ANNEX I

SUMMARY OF PRODUCT CHARACTERISTICS

▼This medicinal product is subject to additional monitoring. This will allow quick identification of new safety information. Healthcare professionals are asked to report any suspected adverse reactions. See section 4.8 for how to report adverse reactions.

1. NAME OF THE MEDICINAL PRODUCT

Prevenar 20 suspension for injection in pre-filled syringe
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

[1]Conjugated to CRM_{197} carrier protein (approximately 51 µg per dose)
[2]Adsorbed on aluminium phosphate (0.125 mg aluminium per dose)

For the full list of excipients, see section 6.1.

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 invasive disease, pneumonia, and acute otitis media caused by *Streptococcus pneumoniae* in infants, children, and adolescents from 6 weeks to less than 18 years of age.

Active immunisation for the prevention of invasive disease and pneumonia caused by *Streptococcus pneumoniae* in individuals 18 years of age and older.

See sections 4.4 and 5.1 for information on protection against specific pneumococcal serotypes.

Prevenar 20 should be used in accordance with official recommendations.

4.2 Posology and method of administration

Posology

It is recommended that infants who receive a first dose of Prevenar 20 complete the vaccination course with Prevenar 20.

Vaccination schedule in infants and children 6 weeks to 15 months of age	
4-dose series (three-dose primary series followed by a booster dose)	The primary infant series consists of three doses, each of 0.5mL, with the first dose usually given at 2 months of age and with an interval of at least 4 weeks between doses. The first dose may be given as early as 6 weeks of age. The fourth (booster) dose is recommended between 11 and 15 months of age (see section 5.1).
Vaccination schedule for individuals 18 years of age and older	
Individuals 18 years of age and older	Prevenar 20 is to be administered as a single dose to individuals 18 years of age and older. The need for revaccination with a subsequent dose of Prevenar 20 has not been established. No data on sequential vaccination with other pneumococcal vaccines or a booster dose are available for Prevenar 20. Based on the clinical experience with Prevenar 13 (a pneumococcal conjugate vaccine consisting of 13 polysaccharide conjugates that are also in Prevenar 20), if the use of 23-valent pneumococcal polysaccharide vaccine (Pneumovax 23 [PPSV23]) is considered appropriate, Prevenar 20 should be given first (see section 5.1).

Paediatric population

~~No or only limited data are available for Prevenar 20 in infants below 6 weeks, preterm, older unvaccinated, or partially vaccinated infants and children (see sections 4.4, 4.8 and 5.1). The following dosing recommendations are predominantly based on experience with Prevenar 13.~~

Infants below 6 weeks of age

The safety and efficacy of Prevenar 20 in infants below 6 weeks have not been established. No data are available.

Preterm infants (less than 37 weeks of gestation)

The recommended immunisation series for Prevenar 20 consists of four doses, each of 0.5 mL. The primary infant series consists of three doses, with the first dose given at 2 months of age and with an interval of at least 4 weeks between doses. The first dose may be given as early as 6 weeks of age. The fourth (booster) dose is recommended between 11 and 15 months of age (see sections 4.4 and 5.1).

Unvaccinated infants 7 months to less than 12 months of age

Two doses, each of 0.5 mL, with an interval of at least 4 weeks between doses. A third dose is recommended in the second year of life.

Unvaccinated children 12 months to less than 24 months of age

Two doses, each of 0.5 mL, with an interval of at least 8 weeks between doses.

Unvaccinated children 2 years to less than 5 years of age

One single dose of 0.5 mL.

Children 15 months to less than 5 years of age previously fully vaccinated with Prevenar 13

One single dose (0.5 mL) given on an individual basis according to official recommendations to elicit immune responses to the additional serotypes.

If Prevenar 13 was administered, at least 8 weeks should elapse before administering Prevenar 20 (see section 5.1).

Children and adolescents 5 years to less than 18 years of age regardless of prior Prevenar 13 vaccination

One single dose (0.5 mL) given on an individual basis according to official recommendations.

If Prevenar 13 was administered, at least 8 weeks should elapse before administering Prevenar 20 (see section 5.1).

Special populations

There are no data with Prevenar 20 in special populations.

Experience from clinical studies with Prevenar 13 (a pneumococcal conjugate vaccine consisting of 13 polysaccharide conjugates that are also in Prevenar 20) are available in children and adults at higher risk of pneumococcal infection including immunocompromised children and adults with human immunodeficiency virus (HIV) infection or haematopoietic stem cell transplant (HSCT), and children with sickle cell disease (SCD) (see sections 4.4 and 5.1).

Based on these data, the following posology was recommended for Prevenar 13:

- Individuals at higher risk of pneumococcal infection (e.g., individuals with SCD or HIV infection), including those previously vaccinated with 1 or more doses of PPSV23, were recommended to receive at least 1 dose of Prevenar 13.
- In individuals with a HSCT, the recommended immunisation series with Prevenar 13 consisted of 4 doses of 0.5 mL each. 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 4 weeks between doses. A booster dose was recommended 6 months after the third dose (see section 5.1).

The recommended dosing of Prevenar 13 may be considered in guiding vaccination with Prevenar 20 in high-risk populations. For information on responses to pneumococcal vaccines in immunocompromised individuals, please also refer to sections 4.4. and 5.1.

Method of administration

For intramuscular use only.

The vaccine (0.5 mL) should be given by intramuscular injection. The preferred sites are the anterolateral aspect of the thigh (vastus lateralis muscle) in infants or the deltoid muscle of the upper arm in children and adults. Prevenar 20 should be administered, with care to avoid injection into or near nerves and blood vessels.

For instructions on the handling of the vaccine before administration, see section 6.6.

4.3 Contraindications

Hypersensitivity to the active substances, to any of the excipients listed in section 6.1, or to diphtheria toxoid.

4.4 Special warnings and precautions for use

Do not inject Prevenar 20 intravascularly.

Traceability

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

Hypersensitivity

As with all injectable vaccines, appropriate medical treatment and supervision must always be readily available in case of a rare anaphylactic reaction following the administration of the vaccine.

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 may only protect against *Streptococcus pneumoniae* serotypes included in the vaccine, and will not protect against other microorganisms that cause invasive disease, pneumonia or otitis media (OM). As with any vaccine, Prevenar 20 may not protect all individuals receiving the vaccine from invasive pneumococcal disease (IPD), pneumonia or OM. For the most recent epidemiological information in your country, you should consult with the relevant national organisation.

Immunocompromised individuals

Safety and immunogenicity data on Prevenar 20 are not available for individuals in immunocompromised groups. 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 response, 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 (a pneumococcal conjugate vaccine consisting of 13 polysaccharide conjugates that are also in Prevenar 20) are available for individuals with HIV infection, SCD or with a HSCT (see sections 4.8 and 5.1). Prevenar 20 should be used in accordance with official recommendations.

In adults across all studied age groups, formal non-inferiority criteria were met although numerically lower geometric mean titres (GMTs) were observed with Prevenar 20 for most of the serotypes compared to Prevenar 13 (see section 5.1), In children, numerically lower immunoglobulin G (IgG) geometric mean concentrations (GMCs) were observed for all shared serotypes compared with Prevenar 13 (see section 5.1). The clinical relevance of these observations for immunocompromised individuals are unknown.

Paediatric population

The potential risk of apnoea and the need for respiratory monitoring for 48 to 72 h should be considered when administering the primary immunisation series to very premature infants (born less than or equal to 28 weeks of gestation), and particularly for those with a previous history of respiratory immaturity. As the benefit of vaccination is high in this group of infants, vaccination should not be withheld or delayed.

Excipient

This medicinal product contains less than 1 mmol sodium (23 mg) per dose, that is to say essentially ‘sodium-free’.

4.5 Interaction with other medicinal products and other forms of interaction

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

Do not mix Prevenar 20 with other vaccines or medicinal products in the same syringe.

Paediatric population

In infants and children, 6 weeks to less than 5 years of age, Prevenar 20 can be administered concomitantly with any of the following vaccine antigens, either as monovalent or combination vaccines: diphtheria, tetanus, acellular pertussis, hepatitis B, *Haemophilus influenzae* type b, inactivated poliomyelitis, measles, mumps, rubella, and varicella vaccines. In clinical trials, rotavirus vaccines were permitted to be administered concomitantly with Prevenar 20 and no safety concerns were observed.

Individuals 18 years of age and older

Prevenar 20 may be administered concomitantly with seasonal influenza vaccine (QIV; surface antigen, inactivated, adjuvanted). In subjects with underlying conditions associated with a high risk of developing life-threatening pneumococcal disease, consideration may be given to separating administrations of QIV and Prevenar 20 (e.g., by approximately 4 weeks). In a double-blind, randomised study (B7471004) in adults 65 years of age and older, the immune response was formally non-inferior, however numerically lower titres were observed for all pneumococcal serotypes included in Prevenar 20 when given concomitantly with seasonal influenza vaccine (QIV, surface antigen, inactivated, adjuvanted) compared to when Prevenar 20 was given alone. The clinical relevance of this finding is unknown.

Prevenar 20 can be administered concomitantly with COVID-19 mRNA vaccine (nucleoside modified).

There are no data on the concomitant administration of Prevenar 20 with other vaccines.

4.6 Fertility, pregnancy and lactation

Pregnancy

There are no data on the use of Prevenar 20 in pregnant women.

Animal studies do not indicate direct or indirect harmful effects with respect to reproductive toxicity.

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

Breast-feeding

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

Fertility

No human data on the effect of Prevenar 20 on fertility are available. Animal studies do not indicate direct or indirect harmful effects with respect to female fertility (see section 5.3).

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 may temporarily affect the ability to drive or use machines.

4.8 Undesirable effects

Summary of the safety profile

Paediatric population

The safety of Prevenar 20 was evaluated in 5,987 participants, 6 weeks of age to less than 18 years of age, in five clinical trials (one Phase 2 and four Phase 3), four randomised, double-blind, active-controlled clinical trials and one single-arm clinical trial; 3,664 participants received at least 1 dose of Prevenar 20, and 2,323 participants received Prevenar 13 (control vaccine).

Participants 6 weeks to less than 15 months of age

Clinical trials were conducted in healthy infants 6 weeks to less than 15 months of age using a 3-dose schedule or a 4-dose schedule (see section 5.1). In these infant trials, 5,156 participants received at least 1 dose of vaccine: 2,833 received Prevenar 20, and 2,323 received Prevenar 13. Overall, approximately 90% of participants in each group received all doses through the study-specified toddler dose. In all studies, local reactions and systemic events were collected after each dose, and adverse events (AEs) were collected in all studies from the first dose through 1 month after the last infant vaccination and from the toddler dose through 1 month after the toddler dose. Serious adverse events were evaluated through 1 month after the last dose in the Phase 3 trial B7471012 (Study 1012) and through 6 months after the last dose in Phase 3 trials (Studies 1011, 1013) and Phase 2 trial (Study 1003).

