in adults 60 through 64 years of age for a serotype was performed to support the indication in adults 18 through 49 years of age and 50 through 59 years of age. Non-inferiority was to be declared if the lower bound of the 2-sided 95% CI for the GMT ratio (PREVENAR 20 in participants 18 through 49 years of age / 60 through 64 years of age and in 50 through 59 years of age / 60 through 64 years of age) for the 20 serotypes was > 0.5. PREVENAR 20 elicited immune responses to all 20 vaccine serotypes

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in both of the younger age groups that were non-inferior to responses in adults 60 through 64 years of age 1 month after vaccination (Table 7).

Table 7. Comparisons of OPA GMTs 1 month after PREVENAR 20 in adults 18 through 49 or 50 through 59 years of age to adults 60 through 64 years of age (Study 1007)^{a,b,c,d}

	18–49 years (N = 251–317)	60–64 years (N = 765–941)	18–49 years relative to 60–64 years GMT ratio ^e (95% CI) ^e	50–59 years (N = 266–320)	60–64 years (N = 765– 941)	50–59 years relative to 60–64 years GMT ratio ^e (95% CI) ^e
	GMT ^e	GMT ^e		GMT ^e	GMT ^e	
Serotype						
1	163	132	1.23 (1.01, 1.50)	136	132	1.03 (0.84, 1.26)
3	42	42	1.00 (0.87, 1.16)	43	41	1.06 (0.92, 1.22)
4	1967	594	3.31 (2.65, 4.13)	633	578	1.10 (0.87, 1.38)
5	108	97	1.11 (0.91, 1.36)	85	97	0.88 (0.72, 1.07)
6A	3931	1023	3.84 (3.06, 4.83)	1204	997	1.21 (0.95, 1.53)
6B	4260	1250	3.41 (2.73, 4.26)	1503	1199	1.25 (1.00, 1.56)
7F	1873	1187	1.58 (1.30, 1.91)	1047	1173	0.89 (0.74, 1.07)
9V	6041	1727	3.50 (2.83, 4.33)	1726	1688	1.02 (0.83, 1.26)
14	1848	773	2.39 (1.93, 2.96)	926	742	1.25 (1.01, 1.54)
18C	4460	1395	3.20 (2.53, 4.04)	1805	1355	1.33 (1.06, 1.68)
19A	1415	611	2.31 (1.91, 2.81)	618	600	1.03 (0.85, 1.25)
19F	655	301	2.17 (1.76, 2.68)	287	290	0.99 (0.80, 1.22)
23F	1559	325	4.80 (3.65, 6.32)	549	328	1.68 (1.27, 2.22)
Additional Serotypes						
8	867	508	1.71 (1.38, 2.12)	487	502	0.97 (0.78, 1.20)
10A	4157	2570	1.62 (1.31, 2.00)	2520	2437	1.03 (0.84, 1.28)
11A	7169	5420	1.32 (1.04, 1.68)	6417	5249	1.22 (0.96, 1.56)
12F	5875	3075	1.91 (1.51, 2.41)	3445	3105	1.11 (0.88, 1.39)
15B	4601	3019	1.52 (1.13, 2.05)	3356	2874	1.17 (0.88, 1.56)

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Table 7. Comparisons of OPA GMTs 1 month after PREVENAR 20 in adults 18 through 49 or 50 through 59 years of age to adults 60 through 64 years of age (Study 1007)^{a,b,c,d}

	18–49 years (N = 251–317)	60–64 years (N = 765–941)	18–49 years relative to 60–64 years	50–59 years (N = 266–320)	60–64 years (N = 765– 941)	50–59 years relative to 60–64 years
	GMT^e	GMT^e	GMT ratio^e (95% CI)^e	GMT^e	GMT^e	GMT ratio^e (95% CI)^e
22F	7568	4482	1.69 (1.30, 2.20)	3808	4228	0.90 (0.69, 1.17)
33F	7977	5693	1.40 (1.10, 1.79)	5571	5445	1.02 (0.81, 1.30)

Abbreviations: CI = confidence interval; GMT = geometric mean titre; LLOQ = lower limit of quantitation; N = number of participants; OPA = opsonophagocytic activity; 23vPPV = pneumococcal polysaccharide vaccine (23-valent).

