Clinical trial results:
A Phase 3, Randomized, Observer-blind, Multi-Center Study to Compare the Safety and Immunogenicity of One Dose of Novartis Meningococcal ACWY Conjugate Vaccine with One Dose of Licensed Meningococcal ACWY Conjugate Vaccine (Menactra™) Administered to Healthy Children 2-10 Years of Age.

Due to a system error, the data reported in v1 is not correct and has been removed from public view.

Summary

EudraCT number	2014-005161-72
Trial protocol	Outside EU/EEA
Global end of trial date	14 October 2009

Results information

Result version number	v2 (current)
This version publication date	16 June 2016
First version publication date	30 April 2015
Version creation reason	• Correction of full data set re-QC of the study needed because of EudraCT system glitch and updates are required.

Trial information

Trial identification

Sponsor protocol code	V59P20

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT00616421
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	Novartis Vaccines and Diagnostics
Sponsor organisation address	4560 Horton Street, Emeryville, CA, United States, 94608-2916
Public contact	Posting Director, Novartis Vaccines and Diagnostics Inc., RegistryContactVaccinesUS@novartis.com
Scientific contact	Posting Director, Novartis Vaccines and Diagnostics Inc., RegistryContactVaccinesUS@novartis.com

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	Yes
EMA paediatric investigation plan number(s)	EMEA-000032-PIP01-07
Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial?	No

Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial?	Yes

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	02 February 2010
Is this the analysis of the primary completion data?	No

Global end of trial reached?	Yes
Global end of trial date	14 October 2009
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

To compare the immunogenicity of a single dose of MenACWY with the immunogenicity of a single dose of Menactra, defined as percentage of subjects with seroresponse directed against N. meningitides serogroups A, C, W-135 and Y, at 1 month after vaccination, when administered to healthy children 2 to 5 years of age.

To compare the immunogenicity of a single dose of MenACWY with the immunogenicity of a single dose of Menactra, defined as percentage of subjects with seroresponse directed against N. meningitides serogroups A, C, W-135 and Y, at 1 month after vaccination, when administered to healthy children 6 to 10 years of age.

Protection of trial subjects:

This trial was performed with the ethical principles that have their origin in the Declaration of Helsinki, that are consistent with Good Clinical Practice (GCP) according to International Conference on Harmonisation (ICH) guidelines, the applicable regulatory requirements(s) for the country in which the study is conducted.

An independent, external Data Monitoring Committe (DMC) was established to monitor safety by performing scheduled analyses.

Background therapy: -
Evidence for comparator: -

Actual start date of recruitment	13 March 2008
Long term follow-up planned	Yes
Long term follow-up rationale	Safety
Long term follow-up duration	6 Months
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	United States: 2182
Country: Number of subjects enrolled	Canada: 725
Worldwide total number of subjects	2907
EEA total number of subjects	0

Notes:

Subjects enrolled per age group	
In utero	0
Preterm newborn - gestational age < 37 wk	0
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	1
Children (2-11 years)	2906
Adolescents (12-17 years)	0
Adults (18-64 years)	0
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

Participants were enrolled at 67 centres in the USA and Canada.

Pre-assignment

Screening details:

All subjects enrolled were included in the trial.

Period 1

Period 1 title	Overall Study (overall period)
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Double blind
Roles blinded	Subject, Investigator, Monitor, Data analyst, Assessor

Blinding implementation details:

This was an observer-blind study except for those subjects in Group I who were administered two doses of MenACWY in an open-label fashion. For the observer-blind groups (II, III, IV and V), the subject, subject's parent/legal guardian and those assessing subject safety, including the investigators, study nurses, and coordinators, were blind to vaccine administered.

Arms

Are arms mutually exclusive?	No
Arm title	MenACWY-CRM (2 Doses)

Arm description:

2 injections of the Novartis MenACWY-CRM vaccine administered on study days 1 and 61 in children 2 to 5 years of age

Arm type	Experimental
Investigational medicinal product name	Meningococcal (groups A, C, W, and Y) oligosaccharide diphtheria CRM-197 conjugate vaccine
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

2 injections of the Novartis MenACWY-CRM vaccine administered by intramuscular (IM) injection.