Prevenar 20 was well tolerated, when administered in a 3-dose and a 4-dose series, in the infant study populations with low rates of severe local reactions and systemic events, and most reactions resolving within 1 to 3 days. The percentages of participants with local reactions and systemic events after Prevenar 20 were generally similar to those after Prevenar 13. The most frequently reported local reactions and systemic events after any dose of Prevenar 20 were irritability, drowsiness, and pain at injection site. In these studies, Prevenar 20 was co-administered or permitted to be administered with certain routine paediatric vaccines (see section 4.5).

Study 1012 was a pivotal, double-blind, randomised, active-controlled Phase 3 trial, in which 601 healthy infants received Prevenar 20 in a 3-dose series. The most frequently reported (> 10%) adverse reactions after any dose of Prevenar 20 were irritability (71.0% to 71.9%), drowsiness/increased sleep (50.9% to 61.2%), pain at injection site (22.8% to 42.4%), decreased appetite (24.7% to 39.3%), redness at the injection site (25.3% to 36.9%), swelling at the injection site (21.4% to 29.8%), and fever ≥ 38.0 °C (8.9% to 24.3%). Most adverse reactions occurred within 1 to 2 days following vaccination and were mild or moderate in severity and of short duration (1 to 2 days).

Studies 1011, 1013 and 1003, were double-blind, randomised, active-controlled trials that included 2,232 healthy infants, vaccinated with Prevenar 20 in a 4-dose series. The most frequently reported (> 10%) adverse reactions observed after any dose of Prevenar 20 in infants were irritability (58.5% to 70.6%), drowsiness/increased sleep (37.7% to 66.2%), pain at injection site (32.8% to 45.5%), decreased appetite (23.0% to 26.4%), redness at the injection site (22.6% to 24.5%), and swelling at the injection site (15.1% to 17.6%). Most adverse reactions were mild or moderate following vaccination and most reactions resolving within 1 to 3 days. Severe reactions were reported infrequently.

In Study 1013, the local reactions and systemic events in the preterm subgroup (111 infants born at 34 to less than 37 weeks of gestation) were similar to or lower than the term infants in the study. In the preterm subgroup, the frequency of any reported local reaction was 31.7% to 55.3% in the Prevenar 20 group, and any systemic event was 65.0% to 85.5% in the Prevenar 20 group.

Participants aged 15 months to less than 18 years of age

In the Phase 3 trial B7471014 (Study 1014), 831 participants 15 months to less than 18 years of age received a single dose of Prevenar 20 in four age groups (209 participants 15 to less than 24 months of age; 216 participants 2 years to less than 5 years of age; 201 participants 5 years to less than 10 years age; and 205 participants 10 years to less than 18 years of age). The participants less than 5 years of age had received at least 3 prior doses of Prevenar 13.

The most frequently reported (> 10%) adverse reactions observed after any dose of Prevenar 20 in participants less than 2 years of age were irritability (61.8%), pain at the injection site (52.5%), drowsiness/increased sleep (41.7%), redness at the injection site (37.7%), decreased appetite (25.0%), swelling at the injection site (22.1%), and fever ≥ 38.0 °C (11.8%). In participants aged 2 years and older, the most frequently reported adverse reactions were pain at the injection site (66.0% to 82.9%), muscle pain (26.5% to 48.3%), redness at the injection site (15.1% to 39.1%), fatigue (27.8% to 37.2%), headache (5.6% to 29.3%), and swelling at the injection site (15.6% to 27.1%).

Participants 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. This, included 1,798 participants 18 through 49 years of age, 334 participants 50 through 59 years of age, and 2,131 participants 60 years of age and older (1,138 were 65 years of age and older). Of the participants who received Prevenar 20 in the Phase 3 trials, 3,639 were naïve to pneumococcal vaccines, 253 had previously received Pneumovax 23 (pneumococcal polysaccharide vaccine [23-valent]; PPSV23) (≥ 1 to ≤ 5 years prior to enrollment), 246 had previously received Prevenar 13 only (≥ 6 months prior to enrollment), and 125 had previously received Prevenar 13 followed by PPSV23 (the dose of PPSV23 ≥ 1-year prior to enrollment).

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.

In participants 18 to 49 years of age in Studies 1007 and a Phase 3 trial B7471008 (Lot Consistency Study 1008), the most frequently reported adverse reactions were pain at injection site (79.2%), muscle pain (62.9%), fatigue (46.7%), headache (36.7%), and joint pain (16.2%). In participants 50 to 59 years of age in Study 1007, the most frequently reported adverse reactions were pain at injection site (72.5%), muscle pain (49.8%), fatigue (39.3%), headache (32.3%), and joint pain (15.4%). In participants ≥ 60 years of age in Study 1007, the most frequently reported adverse reactions were pain at injection site (55.4%), muscle pain (39.1%), fatigue (30.2%), headache (21.5%), and joint pain (12.6%). These were usually mild or moderate in intensity and resolved within a few days after vaccination.

Phase 3 Study B7471006 (Study 1006) evaluated Prevenar 20 in participants ≥ 65 years of age with varying prior pneumococcal status (prior PPSV23, prior Prevenar 13 or prior Prevenar 13 followed by PPSV23). In this study, the most frequently reported adverse reactions for participants were similar in frequency to those described for participants ≥ 60 years of age in Study 1007, with slightly higher injection site pain (61.2%) in participants with prior Prevenar 13, and joint pain (16.8%) in participants with prior Prevenar 13 followed by PPSV23.

Tabulated list of adverse reactions

Tabulated lists of adverse reactions from the infant Phase 2, Phase 3 clinical trials in paediatric and adult populations, 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 the Phase 2 infant trial, and the Phase 3 trials in paediatric and adult populations, based on the highest frequency among adverse reactions, local reactions, or systemic events, after vaccination in an Prevenar 20 group or integrated dataset. The data from clinical trials in infants reflect Prevenar 20 administered simultaneously with other routine childhood vaccines.

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

Table 1. Tabulated Adverse Reactions From Prevenar 20 Clinical Trials

System Organ Class	**Adverse Reactions**	**Frequency**		
		Infants/Children/Adolescents		**Adults**
		6 weeks to less than 5 years of age	**5 years to less than 18 years of age**	
Immune System Disorders	Hypersensitivity reaction including face oedema, dyspnoea, bronchospasm	Rare[a]	-	Uncommon
Metabolism and Nutrition Disorders	Decreased appetite	Very common	Very common[a]	Very common[a]
Psychiatric Disorders	Irritability	Very common	Very common[a]	-
	Crying	Uncommon[a]	-	-
Nervous System Disorders	Drowsiness/increased sleep	Very common	Very common[a]	-
	Seizures (including febrile seizures)	Uncommon	-	-
	Hypotonic-hyporesponsive episode	Rare[a]	-	-
	Restless sleep/decreased sleep	Very common[a]	Very common[a]	-
	Headache	-	Very common	Very common
Gastrointestinal Disorders	Diarrhoea	Common	Common[a]	Uncommon[b]
	Nausea	-	-	Uncommon
	Vomiting	Common	Common[a]	Uncommon[b]
Skin and Subcutaneous Tissue Disorders	Rash	Common	Common[a]	Uncommon[b]
	Angioedema	-	-	Uncommon
	Urticaria or urticaria-like rash	Uncommon	Uncommon	-

Table 1. Tabulated Adverse Reactions From Prevenar 20 Clinical Trials

System Organ Class	Adverse Reactions	Frequency		
		Infants/Children/Adolescents		Adults
		6 weeks to less than 5 years of age	5 years to less than 18 years of age	
Musculoskeletal and connective tissue Disorders	Muscle pain	-	Very common	Very common
	Joint pain	-	Common	Very common
General Disorders and Administration Site Conditions	Fever (pyrexia)	Very common	Uncommon	Common
	Fever greater than 38.9 °C	Common	-	-
	Fatigue	-	Very common	Very common
	Vaccination-site erythema	Very common	Very common	Common[b]
	Vaccination-site induration/swelling	Very common	Very common	Common[b]
	Vaccination-site erythema or induration/swelling (> 2.0-7.0 cm)	Very common (after toddler dose and in older children [age 2 to < 5 years])	-	-
		Common (after infant series)	-	-
	Vaccination-site erythema or induration/swelling (> 7.0 cm)	Uncommon	-	-
	Vaccination-site pain/tenderness	Very common	Very common	Very common
	Vaccination-site pain/tenderness causing limitation of limb movement	Common	Common	Very common[a]
	Vaccination-site pruritus	-	-	Uncommon
	Lymphadenopathy	-	-	Uncommon
	Vaccination-site urticaria	-	-	Uncommon
	Chills	-	-	Uncommon[b]
	Vaccination-site hypersensitivity	Rare[c]	-	-

a. These frequencies are based on adverse reactions (ARs) reported in clinical trials with Prevenar 13 as these ARs were not reported in Prevenar 20 trials of infants (Phase 2 and 3), children and adolescents less than 18 years of age, and adults 18 years and older (Phase 3); therefore, the frequency is not known.
b. Event reported from clinical trials in adults with Prevenar 13 with very common frequency (≥ 1/10).
c. AR not reported for Prevenar 13, although injection-site urticaria, injection-site pruritus, and injection-site dermatitis were reported in Prevenar 13 postmarketing experience.

Safety with concomitant vaccine administration in adults

When Prevenar 20 was administered to adults aged ≥ 65 years together with the third (booster) dose of a COVID-19 mRNA vaccine (nucleoside modified), the tolerability profile generally resembled that of the COVID-19 mRNA vaccine (nucleoside modified) administered alone. There were a few differences in the safety profile when compared to administration of Prevenar 20 alone. In the phase 3 trial B7471026 (Study 1026), pyrexia (13.0%) and chills (26.5%) were reported as "very common" with co-administration. There was also one report of dizziness (0.5%) in the co-administration group.