- Study 1007 was conducted in the United States and in Sweden.
- Non-inferiority for a serotype was met if the lower bound of the 2-sided 95% CI for the GMT ratio (ratio of younger age group/60 through 64 years of age group) was greater than 0.5 (2-fold criterion for non-inferiority).
- Assay results below the LLOQ were set to $0.5 \times$ LLOQ in the analysis.
- Evaluable immunogenicity population.
- GMTs, GMT ratios, and the associated 2-sided CIs were based on analysis of log-transformed OPA titres using a regression model with age group, sex, smoking status, and baseline log transformed OPA titres. The comparisons between adults 18 through 49 years of age and adults 60 through 64 years of age and between adults 50 through 59 years of age and adults 60 through 64 years of age were based on separate regression models.

Immunogenicity of PREVENAR 20 in adults previously vaccinated with pneumococcal vaccine

A Phase 3 randomised, open-label clinical trial (Study 1006) described immune responses to PREVENAR 20 in adults 65 years of age and older previously vaccinated with 23vPPV, with Prevenar 13, or previously vaccinated with Prevenar 13 followed by 23vPPV. Participants in this study previously vaccinated with Prevenar 13 (Prevenar 13 only or followed by 23vPPV) were enrolled at sites in the United States and participants previously vaccinated with 23vPPV only were also enrolled from Swedish sites (35.5% in that category).

PREVENAR 20 elicited immune responses to all 20 vaccine serotypes in adults 65 years of age and older with prior pneumococcal vaccination. (Table 8). Immune responses were lower in subjects in both groups who received prior 23vPPV vaccinations.

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Table 8. Pneumococcal OPA GMTs before and 1 month after PREVENAR 20 in adults 65 years of age and older with prior pneumococcal vaccination (Study 1006)^{a,b,c,d}

	Prior 23vPPV only		Prior Prevenar 13 only		Prior Prevenar 13 and 23vPPV	
	Before vaccination (N = 208–247)	After vaccination (N = 216–246)	Before vaccination (N = 210-243)	After vaccination (N = 201–243)	Before vaccination (N = 106–121)	After vaccination (N = 102-121)
	GMT (95% CI) ^e	GMT (95% CI) ^e	GMT (95% CI) ^e	GMT (95% CI) ^e	GMT (95% CI) ^e	GMT (95% CI) ^e
Serotype						
1	24 (20, 28)	51 (42, 62)	34 (28, 41)	115 (96, 138)	42 (32, 56)	82 (61, 110)
3	13 (11, 15)	31 (27, 36)	15 (13, 18)	54 (47, 63)	20 (17, 25)	39 (32, 48)
4	29 (23, 35)	150 (118, 190)	67 (53, 84)	335 (274, 410)	73 (53, 101)	194 (143, 262)
5	27 (24, 31)	63 (53, 75)	38 (32, 44)	87 (73, 104)	47 (37, 59)	83 (65, 108)
6A	57 (46, 70)	749 (577, 972)	125 (99, 158)	1081 (880, 1327)	161 (116, 224)	1085 (797, 1478)
6B	107 (86, 133)	727 (574, 922)	174 (138, 219)	1159 (951, 1414)	259 (191, 352)	1033 (755, 1415)
7F	156 (132, 184)	378 (316, 452)	210 (175, 251)	555 (467, 661)	206 (164, 258)	346 (277, 432)
9V	203 (171, 241)	550 (454, 667)	339 (282, 408)	1085 (893, 1318)	352 (270, 459)	723 (558, 938)
14	212 (166, 270)	391 (315, 486)	282 (224, 356)	665 (554, 798)	336 (238, 473)	581 (434, 777)
18C	173 (137, 218)	552 (445, 684)	219 (177, 272)	846 (693, 1033)	278 (209, 369)	621 (470, 821)
19A	82 (66, 100)	239 (197, 288)	124 (100, 153)	365 (303, 440)	182 (141, 235)	341 (264, 439)
19F	61 (52, 71)	159 (131, 192)	89 (74, 107)	242 (199, 294)	120 (94, 154)	218 (168, 282)
23F	23 (18, 28)	152 (115, 199)	48 (37, 62)	450 (358, 566)	66 (46, 94)	293 (204, 420)
Additional Serotypes						
8	55 (45, 67)	212 (172, 261)	28 (24, 33)	603 (483, 753)	139 (99, 195)	294 (220, 392)
10A	212 (166, 269)	1012 (807, 1270)	141 (113, 177)	2005 (1586, 2536)	400 (281, 568)	1580 (1176, 2124)
11A	510 (396, 656)	1473 (1192, 1820)	269 (211, 343)	1908 (1541, 2362)	550 (386, 785)	1567 (1141, 2151)
12F	147 (112, 193)	1054 (822, 1353)	53 (43, 65)	1763 (1372, 2267)	368 (236, 573)	1401 (1002, 1960)
15B	140 (104, 189)	647 (491, 853)	74 (56, 98)	1480 (1093, 2003)	190 (124, 291)	1067 (721, 1578)