Arm title	MenACWY-CRM (1 Dose)_2 to 5 Years

Arm description:

1 injection of the Novartis MenACWY-CRM vaccine administered on study day 1 in children 2 to 5 years of age

Arm type	Experimental
Investigational medicinal product name	Meningococcal (groups A, C, W, and Y) oligosaccharide diphtheria CRM-197 conjugate vaccine
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

1 injection of the Novartis MenACWY-CRM vaccine administered by intramuscular (IM) injection.

Arm title	MenACWY-CRM (1 Dose)_6 to 10 Years

Arm description:

1 injection of the Novartis MenACWY-CRM vaccine administered on study day 1 in children 6 to 10 years of age

Arm type	Experimental
Investigational medicinal product name	Meningococcal (groups A, C, W, and Y) oligosaccharide diphtheria CRM-197 conjugate vaccine
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

1 injection of the Novartis MenACWY-CRM vaccine administered by intramuscular (IM) injection.

Arm title	Menactra_2 to 5 Years

Arm description:

1 injection of the licensed meningococcal MenACWY polysaccharide vaccine administered on study day 1 in children 2 to 5 years of age

Arm type	Active comparator
Investigational medicinal product name	MenACWY polysaccharide
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

1 injection of the licensed meningococcal MenACWY polysaccharide vaccine administered by intramuscular (IM) injection.

Arm title	Menactra_6 to 10 Years

Arm description:

1 injection of the licensed meningococcal MenACWY polysaccharide vaccine administered on study day 1 in children 6 to 10 years of age

Arm type	Active comparator
Investigational medicinal product name	MenACWY polysaccharide
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

1 injection of the licensed meningococcal MenACWY polysaccharide vaccine administered by intramuscular (IM) injection.

Arm title	MenACWY-CRM (1 Dose)_2 to 10 Years

Arm description:

1 injection of the Novartis MenACWY-CRM vaccine administered on study day 1 in children 2 to 10 years of age

Arm type	Experimental
Investigational medicinal product name	Meningococcal (groups A, C, W, and Y) oligosaccharide diphtheria CRM-197 conjugate vaccine
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

1 injection of the Novartis MenACWY-CRM vaccine administered by intramuscular (IM) injection.

Arm title	Menactra_2 to 10 Years

Arm description:

1 injection of the licensed meningococcal MenACWY polysaccharide vaccine administered on study day 1 in children 2 to 10 years of age.

Arm type	Experimental

Investigational medicinal product name	Meningococcal (groups A, C, W, and Y) oligosaccharide diphtheria CRM-197 conjugate vaccine
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Powder and solution for solution for injection
Routes of administration	Intramuscular use

Dosage and administration details:

1 injection of the Novartis MenACWY-CRM vaccine administered by intramuscular (IM) injection.

Number of subjects in period 1	MenACWY-CRM (2 Doses)	MenACWY-CRM (1 Dose)_2 to 5 Years	MenACWY-CRM (1 Dose)_6 to 10 Years
Started	359	696	582
Completed	333	669	571
Not completed	26	27	11
Consent withdrawn by subject	9	9	2
Lost to follow-up	12	18	8
Unable to Classify	1	-	-
Inappropriate Enrollment	3	-	-
Administrative reason	1	-	-
Protocol deviation	-	-	1

Number of subjects in period 1	Menactra_2 to 5 Years	Menactra_6 to 10 Years	MenACWY-CRM (1 Dose)_2 to 10 Years
Started	696	574	1278
Completed	672	557	1240
Not completed	24	17	38
Consent withdrawn by subject	7	1	11
Lost to follow-up	16	14	26
Unable to Classify	-	-	-
Inappropriate Enrollment	1	-	-
Administrative reason	-	-	-
Protocol deviation	-	2	1

Number of subjects in period 1	Menactra_2 to 10 Years
Started	1270
Completed	1229
Not completed	41
Consent withdrawn by subject	8
Lost to follow-up	30
Unable to Classify	-
Inappropriate Enrollment	1
Administrative reason	-
Protocol deviation	2