Adverse reactions from postmarketing experience

Table 2 includes adverse experiences that have been spontaneously reported during the postmarketing use of Prevenar 13 in paediatric and adult populations, which may also occur 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. These events were reported voluntarily from a population of uncertain size. Therefore, 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 Postmarketing Experience

System Organ Class	**Frequency Not Known**
Blood and lymphatic system disorders	Lymphadenopathy localised to the region of the vaccination site
Immune system disorders	Anaphylactic/anaphylactoid reaction, including shock
Skin and subcutaneous tissue disorders	Angioedema, Erythema multiforme
General disorders and administration site conditions	Vaccination-site dermatitis, Vaccination-site urticaria, Vaccination-site pruritus

Events reported spontaneously in Prevenar 13 postmarketing experience; therefore, the frequencies could not be estimated from the available Prevenar 20 data and are considered as not known.

Additional information in special populations in studies with Prevenar 13

Participants 6 to < 18 years of age with HIV infection have similar frequencies of adverse reactions in Table 1, except fever (11% to 19%), joint pain (24% to 42%), and vomiting (8% to 18%), which were very common. Participants ≥ 18 years of age with HIV infection have similar frequencies of adverse reactions in Table 1, except for pyrexia (5% to 18%) and vomiting (8% to 12%) which were very common and nausea (< 1% to 3%) which was common.

Participants 2 to < 18 years of age with HSCT have similar frequencies of adverse reactions in Table 1, except vaccination-site pain causing limitation of limb movement (5% to 15%), vomiting (6% to 21%), diarrhoea (15% to 32%), and joint pain (25% to 32%), which were very common. Participants ≥ 18 years of age with an HSCT have similar frequencies of adverse reactions in Table 1, except for pyrexia (4% to 15%), vomiting (6% to 21%), and diarrhoea (25% to 36%) which were very common.

Participants 6 to < 18 years of age with SCD have similar frequencies of adverse reactions in Table 1, except vaccination-site pain causing limitation of limb movement (11% to 16%), fever (21% to 22%), vomiting (13% to 15%), diarrhoea (13% to 25%), and joint pain (40% to 45%), which were very common.

Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation 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 via the national reporting system listed in Appendix V.

4.9 Overdose

Overdose with Prevenar 20 is unlikely due to its presentation as a pre-filled syringe.

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 CRM_{197} 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 leads to an enhanced antibody response and induced functional antibodies (associated with opsonisation, phagocytosis and killing of pneumococci) to protect against pneumococcal disease, as well as the generation of memory B cells, allowing for an anamnestic (booster) response on re-exposure to the bacterium.

Immune responses in children and adults, after exposure to *Streptococcus pneumoniae* or following pneumococcal vaccination, can be determined by measuring IgG or opsonophagocytic activity (OPA) responses. OPA measures functional antibody activity and is considered to be an important immunologic surrogate measure of protection against pneumococcal disease in adults. In children, multiple immunogenicity criteria are used for the clinical evaluation of pneumococcal conjugate vaccines including the proportion of vaccinated children achieving a serotype-specific IgG antibody level corresponding to ≥ 0.35 µg/mL using the WHO enzyme linked immunosorbent assay (ELISA) or an equivalent assay-specific value.
Serotype-specific immune responses that correlate with individual protection against pneumococcal disease have not been clearly defined.

Clinical efficacy

No efficacy studies have been performed with Prevenar 20.

Immunogenicity data

Prevenar 20 clinical trials in infants, children and adolescents

Immunogenicity was assessed by serotype-specific IgG response rates (the proportion of participants meeting the serotype-specific IgG level of ≥ 0.35 µg/mL or equivalent assay-specific value) and IgG GMCs at 1 month following the primary series and 1 month following the toddler dose. OPA GMTs were also measured 1 month following the primary series and following the toddler dose. The predefined concentration corresponding to 0.35 µg/mL in the WHO ELISA (or equivalent assay-specific threshold value) is only applicable at the population level and cannot be used to predict individual or serotype-specific protection against IPD. No correlate of protection exists for pneumonia and acute otitis media (AOM).

Two Phase 3 clinical trials (Study 1011, Study 1012) and one Phase 2 clinical trial (Study 1003) evaluated the immunogenicity of Prevenar 20 in a 3-dose or a 4-dose series in infants. One Phase 3 study (Study 1014) of children 15 months to less than 18 years of age evaluated a single dose of Prevenar 20.

Immune responses following 3 and 4 doses in a 4-dose infant vaccination series

In Study 1011, conducted in the United States and Puerto Rico, 1,991 healthy infants aged 2 months (≥ 42 to ≤ 98 days) at the time of consent and born at > 36 weeks of gestation, were randomised (1:1) and vaccinated with either Prevenar 20 or Prevenar 13 at approximately 2, 4, 6, and 12 to 15 months of age. Participants also received other paediatric vaccines including a combination vaccine containing diphtheria, tetanus, pertussis (acellular), hepatitis B (rDNA), poliomyelitis (inactivated), and a *Haemophilus influenzae* type b conjugate vaccine (adsorbed) with all 3 doses, and measles, mumps, rubella combination vaccine, and varicella vaccine at the toddler dose. Rotavirus and influenza vaccines were permitted to be co-administered in the study.

One month after the third infant dose, NI for the difference in percentages of participants with specified serotype-specific IgG concentrations (with a 10% NI criterion) was met for 9 of the 13 matched serotypes and missed for 4 serotypes (serotypes 3, 4, 9V, and 23F) (Table 3). Six of the 7 additional serotypes also met the non-inferiority criterion when compared to the lowest result for a vaccine serotype in the Prevenar 13 group (excluding serotype 3); serotype 12F missed the statistical non-inferiority criterion. IgG GMCs 1 month after dose 3 of Prevenar 20 were non-inferior (with a 0.5 NI criterion for IgG geometric mean ratio (GMR)) to those in the Prevenar 13 group for all 13 matched serotypes. The NI criterion was also met for the 7 additional serotypes to the lowest IgG GMC (excluding serotype 3) among the vaccine serotypes in the Prevenar 13 group (Table 3).

The antibody levels for all 7 additional serotypes were significantly higher than the corresponding serotype in the Prevenar 13 group (Tables 3 and 4).

One month after the toddler dose, NI for IgG GMCs (with a 0.5 NI criterion for IgG GMR) was met for all 13 matched serotypes. The NI criterion was also met for the 7 additional serotypes to the lowest IgG GMC (excluding serotype 3) among the vaccine serotypes in the Prevenar 13 group (Table 4). Although non-inferiority was not formally tested for this endpoint, the observed differences (Prevenar 20 – Prevenar 13) in percentages of participants with specified serotype-specific IgG concentrations 1 month after dose 4 were greater than -10% for all 13 matched serotypes except serotype 3 (-16.4%, CI -21.0%, -11.8%). For the 7 additional serotypes, the observed differences in percentage of participants with specified serotype-specific IgG concentrations 1 month after dose 4 ranged from -11.5% (serotype 12F) to 1.8% (serotype 15B, 22F, and 33F) (Table 4).

Table 3. Percentage of Participants With Specified Pneumococcal IgG Concentrations and Pneumococcal IgG GMCs (µg/mL) One Month After Dose 3 of a 4-Dose Series, Study 1011[a]

	Percentages of Participants With Specified IgG Concentrations[b]			**IgG GMCs**		
	Prevenar 20 N[c] = 831-833	**Prevenar 13 N[c] = 801-802**	**Difference (Prevenar 20 – Prevenar 13)**	**Prevenar 20 N[c] = 831-833**	**Prevenar 13 N[c] = 801-802**	**Prevenar 20 /Prevenar 13**
	%	**%**	**% (95% CI[d])**	**GMC[e]**	**GMC[e]**	**GMR (95% CI[e])**
Serotypes						
1	84.9	91.1	-6.3 (-9.4, -3.1)	0.74	1.14	0.65 (0.59, 0.72)
3	40.5	55.2	-14.8 (-19.5, -10.0)	0.36	0.51	0.70 (0.64, 0.76)
4	78.2	87.5	-9.4 (-13.0, -5.8)	0.75	1.08	0.70 (0.63, 0.78)
5	86.2	90.5	-4.3 (-7.5, -1.2)	0.66	0.96	0.69 (0.61, 0.77)

Table 3. Percentage of Participants With Specified Pneumococcal IgG Concentrations and Pneumococcal IgG GMCs (µg/mL) One Month After Dose 3 of a 4-Dose Series, Study 1011[a]

	Percentages of Participants With Specified IgG Concentrations[b]			IgG GMCs		
	Prevenar 20 N[c] = 831-833	Prevenar 13 N[c] = 801-802	Difference (Prevenar 20 – Prevenar 13)	Prevenar 20 N[c] = 831-833	Prevenar 13 N[c] = 801-802	Prevenar 20 /Prevenar 13
	%	%	% (95% CI[d])	GMC[e]	GMC[e]	GMR (95% CI[e])
Serotypes						
6A	94.2	96.1	-1.9 (-4.0, 0.2)	1.95	2.69	0.72 (0.65, 0.81)
6B	88.3	92.4	-4.1 (-7.0, -1.2)	0.61	1.02	0.60 (0.51, 0.70)
7F	96.4	97.3	-0.9 (-2.6, 0.9)	1.71	2.29	0.75 (0.69, 0.81)
9V	80.3	88.8	-8.5 (-12.0, -5.0)	0.87	1.21	0.72 (0.65, 0.80)
14	94.2	95.4	-1.2 (-3.4, 1.0)	2.16	2.72	0.79 (0.71, 0.89)
18C	87.3	89.4	-2.1 (-5.3, 1.0)	1.31	1.71	0.77 (0.70, 0.84)
19A	96.3	98.0	-1.7 (-3.4, -0.1)	0.72	0.91	0.79 (0.72, 0.86)
19F	96.0	95.9	0.2 (-1.8, 2.1)	1.59	2.00	0.79 (0.73, 0.86)
23F	74.3	83.2	-8.9 (-12.8, -4.9)	0.82	1.25	0.66 (0.58, 0.75)
Additional Serotypes[f]						
8	95.8	83.2[f]	12.6 (9.8, 15.6)	1.80	0.91[g]	1.98 (1.81, 2.16)
10A	88.0	83.2[f]	4.8 (1.4, 8.3)	1.21	0.91[g]	1.32 (1.18, 1.49)
11A	90.0	83.2[f]	6.9 (3.6, 10.2)	1.39	0.91[g]	1.52 (1.39, 1.67)
12F	48.0	83.2[f]	-35.1 (-39.4, -30.8)	0.55	0.91[g]	0.60 (0.54, 0.67)
15B	97.0	83.2[f]	13.8 (11.1, 16.8)	4.40	0.91[g]	4.82 (4.39, 5.30)
22F	98.7	83.2[f]	15.5 (12.9, 18.3)	3.71	0.91[g]	4.06 (3.68, 4.48)
33F	89.3	83.2[f]	6.1 (2.8, 9.5)	1.49	0.91[g]	1.64 (1.46, 1.83)

Abbreviations: CI = confidence interval; dLIA = Luminex-based direct immunoassay; ELISA = enzyme-linked immunosorbent assay; GMC = geometric mean concentration; GMR = geometric mean ratio; IgG = immunoglobulin G; LLOQ = lower limit of quantitation.