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Table 8. Pneumococcal OPA GMTs before and 1 month after PREVENAR 20 in adults 65 years of age and older with prior pneumococcal vaccination (Study 1006)^{a,b,c,d}

	Prior 23vPPV only		Prior Prevenar 13 only		Prior Prevenar 13 and 23vPPV	
	Before vaccination (N = 208–247)	After vaccination (N = 216–246)	Before vaccination (N = 210–243)	After vaccination (N = 201–243)	Before vaccination (N = 106–121)	After vaccination (N = 102–121)
	GMT (95% CI) ^e	GMT (95% CI) ^e	GMT (95% CI) ^e	GMT (95% CI) ^e	GMT (95% CI) ^e	GMT (95% CI) ^e
22F	167 (122, 230)	1773 (1355, 2320)	60 (45, 82)	4157 (3244, 5326)	286 (180, 456)	2718 (1978, 3733)
33F	1129 (936, 1362)	2026 (1684, 2437)	606 (507, 723)	3175 (2579, 3908)	1353 (1037, 1765)	2183 (1639, 2908)

Abbreviations: CI = confidence interval; GMT = geometric mean titre; LLOQ = lower limit of quantitation; N = number of participants; OPA = opsonophagocytic activity; 23vPPV = pneumococcal polysaccharide vaccine (23-valent).

- Study 1006 was conducted in the United States and in Sweden.
- Assay results below the LLOQ were set to $0.5 \times$ LLOQ in the analysis.
- Evaluable immunogenicity population.
- Open-label administration of PREVENAR 20.
- 2-sided CIs based on the Student t distribution.

Concomitant vaccine administration

Clinical trial in adults to assess PREVENAR 20 given with influenza vaccine, adjuvanted (Fluad Quadrivalent, [QIV])

In a double-blind, randomised study B7471004 (Study 1004), adults 65 years of age and older were randomised in a 1:1 ratio to receive PREVENAR 20 concomitantly administered with an influenza vaccine, adjuvanted (Fluad Quadrivalent, [QIV]) (Group 1, N = 898) or PREVENAR 20 administered 1 month after receiving QIV (Group 2, N = 898). Pneumococcal serotype-specific OPA GMTs were evaluated 1 month after PREVENAR 20 and influenza vaccine strain hemagglutinin inhibition assay (HAI) GMTs were evaluated 1 month after QIV. The noninferiority criteria for the comparisons of OPA GMTs (lower limit of the 2-sided 95% CI of the GMT ratio [Group 1/Group 2] >0.5 , 2-fold noninferiority criterion) were met for all 20 pneumococcal serotypes in PREVENAR 20. OPA GMTs were slightly lower for some serotypes when Prevenar 20 was administered concomitantly with QIV compared to Prevenar 20 administered alone. The noninferiority criteria for the comparisons of HAI GMTs (lower limit of the 2-sided 95% CI for the GMT ratio [Group 1/Group 2] >0.67 , 1.5-fold noninferiority criterion) were also met for all 4 influenza vaccine strains.