Baseline characteristics

Reporting groups	
Reporting group title	MenACWY-CRM (2 Doses)
Reporting group description:	
2 injections of the Novartis MenACWY-CRM vaccine administered on study days 1 and 61 in children 2 to 5 years of age	
Reporting group title	MenACWY-CRM (1 Dose)_2 to 5 Years
Reporting group description:	
1 injection of the Novartis MenACWY-CRM vaccine administered on study day 1 in children 2 to 5 years of age	
Reporting group title	MenACWY-CRM (1 Dose)_6 to 10 Years
Reporting group description:	
1 injection of the Novartis MenACWY-CRM vaccine administered on study day 1 in children 6 to 10 years of age	
Reporting group title	Menactra_2 to 5 Years
Reporting group description:	
1 injection of the licensed meningococcal MenACWY polysaccharide vaccine administered on study day 1 in children 2 to 5 years of age	
Reporting group title	Menactra_6 to 10 Years
Reporting group description:	
1 injection of the licensed meningococcal MenACWY polysaccharide vaccine administered on study day 1 in children 6 to 10 years of age	
Reporting group title	MenACWY-CRM (1 Dose)_2 to 10 Years
Reporting group description:	
1 injection of the Novartis MenACWY-CRM vaccine administered on study day 1 in children 2 to 10 years of age	
Reporting group title	Menactra_2 to 10 Years
Reporting group description:	
1 injection of the licensed meningococcal MenACWY polysaccharide vaccine administered on study day 1 in children 2 to 10 years of age.	

Reporting group values	MenACWY-CRM (2 Doses)	MenACWY-CRM (1 Dose)_2 to 5 Years	MenACWY-CRM (1 Dose)_6 to 10 Years
Number of subjects	359	696	582
Age categorical			
Units: Subjects			
Age continuous			
Units: years			
arithmetic mean	3.5	3.5	7.9
standard deviation	± 1.1	± 1.1	± 1.4
Gender categorical			
Units: Subjects			
Female	171	342	280
Male	188	354	302

Reporting group values	Menactra_2 to 5 Years	Menactra_6 to 10 Years	MenACWY-CRM (1 Dose)_2 to 10 Years
Number of subjects	696	574	1278

Age categorical Units: Subjects			

Age continuous Units: years			
arithmetic mean	3.5	8.1	5.5
standard deviation	± 1.1	± 1.4	± 2.5
Gender categorical Units: Subjects			
Female	331	249	622
Male	365	325	656

Reporting group values	Menactra_2 to 10 Years	Total	
Number of subjects	1270	2907	
Age categorical Units: Subjects			

Age continuous Units: years			
arithmetic mean	5.6		
standard deviation	± 2.6	-	
Gender categorical Units: Subjects			
Female	580	1373	
Male	690	1534	

End points

End points reporting groups

Reporting group title	MenACWY-CRM (2 Doses)
Reporting group description:	
2 injections of the Novartis MenACWY-CRM vaccine administered on study days 1 and 61 in children 2 to 5 years of age	
Reporting group title	MenACWY-CRM (1 Dose)_2 to 5 Years
Reporting group description:	
1 injection of the Novartis MenACWY-CRM vaccine administered on study day 1 in children 2 to 5 years of age	
Reporting group title	MenACWY-CRM (1 Dose)_6 to 10 Years
Reporting group description:	
1 injection of the Novartis MenACWY-CRM vaccine administered on study day 1 in children 6 to 10 years of age	
Reporting group title	Menactra_2 to 5 Years
Reporting group description:	
1 injection of the licensed meningococcal MenACWY polysaccharide vaccine administered on study day 1 in children 2 to 5 years of age	
Reporting group title	Menactra_6 to 10 Years
Reporting group description:	
1 injection of the licensed meningococcal MenACWY polysaccharide vaccine administered on study day 1 in children 6 to 10 years of age	
Reporting group title	MenACWY-CRM (1 Dose)_2 to 10 Years
Reporting group description:	
1 injection of the Novartis MenACWY-CRM vaccine administered on study day 1 in children 2 to 10 years of age	
Reporting group title	Menactra_2 to 10 Years
Reporting group description:	
1 injection of the licensed meningococcal MenACWY polysaccharide vaccine administered on study day 1 in children 2 to 10 years of age.	
Subject analysis set title	Randomized Set
Subject analysis set type	Intention-to-treat
Subject analysis set description:	
All subjects who have signed an informed consent, undergone screening procedures, and have been randomized, i.e. all subjects who have data in panel DEMOG	
Subject analysis set title	Modified Intention-to-treat (MITT) population
Subject analysis set type	Modified intention-to-treat
Subject analysis set description:	
All subjects who actually receive a study vaccination and provide at least one evaluable serum sample both before and after vaccination.	
Subject analysis set title	Safety
Subject analysis set type	Safety analysis
Subject analysis set description:	
All subjects who have received at least one study dose and have post-baseline safety data will be included in the safety analysis	
Subject analysis set title	Per Protocol population
Subject analysis set type	Per protocol
Subject analysis set description:	
All subjects in the MITT population who provide evaluable serum samples (titer results are available) both before and after vaccination, and have no major protocol deviation as defined prior to unblinding.	