Note: Non-inferiority for a serotype was concluded if the lower bound of the 2-sided 95% CI for the percentage difference (Prevenar 20 – Prevenar 13) was > -10% or the lower bound of the 2-sided 95% CI for the GMR (Prevenar 20 to Prevenar 13) was > 0.5 for that serotype.

Note: Assay results below the LLOQ were set to 0.5 × LLOQ in the analysis.

a. Study 1011 was conducted in the United States and the territory of Puerto Rico (NCT04382326).

b. Specified levels for the Prevenar 13 serotypes are from a published bridging study (Tan CY, et al. 2018) using results from after primary infant doses, before toddler dose, and after toddler dose (schedule of 3 infant doses followed by a toddler dose) except for serotype 19A, which used results from after primary infant doses only. For the additional 7

Table 3. Percentage of Participants With Specified Pneumococcal IgG Concentrations and Pneumococcal IgG GMCs (µg/mL) One Month After Dose 3 of a 4-Dose Series, Study 1011[a]

	Percentages of Participants With Specified IgG Concentrations[b]			IgG GMCs		
	Prevenar 20 N[c] = 831-833	Prevenar 13 N[c] = 801-802	Difference (Prevenar 20 – Prevenar 13)	Prevenar 20 N[c] = 831-833	Prevenar 13 N[c] = 801-802	Prevenar 20 /Prevenar 13
	%	%	% (95% CI[d])	GMC[e]	GMC[e]	GMR (95% CI[e])
Serotypes						

serotypes, specified levels are from a concordance evaluation (clinical dLIA to re-test ELISA) of data from a Phase 2 Study B7471003, which also uses the schedule of 3 infant doses followed by a toddler dose.

c. N = Number of participants with valid IgG concentrations.
d. Two-sided CI based on the Miettinen and Nurminen method.
e. GMCs, GMRs and the associated 2-sided CIs were calculated by exponentiating the means and the mean differences (PREVENAR 20 – Prevenar 13) of the logarithm of the concentrations and the corresponding CIs (based on the Student's t distribution).
f. For the percentage differences of the 7 additional serotypes, the IgG results from serotype 23F (Prevenar 13 serotype with the lowest percentage, excluding serotype 3) in the Prevenar 13 group was used in the comparisons for non-inferiority. Percentages of participants with specified IgG concentrations to serotypes 8, 10A, 11A, 12F, 15B, 22F and 33F in the Prevenar 13 group were 1.4%, 1.9%, 1.4%, 0.1%, 1.2%, 1.4% and 1.5%, respectively.
g. For the GMRs of the 7 additional serotypes, the IgG results from serotype 19A (Prevenar 13 serotype with the lowest GMC, excluding serotype 3) in the Prevenar 13 group was used in the comparisons for non-inferiority. IgG GMCs to serotypes 8, 10A, 11A, 12F, 15B, 22F and 33F in the Prevenar 13 group were 0.02 µg/mL, 0.01 µg/mL, 0.02 µg/mL, 0.01 µg/mL, 0.03 µg/mL, 0.01 µg/mL and 0.02 µg/mL, respectively.

Table 4. Percentage of Participants With Specified Pneumococcal IgG Concentrations and Pneumococcal IgG GMCs (µg/mL) One Month After Dose 4 of a 4-Dose Series, Study 1011[a]

	Percentages of Participants With Specified IgG Concentrations[b]			IgG GMCs		
	Prevenar 20 N[c] = 753-755	Prevenar 13 N[c] = 744-745	Difference (Prevenar 20 – Prevenar 13)	Prevenar 20 N[c] = 753-755	Prevenar 13 N[c] = 744-745	Prevenar 20 /Prevenar 13
	%	%	% (95% CI[d])	GMC[e]	GMC[e]	GMR (95% CI[e])
Serotypes						
1	95.5	98.1	-2.6 (-4.5, -0.9)	1.47	2.12	0.69 (0.63, 0.76)
3	60.8	77.2	-16.4 (-21.0, -11.8)	0.56	0.85	0.66 (0.61, 0.73)
4	98.8	98.9	-0.1 (-1.3, 1.1)	3.77	4.84	0.78 (0.70, 0.86)
5	98.8	98.7	0.2 (-1.1, 1.4)	1.87	2.51	0.74 (0.67, 0.82)
6A	99.5	99.9	-0.4 (-1.2, 0.3)	9.01	11.69	0.77 (0.70, 0.85)
6B	99.1	99.5	-0.4 (-1.4, 0.6)	4.01	5.74	0.70 (0.62, 0.79)
7F	99.5	99.9	-0.4 (-1.2, 0.3)	3.91	5.18	0.76 (0.70, 0.82)
9V	98.3	98.9	-0.6 (-2.0, 0.6)	3.44	4.30	0.80 (0.73, 0.88)
14	99.2	99.6	-0.4 (-1.4, 0.5)	5.68	6.34	0.90 (0.81, 1.00)

Table 4. Percentage of Participants With Specified Pneumococcal IgG Concentrations and Pneumococcal IgG GMCs (µg/mL) One Month After Dose 4 of a 4-Dose Series, Study 1011[a]

	Percentages of Participants With Specified IgG Concentrations[b]			IgG GMCs		
	Prevenar 20 N[c] = 753-755	Prevenar 13 N[c] = 744-745	Difference (Prevenar 20 – Prevenar 13)	Prevenar 20 N[c] = 753-755	Prevenar 13 N[c] = 744-745	Prevenar 20 /Prevenar 13
	%	%	% (95% CI[d])	GMC[e]	GMC[e]	GMR (95% CI[e])
18C	97.6	97.9	-0.2 (-1.8, 1.3)	3.46	4.69	0.74 (0.67, 0.82)
19A	99.9	99.7	0.1 (-0.5, 0.9)	3.53	4.13	0.85 (0.77, 0.94)
19F	98.8	98.7	0.2 (-1.1, 1.4)	5.01	5.79	0.86 (0.78, 0.96)
23F	96.6	97.9	-1.3 (-3.1, 0.4)	3.95	6.18	0.64 (0.57, 0.72)
Additional Serotypes						
8	99.2	97.9[f]	1.4 (0.1, 2.8)	3.97	2.12[g]	1.87 (1.71, 2.06)
10A	98.7	97.9[f]	0.8 (-0.5, 2.3)	6.22	2.12[g]	2.94 (2.64, 3.26)
11A	98.7	97.9[f]	0.8 (-0.5, 2.3)	3.53	2.12[g]	1.67 (1.51, 1.84)
12F	86.4	97.9[f]	-11.5 (-14.3, -8.9)	1.85	2.12[g]	0.88 (0.79, 0.97)
15B	99.6	97.9[f]	1.8 (0.7, 3.1)	12.59	2.12[g]	5.95 (5.39, 6.55)
22F	99.6	97.9[f]	1.8 (0.7, 3.1)	10.60	2.12[g]	5.01 (4.54, 5.52)
33F	99.6	97.9[f]	1.8 (0.7, 3.1)	9.31	2.12[g]	4.40 (3.99, 4.85)

Abbreviations: CI = confidence interval; dLIA = Luminex-based direct immunoassay; ELISA = enzyme-linked immunosorbent assay; GMC = geometric mean concentration; GMR = geometric mean ratio; IgG = immunoglobulin G; LLOQ = lower limit of quantitation.

Note: Non-inferiority for a serotype was concluded if the lower bound of the 2-sided 95% CI for the GMR (Prevenar 20 to Prevenar 13) was > 0.5 for that serotype.

Note: Assay results below the LLOQ were set to 0.5 × LLOQ in the analysis.

a. Study 1011 was conducted in the United States and the territory of Puerto Rico (NCT04382326).

b. Specified levels for the Prevenar 13 serotypes are from a published bridging study (Tan CY, et al. 2018) using results from after primary infant doses, before toddler dose, and after toddler dose (schedule of 3 infant doses followed by a toddler dose) except for serotype 19A, which used results from after primary infant doses only. For the additional 7 serotypes, specified levels are from a concordance evaluation (clinical dLIA to re-test ELISA) of data from a Phase 2 Study B7471003, which also uses the schedule of 3 infant doses followed by a toddler dose.

c. N = Number of participants with valid IgG concentrations.

d. Two-sided CI based on the Miettinen and Nurminen method.

e. GMCs, GMRs and the associated 2-sided CIs were calculated by exponentiating the means and the mean differences (Prevenar 20 – Prevenar 13) of the logarithm of the concentrations and the corresponding CIs (based on the Student's t distribution).

f. For the percentage differences of the 7 additional serotypes, the IgG results from serotype 18C or 23F (Prevenar 13 serotype with the lowest percentage excluding serotype 3) in the Prevenar 13 group was used in the comparisons for non-inferiority. Percentages of participants with specified IgG concentrations to serotypes 8, 10A, 11A, 12F, 15B, 22F and 33F in the Prevenar 13 group were 4.2%, 2.2%, 3.8%, 0.1%, 3.1%, 1.7% and 2.3%, respectively.

Table 4. Percentage of Participants With Specified Pneumococcal IgG Concentrations and Pneumococcal IgG GMCs (µg/mL) One Month After Dose 4 of a 4-Dose Series, Study 1011[a]

	Percentages of Participants With Specified IgG Concentrations[b]			IgG GMCs		
	Prevenar 20 N[c] = 753-755	Prevenar 13 N[c] = 744-745	Difference (Prevenar 20 – Prevenar 13)	Prevenar 20 N[c] = 753-755	Prevenar 13 N[c] = 744-745	Prevenar 20 /Prevenar 13
	%	%	% (95% CI[d])	GMC[e]	GMC[e]	GMR (95% CI[e])

g. For the GMRs of the 7 additional serotypes, the IgG results from serotype 1 (Prevenar 13 serotype with the lowest GMC excluding serotype 3) in the Prevenar 13 group was used in the comparisons for non-inferiority. IgG GMCs to serotypes 8, 10A, 11A, 12F, 15B, 22F and 33F in the Prevenar 13 group were 0.03 µg/mL, 0.01 µg/mL, 0.02 µg/mL, 0.01 µg/mL, 0.02 µg/mL, 0.00 µg/mL and 0.01 µg/mL, respectively.