Clinical trial in adults to assess PREVENAR 20 given with a third (booster) dose of COVID-19 mRNA vaccine (Comirnaty [tozinameran])

In a double-blind, randomised descriptive study B7471026 (Study 1026), adults 65 years of age and older who had received 2 doses of COVID-19 mRNA vaccine (Comirnaty

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[tozinameran]) at least 6 months earlier, were randomised in a 1:1:1 ratio to receive PREVENAR 20 concomitantly administered with a third (booster) dose of COVID-19 mRNA vaccine (Comirnaty [tozinameran]) (N = 190), PREVENAR 20 administered alone (N = 191), or a third (booster) dose of COVID-19 mRNA vaccine (Comirnaty [tozinameran]) administered alone (N = 189).

Immune responses to both vaccines were observed after co-administration of PREVENAR 20 and COVID-19 mRNA vaccine (Comirnaty [tozinameran]). OPA GMTs for the 20 pneumococcal serotypes were similar to PREVENAR 20 administered alone and IgG GMCs for the full-length S-binding protein were similar to COVID-19 mRNA vaccine (Comirnaty [tozinameran]) administered alone. A post-hoc analysis found the immune responses to all 20 serotypes elicited by PREVENAR 20 when co-administered with COVID-19 mRNA vaccine (Comirnaty [tozinameran]) would have met conventional 2-fold noninferiority criteria compared to PREVENAR 20 alone, and the full-length S-binding IgG GMC elicited by COVID-19 mRNA vaccine (Comirnaty [tozinameran]) would have met conventional 1.5-fold noninferiority compared to COVID-19 mRNA vaccine (Comirnaty [tozinameran]) alone.

Prevenar 13 immune responses in special populations

Individuals with the conditions described below have an increased risk of pneumococcal disease.

Studies in HIV and haematopoietic stem cell transplant (HSCT) participants have not been conducted with PREVENAR 20; however, safety and immunogenicity of Prevenar 13 are relevant to PREVENAR 20, since the vaccines are manufactured similarly and contain 13 of the same polysaccharide conjugates.

HIV infection

Adults not previously vaccinated with a pneumococcal vaccine

In Study 6115A1-3002 (B1851021), HIV-infected adults 18 years of age and older (CD4 \geq 200 cells/ μ L, viral load < 50,000 copies/mL and free of active acquired immunodeficiency syndrome [AIDS]-related illness) not previously vaccinated with a pneumococcal vaccine received 3 doses of Prevenar 13. As per general recommendations, a single dose of 23vPPV was subsequently administered. Vaccines were administered at 1-month intervals. Immune responses were assessed in 131 to 137 evaluable participants approximately 1 month after each dose of vaccine. After the first dose, Prevenar 13 elicited antibody levels, measured by both immunoglobulin G (IgG) geometric mean concentrations (GMCs) and OPA GMTs that were statistically significantly higher when compared to levels prior to vaccination. After the second and third dose of Prevenar 13, immune responses were similar to or higher than those after the first dose.