Primary: Percentages of Subjects With hSBA (human Serum Bactericidal Activity) Seroresponse, in Healthy Children 2 to 5 Years of Age

End point title	Percentages of Subjects With hSBA (human Serum Bactericidal Activity) Seroresponse, in Healthy Children 2 to 5 Years of Age[1][2]

End point description:

The immunogenicity of a single dose of MenACWY-CRM is compared with the immunogenicity of a single dose of the licensed ACWY polysaccharide vaccine (Menactra), in terms of the Percentages of subjects with seroresponse directed against N.meningitides serogroups A, C, W-135, and Y.

Seroresponse: For a subject with hSBA <1:4 at baseline, seroresponse is defined as a post vaccination hSBA ≥ 1:8; for a subject with hSBA ≥ 1:4 at baseline, seroresponse is defined as a post vaccination hSBA titer of at least 4 times the baseline.

The analysis was performed on the per-protocol (PP) population.

End point type	Primary

End point timeframe:

1 month post vaccination.

Notes:

[1] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: statistical analyses not applicable for this endpoint.

[2] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: statistical analyses not applicable for this endpoint.

End point values	MenACWY-CRM (1 Dose)_2 to 5 Years	Menactra_2 to 5 Years		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	607	615		
Units: Percentages of subjects				
number (confidence interval 95%)				
Serogroup A (N=606, 611)	72 (68 to 75)	77 (73 to 80)		
Serogroup C (N=607, 615)	60 (56 to 64)	56 (52 to 60)		
Serogroup W (N=594, 605)	72 (68 to 75)	58 (54 to 62)		
Serogroup Y (N=593, 600)	66 (62 to 70)	45 (41 to 49)		

Statistical analyses

No statistical analyses for this end point

Primary: Percentages of Subjects With hSBA Seroresponse, in Healthy Children 6 to 10 Years of Age

End point title	Percentages of Subjects With hSBA Seroresponse, in Healthy Children 6 to 10 Years of Age[3][4]

End point description:

The immunogenicity of a single dose of MenACWY-CRM is compared with the immunogenicity of a single dose of the licensed ACWY polysaccharide vaccine (Menactra), in terms of the Percentages of subjects with seroresponse directed against N. meningitidis serogroups A, C, W-135, and Y.

Seroresponse: For a subject with hSBA <1:4 at baseline, seroresponse is defined as a postvaccination hSBA ≥ 1:8; for a subject with hSBA ≥ 1:4 at baseline, seroresponse is defined as a postvaccination hSBA titer of at least 4 times the baseline.

The analysis was performed on the per-protocol (PP) population.

End point type	Primary

End point timeframe:

1 month postvaccination.

Notes:

[3] - No statistical analyses have been specified for this primary end point. It is expected there is at least one statistical analysis for each primary end point.
Justification: statistical analyses not applicable for this endpoint.

[4] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: statistical analyses not applicable for this endpoint.

End point values	MenACWY-CRM (1 Dose)_6 to 10 Years	Menactra_6 to 10 Years		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	554	541		
Units: Percentages of subjects				
number (confidence interval 95%)				
Serogroup A (N=551, 541)	77 (73 to 80)	83 (79 to 86)		
Serogroup C (N=554, 539)	63 (59 to 67)	57 (53 to 62)		
Serogroup W (N=542, 533)	57 (53 to 61)	44 (40 to 49)		
Serogroup Y (N=545, 539)	58 (54 to 62)	39 (35 to 44)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentages of Subjects With hSBA Seroresponse, in Healthy Children 2 to 10 Years of Age.