OPA GMTs for the 13 matched serotypes in the Prevenar 20 group were generally comparable to the OPA GMTs in the Prevenar 13 group 1 month after the third infant dose, and they were slightly lower than in the Prevenar 13 group for most serotypes after the toddler dose. There is variability of the OPA data due to small sample sizes, while interpretation of the clinical relevance of slightly lower OPA GMTs is unknown. The observed OPA GMTs for the 7 additional serotypes were substantially higher in the Prevenar 20 group than the Prevenar 13 group. Prevenar 20 immune responses also show boosting of IgG concentrations and OPA GMTs after the toddler dose, indicating that a memory response was elicited by the 3 infant doses.

Pneumococcal IgG immune responses following 2 and 3 doses of 3-dose vaccination series

In Study 1012, 1,204 infants 2 months (≥ 42 to ≤ 112 days) of age at the time of consent and born at > 36 weeks of gestation were randomised (1:1) and vaccinated with either Prevenar 20 or Prevenar 13. The first dose was given at enrollment, a second dose approximately 2 months later, and the third dose at approximately 11 to 12 months of age.

One month after 2 infant doses, the observed IgG GMCs for 9 of the 13 matched serotypes were non-inferior to those in the Prevenar 13 group, and 4 of the 13 matched serotypes (6A, 6B, 9V, and 23F) did not meet the 2-fold statistical criterion for non-inferiority. The percentages of participants with specified serotype-specific IgG concentrations 1 month after Dose 2 of Prevenar 20 for 4 of the 13 matched serotypes were non-inferior to those of the Prevenar 13 group based on a 10% difference non-inferiority criteria; and 9 of the 13 matched serotypes (1, 3, 4, 5, 6A, 6B, 9V, 18C and 23F) did not meet noninferiority.

The immune responses to the additional 7 serotypes after Prevenar 20 were non-inferior to the lowest IgG GMC among the 13 serotypes (serotype 6B) in Prevenar 13. For the 7 additional serotypes, the percentages of participants with specified serotype-specific IgG concentrations 1 month after Dose 2 of Prevenar 20 for 5 of the 7 additional serotypes were non-inferior to the serotype with the lowest percentage among the 13 serotypes (serotype 6B) in the Prevenar 13 group and serotypes 10A and 12F did not meet the statistical noninferiority criterion. The clinical relevance of these findings is unknown. Additionally, the IgG GMCs for the 7 additional serotypes were higher compared with the IgG GMCs from the corresponding serotypes in the Prevenar 13 group after two infant doses. One month after the third (toddler) dose, the observed IgG GMCs of Prevenar 20 were non-inferior to the Prevenar 13 group for 12 of 13 matched serotypes except for serotype 6B and all 7 additional serotypes were non-inferior to the lowest IgG GMC in the Prevenar 13 group. Additionally, the IgG GMCs for the 7 additional serotypes were higher compared with the IgG GMCs from the corresponding serotypes in the Prevenar 13 group after the toddler dose.

Functional responses, as measured by OPA GMTs, for the 13 matched serotypes at 1 month after the second infant dose and 1 month after the toddler dose in the Prevenar 20 group were generally similar

to the observed OPA GMTs in the Prevenar 13 group for most serotypes and the observed OPA GMTs were substantially higher for the 7 additional serotypes at both timepoints in the Prevenar 20 group than in the Prevenar 13 group. Increases in IgG and OPA antibody responses after Prevenar 20 following Dose 2 to after Dose 3 were observed for all 20 serotypes including those that missed non-inferiority, indicative of immunological memory.

Children and adolescents 15 months to less than 18 years of age (Study 1014)

In a multicenter, single-arm trial (Study 1014), participants were enrolled into the study by age group (approximately 200 participants per group) to receive a single dose of Prevenar 20 as described below.

Children 15 months to less than 24 months of age previously vaccinated with Prevenar 13

In 15 months to less than 24 months age group, participants had been previously vaccinated with 3 or 4 doses of Prevenar 13. Increases in IgG concentrations from before to 1 month after Prevenar 20 were observed for all 20 vaccine serotypes. The observed IgG geometric mean fold rises (GMFRs) to the 7 additional serotypes ranged from 27.9 to 1847.7.

Children 24 months to less than 5 years of age previously vaccinated with Prevenar 13

In 24 months to less than 5 years age group, participants had been previously vaccinated with 3 or 4 doses of Prevenar 13. Increases in IgG concentrations from before to 1 month after Prevenar 20 were observed for all 20 vaccine serotypes. The observed IgG GMFRs to the 7 additional serotypes ranged from 36.6 to 796.2. For the 7 additional serotypes, 71.2% to 94.6% had ≥ 4-fold rise in OPA titres.

Children and adolescents 5 years to less than 18 years of age previously unvaccinated or vaccinated with Prevenar 13

In participants 5 years to less than 10 years and 10 years to less than 18 years of age, irrespective of prior vaccination history with Prevenar 13. Prevenar 20 elicited robust IgG and OPA immune responses to the 20 vaccine serotypes after a single dose in participants 5 to less than 18 years of age. OPA GMFRs ranged from 11.5 to 499.0 to the 7 additional serotypes and increases in OPA GMTs were observed for all 20 vaccine serotypes.

Preterm infants

No immunogenicity data is available with Prevenar 20 in preterm infants. Based on experience with Prevenar and Prevenar 13, immune responses are elicited in preterm infants, although they may be lower than in term infants. The safety and tolerability of Prevenar 20 were evaluated in Phase 3 study (Study 1013), which included 111 late preterm infants (infants born at 34 to less than 37 weeks of gestational age) among the total study population. Participants were randomised to receive a 4-dose series of either Prevenar 20 (N=77) or Prevenar 13 (N=34).

Prevenar 20 clinical trials in adults

Three Phase 3 clinical trials, B7471006, B7471007 and B7471008 (Study 1006, Study 1007, and Study 1008), were conducted in the United States and Sweden evaluating the immunogenicity of Prevenar 20 in different adult age groups, and in participants who were either pneumococcal vaccine-naïve, or previously vaccinated with Prevenar 13, PPSV23, or both.

Each study included participants who were healthy or immunocompetent 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 hospitalization for worsening disease within 12 weeks before receiving 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*.

Comparison of immune responses of Prevenar 20 to Prevenar 13 and PPSV23

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 participants 18 years of age and older were enrolled into 1 of 3 cohorts based on their age at enrollment (18 to 49, 50 to 59, and ≥ 60 years of age), and randomised to receive Prevenar 20 or control. Participants 60 years of age and older were randomised in a 1:1 ratio to receive Prevenar 20 (n = 1,507) followed 1 month later with the administration of saline placebo or Prevenar 13 (n = 1,490), and with the administration of PPSV23 1 month later. Participants 18 to 49 years of age and 50 to 59 years of age were randomly assigned (3:1 ratio); they 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 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% CI for the GMT ratio (Prevenar 20/Prevenar 13; Prevenar 20/PPSV23) for that serotype was greater than 0.5.

In participants 60 years of age and older, the immune responses to all 13 matched serotypes elicited by Prevenar 20 were non-inferior to those elicited by Prevenar 13 for the same serotypes 1 month after vaccination. In general, numerically lower geometric mean titres were observed with Prevenar 20 in the matched serotypes compared to Prevenar 13 (Table 5), however the clinical relevance of these findings is unknown.

The immune responses induced by Prevenar 20 to 6/7 additional serotypes were non-inferior to those induced by PPSV23 to the same serotypes 1 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 is 0.49 instead of > 0.50) (Table 5). The clinical relevance of this observation is unknown. Supportive analyses for other serotype 8 endpoints in the Prevenar 20 group showed favourable outcomes. These include a GMFR of 22.1 from before vaccination to 1 month post-vaccination, 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 ≥ LLOQ 1 month after vaccination.

Table 5. OPA GMTs 1 Month After Vaccination in Participants 60 Years of Age and Older Given Prevenar 20 Compared to Prevenar 13 for the 13 Matched Serotypes and to PPSV23 for the 7 Additional Serotypes (Study 1007)[a,b,c,d]

	Prevenar 20 (N = 1157–1430)	**Prevenar 13 (N = 1390–1419)**	**PPSV23 (N = 1201–1319)**	**Vaccine Comparison**	
	GMT[e]	**GMT[e]**	**GMT[e]**	**GMT Ratio[e]**	**95% CI[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

Table 5. OPA GMTs 1 Month After Vaccination in Participants 60 Years of Age and Older Given Prevenar 20 Compared to Prevenar 13 for the 13 Matched Serotypes and to PPSV23 for the 7 Additional Serotypes (Study 1007)[a,b,c,d]

	Prevenar 20 (N = 1157–1430)	Prevenar 13 (N = 1390–1419)	PPSV23 (N = 1201–1319)	Vaccine Comparison	
	GMT[e]	GMT[e]	GMT[e]	GMT Ratio[e]	95% CI[e]
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
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; PPSV23 = pneumococcal polysaccharide vaccine (23-valent).

a. Study 1007 was conducted in the United States and in Sweden.
b. 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).
c. Assay results below the LLOQ were set to 0.5 × LLOQ in the analysis.
d. Evaluable immunogenicity population.
e. 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 participants 18 through 59 years of age

In Study 1007, 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. With both vaccines, higher immune responses were observed in younger participants compared with older participants. A non-inferiority analysis of Prevenar 20 in the younger age group versus Prevenar 20 in participants 60 through 64 years of age per 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 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 each of the 20 serotypes was > 0.5. Prevenar 20 elicited immune responses to all 20 vaccine serotypes in the two of the younger age groups that were non-inferior to responses in participants 60 through 64 years of age 1 month after vaccination (Table 6).

While not planned as an active control for immunogenicity evaluations in the study, a post hoc descriptive analysis showed generally numerically lower OPA GMTs 1 month after Prevenar 20 for the matched serotypes compared to Prevenar 13 in participants 18 through 59 years of age, however the clinical relevance of these findings is unknown.

As noted above, individuals with risk factors were included in this study. Across all the age groups studied, in general, a numerically lower immune response was observed in participants with risk

factors compared to participants without risk factors. The clinical relevance of this observation is unknown.