Adults previously vaccinated with 23vPPV

In Study 6115A1-3017 (B1851028), immune responses were assessed in 329 HIV-infected adults 18 years of age and older (CD4+ T-cell count \geq 200 cells/ μ L and viral load < 50,000 copies/mL) previously vaccinated with 23vPPV administered at least 6 months prior

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to enrolment. Participants received 3 doses of Prevenar 13: at enrolment, 6 months, and 12 months after the first dose of Prevenar 13. After the first vaccination, Prevenar 13 elicited antibody levels measured by both IgG GMCs and OPA GMTs that were statistically significantly higher when compared to levels prior to vaccination. After the second and third dose of Prevenar 13, immune responses were comparable to or higher than those after the first dose. Participants who received 2 or more previous doses of 23vPPV showed a similar immune response compared with participants who received a single previous dose. The immune responses to Prevenar 13 observed in HIV infected adults were lower than the immune responses reported for healthy adults.

Haematopoietic stem cell transplant (HSCT)

In Study 6115A1-3003 (B1851022), adults 18 years of age and older with an allogeneic HSCT received 3 doses of Prevenar 13 with an interval of at least 1 month between doses. The first dose was administered at 3 to 6 months after HSCT. A fourth (booster) dose of Prevenar 13 was administered 6 months after the third dose. As per general recommendations, a single dose of 23vPPV was administered 1 month after the fourth dose of Prevenar 13. Immune responses as measured by IgG GMCs were assessed in 130 to 159 evaluable participants approximately 1 month after vaccination. Prevenar 13 elicited increased antibody levels after each dose. Immune responses after the fourth dose of Prevenar 13 were significantly increased for all serotypes compared with after the third dose.

This study demonstrated that 4 doses of Prevenar 13 elicited serum IgG concentrations similar to those induced by a single dose in healthy participants of the same age group.

Paediatric population

PREVENAR 20 is not approved for use in children or adolescents.

The safety and efficacy of PREVENAR 20 in children and adolescents aged less than 18 years of age have not yet been established. Limited data are available in this age group.

5.2 Pharmacokinetic properties

Not applicable.

5.3 Preclinical safety data

Genotoxicity

PREVENAR 20 has not been tested for genotoxic potential.

Carcinogenicity

PREVENAR 20 has not been tested for carcinogenic potential.

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6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Aluminium phosphate

Sodium chloride

Succinic acid

Polysorbate 80

Water for injections

6.2 Incompatibilities

In the absence of compatibility studies, this vaccine must not be mixed with other medicinal products.

6.3 Shelf life

In Australia, information on the shelf life can be found on the public summary of the Australian Register of Therapeutic Goods (ARTG). The expiry date can be found on the packaging.

6.4 Special precautions for storage

Store in a refrigerator (2 °C to 8 °C). Pre-filled syringes should be stored in the refrigerator horizontally to minimise the re-suspension time.

Do not freeze. Discard if the vaccine has been frozen.

From a microbiological point of view, once removed from the refrigerator, the vaccine should be used immediately.

Stability data indicate that the vaccine is stable for 96 hours when stored at temperatures from 8 °C to 25 °C or 72 hours when stored at temperatures from 0 °C to 2 °C. At the end of these time periods PREVENAR 20 should be used or discarded. These data are intended to guide healthcare professionals in case of temporary temperature excursion only.

6.5 Nature and contents of container

0.5 mL suspension for injection in pre-filled syringe (Type I glass) with a tip cap (synthetic isoprene/bromobutyl blend rubber) and a plunger stopper (chlorobutyl rubber).

Pack sizes of 1 and 10 pre-filled syringes, with or without needle.

Not all pack sizes may be marketed.

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6.6 Special precautions for disposal

During storage, a white deposit and clear supernatant may be observed in the pre-filled syringe containing the suspension.

In Australia, any unused medicine or waste material should be disposed of in accordance with local requirements.

7. MEDICINE SCHEDULE (POISONS STANDARD)

S4 – Prescription Only Medicine.

8. SPONSOR

Pfizer Australia Pty Ltd
Level 17, 151 Clarence Street
Sydney NSW 2000
Toll Free Number: 1800 675 229
www.pfizermedinfo.com.au

9. DATE OF FIRST APPROVAL

2 December 2022

10. DATE OF REVISION

Not Applicable

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