End point title	Percentages of Subjects With hSBA Seroresponse, in Healthy Children 2 to 10 Years of Age.[5]

End point description:

The immunogenicity of a single dose of MenACWY-CRM is compared with the immunogenicity of a single dose of the licensed ACWY polysaccharide vaccine (Menactra), in terms of the percentages of subjects with seroresponse directed against N. meningitidis serogroups A, C, W-135, and Y.

Seroresponse: For a subject with hSBA <1:4 at baseline, seroresponse is defined as a postvaccination hSBA ≥ 1:8; for a subject with hSBA ≥ 1:4 at baseline, seroresponse is defined as a postvaccination hSBA titer of at least 4 times the baseline.

The analysis was performed on the per-protocol (PP) population.

End point type	Secondary

End point timeframe:

1 month postvaccination.

Notes:

[5] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: statistical analyses not applicable for this endpoint.

End point values	MenACWY-CRM (1 Dose)_2 to 10 Years	Menactra_2 to 10 Years		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	1161	1154		
Units: Percentages of subjects				
number (confidence interval 95%)				
Serogroup A (N=1157, 1152)	74 (71 to 76)	80 (77 to 82)		
Serogroup C (N=1161, 1154)	61 (58 to 64)	57 (54 to 60)		
Serogroup W (N=1136, 1138)	65 (62 to 67)	51 (48 to 54)		
Serogroup Y (N=1138, 1139)	62 (60 to 65)	42 (40 to 45)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentages of Subjects With hSBA ≥ 1:8, in Healthy Children 2 to 10 Years of Age

End point title	Percentages of Subjects With hSBA ≥ 1:8, in Healthy Children 2 to 10 Years of Age[6]

End point description:

The immunogenicity of a single dose of MenACWY-CRM is compared with the immunogenicity of a single dose of the licensed ACWY polysaccharide vaccine (Menactra), in terms of the percentages of subjects with hSBA ≥ 1:8 against N. Meningitidis serogroups A, C, W-135, and Y.

The analysis was performed on the per-protocol (PP) population.

End point type	Secondary

End point timeframe:

1 month postvaccination.

Notes:

[6] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: statistical analyses not applicable for this endpoint.

End point values	MenACWY-CRM (1 Dose)_2 to 10 Years	Menactra_2 to 10 Years		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	1161	1154		
Units: Percentages of subjects				
number (confidence interval 95%)				
Serogroup A (N=1157, 1152)	75 (72 to 77)	80 (78 to 83)		
Serogroup C (N=1161, 1154)	72 (70 to 75)	68 (66 to 71)		
Serogroup W (N=1136, 1138)	90 (88 to 92)	60 (57 to 63)		
Serogroup Y (N=1138, 1139)	77 (75 to 80)	79 (77 to 81)		

Statistical analyses

No statistical analyses for this end point

Secondary: Geometric Mean Titers hSBA in Healthy Children 2 to 10 Years of Age

End point title	Geometric Mean Titers hSBA in Healthy Children 2 to 10 Years of Age[7]

End point description:

The immunogenicity of a single dose of MenACWY-CRM is compared with the immunogenicity of a single dose of the licensed ACWY polysaccharide vaccine (Menactra), in terms of the number of subjects with hSBA (human Serum Bactericidal Activity) Geometric Mean Titers (GMTs) response against N. meningitidis serogroups A, C, W-135, and Y.

The analysis was performed on the per-protocol (PP) population.

End point type	Secondary

End point timeframe:

1 month postvaccination.

Notes:

[7] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period. Justification: statistical analyses not applicable for this endpoint.