Table 6. Comparisons of OPA GMTs 1 Month After Prevenar 20 in Participants 18 Through 49 or 50 Through 59 Years of Age to Participants 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]
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)
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)

Table 6. Comparisons of OPA GMTs 1 Month After Prevenar 20 in Participants 18 Through 49 or 50 Through 59 Years of Age to Participants 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]

Abbreviations: CI = confidence interval; GMT = geometric mean titre; LLOQ = lower limit of quantitation; N = number of participants; OPA = opsonophagocytic activity; PPSV23 = pneumococcal polysaccharide vaccine (23-valent).

a. Study 1007 was conducted in the United States and in Sweden.
b. 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).
c. Assay results below the LLOQ were set to 0.5 × LLOQ in the analysis.
d. Evaluable immunogenicity population.
e. 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 participants 18 through 49 years of age and participants 60 through 64 years of age and between participants 50 through 59 years of age and participants 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 participants 65 years of age and older previously vaccinated with PPSV23, with Prevenar 13, or with Prevenar 13 followed by PPSV23. Participants previously vaccinated with Prevenar 13 (Prevenar 13 only or followed by PPSV23) were enrolled at sites in the United States, whereas participants and previously vaccinated with PPSV23 only were also enrolled from Swedish sites (35.5% in that category).

Prevenar 20 elicited immune responses to all 20 vaccine serotypes in participants 65 years of age and older with prior pneumococcal vaccination (Table 7). Immune responses were lower in participants in both groups who received prior PPSV23 vaccinations.

Table 7. Pneumococcal OPA GMTs Before and 1 Month After Prevenar 20 in Participants 65 Years of Age and Older With Prior Pneumococcal Vaccination (Study 1006)[a,b,c,d]

	Prior PPSV23 only		Prior Prevenar 13 only		Prior Prevenar 13 and PPSV23	
	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)

Table 7. Pneumococcal OPA GMTs Before and 1 Month After Prevenar 20 in Participants 65 Years of Age and Older With Prior Pneumococcal Vaccination (Study 1006)[a,b,c,d]

	Prior PPSV23 only		Prior Prevenar 13 only		Prior Prevenar 13 and PPSV23	
	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]
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)
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; PPSV23 = pneumococcal polysaccharide vaccine (23-valent).

a. Study 1006 was conducted in the United States and in Sweden.
b. Assay results below the LLOQ were set to 0.5 × LLOQ in the analysis.
c. Evaluable immunogenicity population.
d. Open-label administration of Prevenar 20.
e. 2-sided CIs based on the Student t distribution.

Immune responses in special populations

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

Studies in individuals with SCD, HIV, and HSCT have not been conducted with Prevenar 20.

Experience from clinical studies with Prevenar 13 (a pneumococcal conjugate vaccine consisting of 13 polysaccharide conjugates that are also in Prevenar 20) are available in children and adults at higher risk of pneumococcal infection including immunocompromised children and adults with HIV infection or HSCT, and children with SCD.

Participants who were healthy, or with stable non-immunocompromising chronic medical conditions, in all the age groups analysed had a lower immune response with Prevenar 20 compared with

Prevenar 13 in spite of meeting the predefined non-inferiority margins. The clinical relevance of this observation is unknown.

Sickle cell disease (SCD)

An open-label single-arm study with 2 doses of Prevenar 13 given 6 months apart was conducted in 158 children and adolescents 6 to < 18 years of age with SCD who were previously vaccinated with one or more doses of 23-valent pneumococcal polysaccharide vaccine at least 6 months prior to enrollment. After the first vaccination, Prevenar 13 elicited antibody levels measured by both IgG GMCs and OPA GMTs that were statistically significantly higher when compared with levels prior to vaccination. After the second dose, immune responses were comparable to those after the first dose. One year after the second dose, antibody levels measured by both IgG GMCs and OPA GMTs were higher than levels prior to the first dose of Prevenar 13, except for the IgG GMCs for serotypes 3 and 5 that were numerically similar.

HIV infection

Children and adults not previously vaccinated with a pneumococcal vaccine
In Study 6115A1-3002 (B1851021), 151 participants 6 to < 18 years of age and 152 participants ≥ 18 years of age infected with HIV (CD4 ≥ 200 cells/µL, viral load < 50,000 copies/mL and free of active acquired immunodeficiency syndrome [AIDS]-related illness) not previously vaccinated with a pneumococcal vaccine were enrolled to receive 3 doses of Prevenar 13. As per the general recommendations, a single dose of PPSV23 was subsequently administered. The vaccines were administered at 1-month intervals. Immune responses were assessed in 128 to 133 evaluable participants 6 to < 18 years of age and in 131 to 137 evaluable participants ≥ 18 years of age approximately 1 month after each dose of the vaccine. After the first dose, Prevenar 13 elicited antibody levels, measured by IgGGMCs and OPA GMTs, that were statistically significantly higher compared with 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 PPSV23
In Study 6115A1-3017 (B1851028), immune responses were assessed in 329 HIV-infected participants ≥ 18 years of age (CD4+ T-cell count ≥ 200 cells/µL and viral load < 50,000 copies/mL) previously vaccinated with PPSV23 administered at least 6 months prior to enrollment. Participants received 3 doses of Prevenar 13: at enrollment, 6 months, and 12 months after the first dose of Prevenar 13. After the first vaccination, Prevenar 13 elicited antibody levels measured by IgG GMCs and OPA GMTs that were statistically significantly higher compared with 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 previously 2 or more doses of PPSV23 showed a similar immune response compared to participants who previously received a single dose.

Haematopoietic stem cell transplant (HSCT)

In Study 6115A1-3003 (B1851022), 61 participants 2 to < 18 years of age and 190 participants ≥ 18 years of age with an allogeneic HSCT were enrolled to receive 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 the general recommendations, a single dose of PPSV23 was administered 1 month after the fourth dose of Prevenar 13. Immune responses, as measured by IgG GMCs, were assessed in 41 to 52 evaluable participants 2 to < 18 years of age and in 127 to 159 evaluable participants ≥ 18 years of age 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 those after the third dose with the exception of serotype 3 in the 2 to < 18 years age group. Overall, participants 2 to < 18 years of age had generally higher serotype-specific immune responses compared with those ≥ 18 years of age.

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

The European Medicines Agency has deferred the obligation to submit the results of studies with Prevenar 20 in one or more subsets of the paediatric population for the condition of prevention of disease caused by *Streptococcus pneumoniae* (see section 4.2 for information on paediatric use).

Invasive pneumococcal disease (IPD)

Vaccine effectiveness of Prevenar 13 against vaccine-serotype IPD was evaluated in the SpIDnet study, a multi-country enhanced IPD surveillance project in Europe. Based on data over a 6-year period (2012-2018) from 10 sites in 7 European countries using Prevenar 13, the effectiveness against IPD caused by serotypes in the vaccine among children < 5 years of age was 84.2% (95% CI, 79.0-88.1) and 88.7% (95% CI, 81.7-92.7) in children receiving ≥ 1 Prevenar 13 dose and a complete vaccination schedule, respectively.

5.2 Pharmacokinetic properties

Not applicable.

5.3 Preclinical safety data

Non-clinical data revealed no special hazard for humans based on conventional studies of repeated-dose toxicity and reproduction and developmental toxicity.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Sodium chloride
Succinic acid
Polysorbate 80
Water for injections

For adjuvant, see section 2.

6.2 Incompatibilities

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

6.3 Shelf life

2 years

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 resuspension 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, 10, and 50 pre-filled syringes, with or without needle.

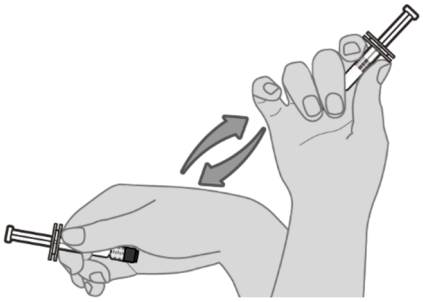
Not all pack sizes may be marketed.

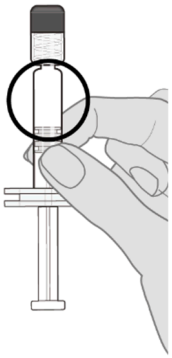
6.6 Special precautions for disposal and other handling

During storage, a white deposit and clear supernatant may be observed in the pre-filled syringe containing the suspension. Pre-filled syringes should be stored horizontally to minimise the resuspension time.

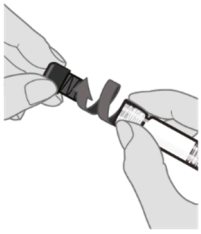
Preparation for administration

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 resuspended.





Step 2. Visual inspection
Visually inspect the vaccine for large particulate matter and discolouration prior to administration. Do not use if large particulate matter or discolouration is found. If the vaccine is not a homogeneous 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.

Any unused product or waste material should be disposed of in accordance with local requirements.

7. MARKETING AUTHORISATION HOLDER

Pfizer Europe MA EEIG
Boulevard de la Plaine 17
1050 Bruxelles
Belgium

8. MARKETING AUTHORISATION NUMBER(S)

EU/1/21/1612/001
EU/1/21/1612/002
EU/1/21/1612/003
EU/1/21/1612/004
EU/1/21/1612/005
EU/1/21/1612/006

9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 14 February 2022

10. DATE OF REVISION OF THE TEXT

Detailed information on this medicinal product is available on the website of the European Medicines Agency http://www.ema.europa.eu.

ANNEX II

A. MANUFACTURERS OF THE BIOLOGICAL ACTIVE SUBSTANCE(S) AND MANUFACTURER RESPONSIBLE FOR BATCH RELEASE

B. CONDITIONS OR RESTRICTIONS REGARDING SUPPLY AND USE

C. OTHER CONDITIONS AND REQUIREMENTS OF THE MARKETING AUTHORISATION

D. CONDITIONS OR RESTRICTIONS WITH REGARD TO THE SAFE AND EFFECTIVE USE OF THE MEDICINAL PRODUCT

A. MANUFACTURERS OF THE BIOLOGICAL ACTIVE SUBSTANCE(S) AND MANUFACTURER RESPONSIBLE FOR BATCH RELEASE

Name and address of the manufacturers of the biological active substance

Wyeth BioPharma Division of Wyeth Pharmaceuticals LLC
One Burtt Road
Andover, MA 01810
USA

Pfizer Ireland Pharmaceuticals
Grange Castle Business Park
Clondalkin
Dublin 22
Ireland

Wyeth Pharmaceutical Division of Wyeth Holdings LLC
4300 Oak Park
Sanford, NC 27330
USA

Name and address of the manufacturer responsible for batch release

Pfizer Manufacturing Belgium NV
Rijksweg 12
2870 Puurs-Sint-Amands
Belgium

B. CONDITIONS OR RESTRICTIONS REGARDING SUPPLY AND USE

Medicinal product subject to medical prescription.

- **Official batch release**

In accordance with Article 114 Directive 2001/83/EC, the official batch release will be undertaken by a state laboratory or a laboratory designated for that purpose.

C. OTHER CONDITIONS AND REQUIREMENTS OF THE MARKETING AUTHORISATION

- **Periodic safety update reports (PSURs)**

The requirements for submission of PSURs for this medicinal product are set out in the list of Union reference dates (EURD list) provided for under Article 107c(7) of Directive 2001/83/EC and any subsequent updates published on the European medicines web-portal.

D. CONDITIONS OR RESTRICTIONS WITH REGARD TO THE SAFE AND EFFECTIVE USE OF THE MEDICINAL PRODUCT

- **Risk management plan (RMP)**

The marketing authorisation holder (MAH) shall perform the required pharmacovigilance activities and interventions detailed in the agreed RMP presented in Module 1.8.2 of the marketing authorisation and any agreed subsequent updates of the RMP.

An updated RMP should be submitted:

- At the request of the European Medicines Agency;
- Whenever the risk management system is modified, especially as the result of new information being received that may lead to a significant change to the benefit/risk profile or as the result of an important (pharmacovigilance or risk minimisation) milestone being reached.

- **Obligation to conduct post-authorisation measures**

The MAH shall complete, within the stated timeframe, the below measures:

Description	Due date
1. In order to further investigate the long-term effectiveness of Prevenar 20 for active immunisation for the prevention of pneumonia caused by *Streptococcus pneumoniae*, the MAH should conduct and submit the multi-country results of study B7471015, a Phase 4 study using a test-negative design to evaluate the effectiveness of Prevenar 20 against vaccine-type radiologically-confirmed community-acquired pneumonia in adults ≥ 65 years of age.	CSR due 31/12/2027
2. In order to further investigate the long-term effectiveness of Prevenar 20 for active immunisation for the prevention of pneumonia caused by *Streptococcus pneumoniae*, the MAH should conduct and submit the European-specific analysis results of study B7471015, a Phase 4 study using a test-negative design to evaluate the effectiveness of Prevenar 20 against vaccine-type radiologically-confirmed community-acquired pneumonia in adults ≥ 65 years of age.	CSR due 31/12/2030
3. In order to further investigate the long-term effectiveness of Prevenar 20 for active immunisation for the prevention of invasive disease caused by *Streptococcus pneumoniae*, the MAH should conduct and submit the results of a Phase 4 observational, real-world study to evaluate the effectiveness of Prevenar 20 against vaccine-type invasive pneumococcal disease in Europe according to an agreed protocol.	CSR due 31/12/2030

CSR: Clinical Study Report

ANNEX III

LABELLING AND PACKAGE LEAFLET

A. LABELLING

PARTICULARS TO APPEAR ON THE OUTER PACKAGING

OUTER CARTON

Pack of 1, 10 and 50 pre-filled syringe, with or without needle – WITH BLUE BOX

1. NAME OF THE MEDICINAL PRODUCT

Prevenar 20 suspension for injection
pneumococcal polysaccharide conjugate vaccine (20-valent, adsorbed)

2. STATEMENT OF ACTIVE SUBSTANCE(S)

1 dose (0.5 mL) contains 2.2 µg of polysaccharide for serotypes 1, 3, 4, 5, 6A, 7F, 8, 9V, 10A, 11A, 12F, 14, 15B, 18C, 19A, 19F, 22F, 23F, 33F and 4.4 µg for serotype 6B conjugated to CRM_{197} carrier protein, adsorbed on aluminium phosphate.
1 dose (0.5 mL) contains 0.125 mg aluminium.

3. LIST OF EXCIPIENTS

Sodium chloride, succinic acid, polysorbate 80 and water for injections.

4. PHARMACEUTICAL FORM AND CONTENTS

Suspension for injection
1 single-dose (0.5 mL) pre-filled syringe with separate needle
1 single-dose (0.5 mL) pre-filled syringe without needle
10 single-dose (0.5 mL) pre-filled syringes with separate needles
10 single-dose (0.5 mL) pre-filled syringes without needles
50 single-dose (0.5 mL) pre-filled syringes with separate needles
50 single-dose (0.5 mL) pre-filled syringes without needles

5. METHOD AND ROUTE(S) OF ADMINISTRATION

For intramuscular use only.
Shake well before use.
Read the package leaflet before use.

6. SPECIAL WARNING THAT THE MEDICINAL PRODUCT MUST BE STORED OUT OF THE SIGHT AND REACH OF CHILDREN

Keep out of the sight and reach of children.

7. OTHER SPECIAL WARNING(S), IF NECESSARY

8. EXPIRY DATE

EXP

9. SPECIAL STORAGE CONDITIONS

Store in a refrigerator.
Do not freeze.
Horizontal storage recommended.

10. SPECIAL PRECAUTIONS FOR DISPOSAL OF UNUSED MEDICINAL PRODUCTS OR WASTE MATERIALS DERIVED FROM SUCH MEDICINAL PRODUCTS, IF APPROPRIATE

11. NAME AND ADDRESS OF THE MARKETING AUTHORISATION HOLDER

Pfizer Europe MA EEIG
Boulevard de la Plaine 17
1050 Bruxelles
Belgium

12. MARKETING AUTHORISATION NUMBER(S)

EU/1/21/1612/002 – pack of 1 with separate needle
EU/1/21/1612/001 – pack of 1 without needle
EU/1/21/1612/004 – pack of 10 with separate needles
EU/1/21/1612/003 – pack of 10 without needles
EU/1/21/1612/006 – pack of 50 with separate needles
EU/1/21/1612/005 – pack of 50 without needles

13. BATCH NUMBER

Lot

14. GENERAL CLASSIFICATION FOR SUPPLY

15. INSTRUCTIONS ON USE

16. INFORMATION IN BRAILLE

Justification for not including Braille accepted.

17. UNIQUE IDENTIFIER – 2D BARCODE

2D barcode carrying the unique identifier included.

18. UNIQUE IDENTIFIER - HUMAN READABLE DATA

PC
SN
NN

MINIMUM PARTICULARS TO APPEAR ON SMALL IMMEDIATE PACKAGING UNITS

Pre-filled syringes

1. NAME OF THE MEDICINAL PRODUCT

Prevenar 20 suspension for injection
IM

2. METHOD OF ADMINISTRATION

Shake well before use.

3. EXPIRY DATE

EXP

4. BATCH NUMBER

Lot

5. CONTENT BY WEIGHT, BY VOLUME OR BY UNIT

1 dose (0.5 mL)

6. OTHER

B. PACKAGE LEAFLET

Package Leaflet: Information for the user

Prevenar 20 suspension for injection
pneumococcal polysaccharide conjugate vaccine (20-valent, adsorbed)

▼This medicine is subject to additional monitoring. This will allow quick identification of new safety information. You can help by reporting any side effects you may get. See the end of section 4 for how to report side effects.

Read all of this leaflet carefully before you receive this vaccine because it contains important information for you.

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your doctor, pharmacist or nurse.
- This vaccine has been prescribed for you or your child only. Do not pass it on to others.
- If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in this leaflet. See section 4.

What is in this leaflet

1. What Prevenar 20 is and what it is used for

Prevenar 20 is a pneumococcal vaccine given to:

- **children from 6 weeks to less than 18 years of age** to help prevent diseases such as meningitis (inflammation around the brain), sepsis or bacteraemia (bacteria in the blood stream), pneumonia (lung infection) and ear infections (acute otitis media) caused by 20 types of the bacteria *Streptococcus pneumoniae*.

- **individuals aged 18 years and older** to help prevent disease such as: pneumonia (lung infection), sepsis or bacteraemia (bacteria in the blood stream) and meningitis (inflammation around the brain) caused by 20 types of the bacteria *Streptococcus pneumoniae.*

Prevenar 20 provides protection against 20 types of *Streptococcus pneumoniae* bacteria.

The vaccine works by helping the body to make its own antibodies, which protect you or your child against these diseases.

2. What you need to know before you or your child receive Prevenar 20

Prevenar 20 should not be given

- if you or your child are allergic (hypersensitive) to the active substances or to any of the other ingredients in this medicine (listed in section 6), or to any other vaccine that contains diphtheria toxoid.

Warnings and precautions

Talk to your doctor, pharmacist or nurse before the vaccination if you or your child:

- have any present or past medical problems after any dose of Prevenar 20 such as an allergic reaction or problems with breathing,
- have a severe illness or high fever. However, a mild fever or upper respiratory infection (for example having a cold) itself is not a reason to delay vaccination,
- have any bleeding problems or bruise easily,
- have a weakened immune system (such as due to HIV infection); you may not get the full benefit from Prevenar 20.

Talk to your doctor, pharmacist, or nurse before the vaccination if your child was born very prematurely (at or before 28 weeks of gestation), as longer gaps than normal between breaths may occur for 2-3 days after vaccination.

As with any vaccine, Prevenar 20 will not protect all persons who are vaccinated.

Prevenar 20 will only protect against ear infections caused by the types of *Streptococcus pneumoniae* for which the vaccine has been developed. It will not protect against other infectious agents that can cause ear infections.

Other medicines/vaccines and Prevenar 20
Your child may be given Prevenar 20 at the same time as other routine childhood vaccines.

In adults, Prevenar 20 may be given at the same time as the flu (inactivated influenza) vaccine at different injection sites. Depending on the individual risk assessment of your health care provider, separation of both vaccinations of e.g., 4 weeks might be advised.

In adults, Prevenar 20 can be given at the same time as the COVID-19 mRNA vaccine.

Tell your doctor, pharmacist or nurse if you or your child are taking, have recently taken or might take any other medicines, or have recently received any other vaccine.

Pregnancy and breast-feeding

If you are pregnant or breast-feeding, think you may be pregnant or are planning to have a baby, ask your doctor or pharmacist for advice before receiving this vaccine.

Driving and using 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 “Possible side effects” may temporarily affect the ability to drive or use machines.

Prevenar 20 contains sodium

This medicine contains less than 1 mmol sodium (23 mg) per dose, that is to say essentially ‘sodium-free’.

3. How Prevenar 20 is given

The doctor or nurse will inject the recommended dose (0.5 mL) of the vaccine into your upper arm or your child's upper arm or thigh muscle.

Infants 6 weeks to 15 months of age

Your child should receive an initial course of three injections of the vaccine followed by a booster dose.