End point values	MenACWY-CRM (1 Dose)_2 to 10 Years	Menactra_2 to 10 Years		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	1161	1154		
Units: Titers				
geometric mean (confidence interval 95%)				
Serogroup A (N=1157, 1152)	30 (27 to 34)	29 (26 to 33)		
Serogroup C (N=1161, 1154)	23 (21 to 27)	17 (15 to 20)		
Serogroup W (N=1136, 1138)	49 (44 to 54)	26 (23 to 29)		
Serogroup Y (N=1138, 1139)	29 (25 to 32)	12 (11 to 14)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentages of Subjects With hSBA ≥ 1:8, in Healthy Children 2 to 5 and 6 to 10 Years of Age

End point title	Percentages of Subjects With hSBA ≥ 1:8, in Healthy Children 2 to 5 and 6 to 10 Years of Age[8]

End point description:

The immunogenicity of a single dose of MenACWY-CRM is compared with the immunogenicity of a single dose of the licensed ACWY polysaccharide vaccine (Menactra), in terms of the percentages of subjects with hSBA ≥ 1:8 directed against N. meningitidis serogroups A, C, W-135, and Y.

The analysis was performed on the per-protocol (PP) population.

End point type	Secondary

End point timeframe:

1 month postvaccination.

Notes:

[8] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period. Justification: statistical analyses not applicable for this endpoint.

End point values	MenACWY-CRM (1 Dose)_2 to 5 Years	MenACWY-CRM (1 Dose)_6 to 10 Years	Menactra_2 to 5 Years	Menactra_6 to 10 Years
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	607	554	615	541
Units: Percentages of subjects				
number (confidence interval 95%)				
Serogroup A (N=606, 551, 611, 541)	72 (68 to 75)	77 (74 to 81)	78 (74 to 81)	83 (80 to 86)
Serogroup C (N=607, 554, 615, 539)	68 (64 to 72)	77 (73 to 80)	64 (60 to 68)	74 (70 to 77)
Serogroup W (N=594, 542, 605, 533)	90 (87 to 92)	91 (88 to 93)	75 (71 to 78)	84 (81 to 87)
Serogroup Y (N=593, 545, 600, 539)	76 (72 to 79)	79 (76 to 83)	57 (53 to 61)	63 (59 to 67)

Statistical analyses

No statistical analyses for this end point

Secondary: Geometric Mean Titers (hSBA), in Healthy Children 2 to 5 and 6 to 10 Years of Age

End point title	Geometric Mean Titers (hSBA), in Healthy Children 2 to 5 and 6 to 10 Years of Age[9]

End point description:

The immunogenicity of a single dose of the Novartis MenACWY-CRM is compared with the immunogenicity of a single
dose of the licensed ACWY polysaccharide vaccine (Menactra), in terms of the number of subjects with hSBA (human Serum Bacterial Activity) Geometric Mean Titers (GMTs) response against N. meningitidis serogroups A, C, W-135, and Y.

The analysis was performed on the per-protocol (PP) population.

End point type	Secondary

End point timeframe:

1 month postvaccination

Notes:

[9] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: statistical analyses not applicable for this endpoint.

End point values	MenACWY-CRM (1 Dose)_2 to 5 Years	MenACWY-CRM (1 Dose)_6 to 10 Years	Menactra_2 to 5 Years	Menactra_6 to 10 Years
Subject group type	Reporting group	Reporting group	Reporting group	Reporting group
Number of subjects analysed	607	551	615	541
Units: Titers				
geometric mean (confidence interval 95%)				
Serogroup A (N=606, 551, 611, 541)	26 (22 to 30)	35 (29 to 42)	25 (21 to 29)	35 (29 to 41)
Serogroup C (N=607, 554, 615, 539)	18 (15 to 20)	36 (29 to 45)	13 (11 to 15)	27 (21 to 33)
Serogroup W (N=594, 542, 605, 533)	43 (38 to 50)	61 (52 to 72)	21 (19 to 25)	35 (30 to 42)
Serogroup Y (N=593, 545, 600, 539)	24 (20 to 28)	34 (28 to 41)	10 (8.68 to 12)	14 (12 to 17)

Statistical analyses

No statistical analyses for this end point

Secondary: Percentages of Subjects With hSBA Seroresponse, in Healthy Children 2 to 5 Years of Age (2 Doses vs 1 Dose)

End point title	Percentages of Subjects With hSBA Seroresponse, in Healthy Children 2 to 5 Years of Age (2 Doses vs 1 Dose)[10]

End point description:

The immunogenicity of two doses of the Novartis MenACWY-CRM, administered 1 month apart, is compared with the immunogenicity of a single dose of the Novartis MenACWY-CRM, directed against N. meningitidis serogroups A, C, W-135, and Y.