- The first injection may be given as early as 6 weeks to 8 weeks of age.
- Each injection will be given on a separate occasion with an interval of at least 4 weeks between doses except for the last injection (booster dose), which will be given between 11 and 15 months of age.

You will be told when your child should come back for the next injections.

Depending on official recommendations in your country, please speak to your doctor, pharmacist, or nurse for more information.

Premature infants (born less than 37 weeks of pregnancy)

Your child will receive an initial course of three injections followed by a booster dose. The first injection may be given as early as 6 weeks of age with at least 4 weeks between doses. Between 11 and 15 months of age, your child will receive a fourth injection (booster dose).

Unvaccinated infants 7 months to less than 12 months of age

Infants **7 months to less than 12 months** of age should receive three injections. The first two are given with an interval of at least 4 weeks apart. A third injection will be given in the second year of life.

Unvaccinated children 12 months to less than 24 months of age

Children **12 months to less than 24 months** of age should receive two injections, given with an interval of at least 8 weeks apart.

Unvaccinated children 2 years to less than 5 years of age

Children **2 years to less than 5 years** of age should receive one injection.

Children 15 months to less than 5 years of age previously fully vaccinated with Prevenar 13

Children **15 months to less than 5 years** of age previously fully vaccinated with Prevenar 13 will receive one injection.

Children and adolescents 5 years to less than 18 years of age regardless of prior Prevenar 13 vaccination

Children and adolescents **5 years to less than 18 years** of age will receive one injection.

If your child has previously received Prevenar 13, an interval of at least 8 weeks should pass before receiving Prevenar 20.

Adults

Adults should receive one injection.

Tell your doctor, pharmacist or nurse if you have been given a pneumococcal vaccine before.

If you have any further questions on the use of Prevenar 20, ask your doctor, pharmacist or nurse.

Special populations

Individuals considered to be at a higher risk of pneumococcal infection (such as those with sickle cell disease or HIV infection), including those previously vaccinated with the 23-valent pneumococcal polysaccharide vaccine, may receive at least one dose of Prevenar 20.

Individuals with a blood-forming stem cell transplant may receive three injections, with the first given at 3 to 6 months after the transplant and with an interval of at least 4 weeks between doses. A fourth injection (booster dose) is recommended 6 months after the third injection.

4. Possible side effects

Like all vaccines, Prevenar 20 can cause side effects, although not everybody gets them.

Serious side effects of Prevenar 20

Tell your doctor immediately if you notice signs of the following serious side effects (see also section 2): swelling of the face, lips, mouth, tongue or throat (oedema), shortness of breath (dyspnoea), wheezing (bronchospasm) – these may by signs of a severe allergic reaction such as anaphylaxis, including shock.

Other side effects

The following side effects include those reported for Prevenar 20 in infants and children (6 weeks to less than 5 years of age):

Very common: may occur with more than 1 in 10 doses of the vaccine
- Decreased appetite.
- Irritability.
- Feeling sleepy.
- Fever.
- At the injection site for all children: redness, hardness or swelling, pain or tenderness.
- At the injection site after the booster dose and in children 2 to less than 5 years of age: redness, hardness or swelling of greater than 2.0 to 7.0 cm.

Common: may occur with up to 1 in 10 doses of the vaccine
- Diarrhoea.
- Vomiting.
- Rash.
- Fever (high temperature of 38.9 °C or higher).
- At the injection site after the initial course of injections: redness, hardness or swelling of greater than 2.0 to 7.0 cm, pain or tenderness interfering with movement.

Uncommon: may occur with up to 1 in 100 doses of the vaccine
- Seizures (or fits), including those caused by a high temperature.
- Hives (urticaria or urticaria-like rash).
- At the injection site: redness, hardness or swelling of more than 7.0 cm.

Rare: may occur with up to 1 in 1,000 doses of the vaccine
- Injection site allergic (hypersensitivity) reaction.

The following side effects were seen with Prevenar 13 and may also be seen with Prevenar 20:
- Collapse or shock-like state (hypotonic-hyporesponsive episode).
- Allergic (hypersensitivity) reaction including swelling of the face and/or lips.
- Crying.

- Restless sleep.

The following side effects include those reported for Prevenar 20 in children and adolescents (5 years to less than 18 years of age):

Very common: may occur with more than 1 in 10 doses of the vaccine
- Headache.
- Muscle pain.
- At the injection site: pain, tenderness, redness, hardness or swelling.
- Tiredness.

Common: may occur with up to 1 in 10 doses of the vaccine
- Joint pain.
- At the injection site: pain or tenderness interfering with movement.

Uncommon: may occur with up to 1 in 100 doses of the vaccine
- Hives (urticaria or urticaria-like rash).
- Fever.

The following side effects were seen with Prevenar 13 and may also be seen with Prevenar 20:
- Diarrhoea.
- Vomiting.
- Decreased appetite.
- Irritability.
- Feeling sleepy.
- Restless sleep.
- Rash.

Children and adolescents with either HIV infection, sickle cell disease or a blood-forming stem cell transplant had similar side effects, however, the frequencies of vomiting, diarrhoea, fever, joint pain and at the injection site: pain or tenderness interfering with movement were very common.

The following side effects were seen with Prevenar 13 in postmarketing experience in children and may also be seen with Prevenar 20:
- Severe allergic reaction including shock (cardiovascular collapse); swelling of lips, face or throat (angioedema).
- Enlarged lymph nodes or glands (lymphadenopathy) near the vaccination site, such as under the arm or in the groin.
- At the injection site: hives (urticaria), redness and irritation (dermatitis) and itching (pruritus).
- A rash causing itchy red blotches (erythema multiforme).

The following side effects include those reported for Prevenar 20 in adults:

Very common: may occur with more than 1 in 10 doses of the vaccine
- Headache.
- Joint pain and muscle pain.
- Pain/tenderness at injection site and tiredness.

Common: may occur up to 1 in 10 doses of the vaccine
- Swelling at injection site, redness at injection site and fever.

Uncommon: may occur up to 1 in 100 doses of the vaccine
- Diarrhoea, nausea, and vomiting.
- Rash and swelling of the face, lips, mouth, tongue or throat, which may cause difficulty in swallowing or breathing (angioedema).
- Itching at injection site, swollen glands in the neck, armpit or groin (lymphadenopathy), hives at the injection site (urticaria), and chills.

The following side effects were seen with Prevenar 13 and may also be seen with Prevenar 20:
- A rash causing itchy red blotches (erythema multiforme).
- Irritation at injection site.
- Decreased appetite.
- Limitation of arm movement.

Reporting of side effects

If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in this leaflet. You can also report side effects directly via the national reporting system listed in Appendix V. By reporting side effects you can help provide more information on the safety of this medicine.

5. How to store Prevenar 20

Keep this medicine out of the sight and reach of children.

Do not use this medicine after the expiry date which is stated on the carton and label after EXP. The expiry date refers to the last day of that month.

Store in a refrigerator (2 °C to 8 °C).

Prevenar 20 should be used as soon as possible after being removed from refrigeration.

Do not freeze. Discard if vaccine has been frozen.

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.

Pre-filled syringes should be stored in the refrigerator horizontally to minimise the resuspension time.

Do not throw away any medicines via wastewater or household waste. Ask your pharmacist how to throw away medicines you no longer use. These measures will help protect the environment.

6. Contents of the pack and other information

What Prevenar 20 contains

The active substances are polysaccharide CRM_{197} conjugates consisting of:
- 2.2 micrograms of polysaccharide for serotypes 1, 3, 4, 5, 6A, 7F, 8, 9V, 10A, 11A, 12F, 14, 15B, 18C, 19A, 19F, 22F, 23F and 33F
- 4.4 micrograms of polysaccharide for serotype 6B

One dose (0.5 mL) contains approximately 51 micrograms CRM_{197} carrier protein, adsorbed on aluminium phosphate (0.125 mg aluminium).

The other ingredients are sodium chloride, succinic acid, polysorbate 80 and water for injections.

What Prevenar 20 looks like and contents of the pack

The vaccine is a white suspension for injection, provided in a single-dose, pre-filled syringe (0.5 mL). It is provided in pack sizes of 1, 10 and 50, with or without needles. Not all pack sizes may be marketed.

Marketing Authorisation Holder and Manufacturer

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Manufacturer responsible for batch release:
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Other sources of information

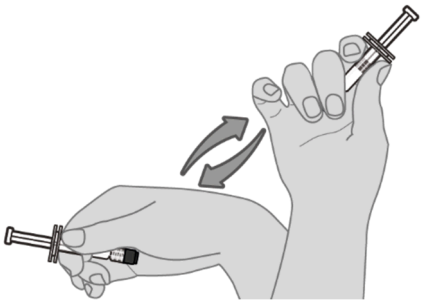
Detailed information on this product is available on the European Medicines Agency web site: http://www.ema.europa.eu.

The following information is intended for healthcare professionals only:

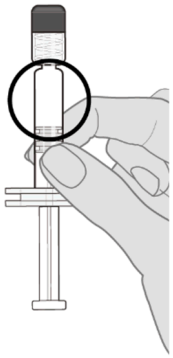
During storage, a white deposit and clear supernatant may be observed. This does not constitute a sign of deterioration. Pre-filled syringes should be stored horizontally to minimise the resuspension time.

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 resuspended.

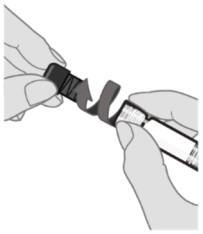


Step 2. Visual inspection
Visually inspect the vaccine for large particulate matter and discolouration prior to administration. Do not use if large particulate matter or discolouration is found. If the vaccine is not a homogeneous white suspension, repeat steps 1 and 2.



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.

Administer the entire dose.

Prevenar 20 is for intramuscular use only.

Prevenar 20 must not be mixed with any other vaccines or medicinal products in the same syringe.

Prevenar 20 may be given at the same time as other childhood vaccines; in this case, different vaccination sites should be used.

Prevenar 20 may be given to adults at the same time as the seasonal influenza vaccine (QIV; surface antigen, inactivated, adjuvanted). In individuals with underlying conditions associated with a high risk of developing life-threatening pneumococcal disease, consideration may be given to separating administrations of QIV and Prevenar 20 (e.g., by approximately 4 weeks). Different vaccination sites should be used.

Prevenar 20 can be given to adults at the same time as the COVID-19 mRNA vaccine (nucleoside modified).

Any unused product or waste material should be disposed of in accordance with local requirements.