Seroresponse: For a subject with hSBA <1:4 at baseline, seroresponse is defined as a postvaccination hSBA ≥ 1:8; for a subject with hSBA ≥ 1:4 at baseline, seroresponse is defined as a postvaccination hSBA titer of at least 4 times the baseline.

The analysis was performed on the per-protocol (PP) population.

End point type	Secondary

End point timeframe:

1 month postvaccination

Notes:

[10] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: statistical analyses not applicable for this endpoint.

End point values	MenACWY-CRM (2 Doses)	MenACWY-CRM (1 Dose)_2 to 5 Years		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	293	607		
Units: Percentages of subjects				
number (confidence interval 95%)				
Serogroup A (N=291, 606)	91 (87 to 94)	72 (68 to 75)		
Serogroup C (N=293, 607)	98 (95 to 99)	60 (56 to 64)		
Serogroup W (N=288, 594)	89 (85 to 92)	72 (68 to 75)		
Serogroup Y (N=286, 593)	95 (91 to 97)	66 (62 to 70)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentages of Subjects With hSBA ≥ 1:8, in Healthy Children 2 to 5 Years of Age (2 Doses v/s 1 Dose)

End point title	Percentages of Subjects With hSBA ≥ 1:8, in Healthy Children 2 to 5 Years of Age (2 Doses v/s 1 Dose)[11]

End point description:

The immunogenicity of two doses of the Novartis MenACWY-CRM, administered 2 months apart, is compared with the immunogenicity of a single dose of the Novartis MenACWY-CRM in terms of the percentages of subjects with hSBA ≥ 1:8 directed against N. meningitidis serogroups A, C, W-135, and Y.

The analysis was performed on the per-protocol (PP) population.

End point type	Secondary

End point timeframe:

1 month postvaccination

Notes:

[11] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: statistical analyses not applicable for this endpoint.

End point values	MenACWY-CRM (2 Doses)	MenACWY-CRM (1 Dose)_2 to 5 Years		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	293	607		
Units: Percentages of Subjects				
number (confidence interval 95%)				
Serogroup A (N=291, 606)	91 (88 to 94)	72 (68 to 75)		
Serogroup C (N=293, 607)	99 (97 to 100)	68 (64 to 72)		
Serogroup W (N=288, 594)	99 (98 to 100)	90 (87 to 92)		
Serogroup Y (N=286, 593)	98 (95 to 99)	76 (72 to 79)		

Statistical analyses

No statistical analyses for this end point

Secondary: GMTs (hSBA) in Healthy Children 2 to 5 Years of Age (2 Doses v/s 1 Dose)

End point title	GMTs (hSBA) in Healthy Children 2 to 5 Years of Age (2 Doses v/s 1 Dose)[12]

End point description:

The immunogenicity of two doses of the Novartis MenACWY-CRM vaccine, administered 2 months apart, is compared with the immunogenicity of a single dose of the Novartis MenACWY-CRM vaccine, in terms of hSBA (human Serum Bactericidal Activity) GMTs (Geometric Mean Titers) against N.meningitidis serogroups A, C, W, and Y.

The analysis was performed on the per-protocol (PP) population.

End point type	Secondary

End point timeframe:

1 month postvaccination

Notes:

[12] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: statistical analyses not applicable for this endpoint.

End point values	MenACWY-CRM (2 Doses)	MenACWY-CRM (1 Dose)_2 to 5 Years		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	293	607		
Units: Titers				
geometric mean (confidence interval 95%)				
Serogroup A (N=291, 606)	64 (51 to 81)	27 (23 to 32)		

Serogroup C (N=293, 607)	144 (118 to 177)	18 (15 to 21)		
Serogroup W (N=288, 594)	132 (111 to 157)	41 (36 to 47)		
Serogroup Y (N=286, 593)	102 (82 to 126)	23 (20 to 27)		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentages of Subjects With at Least One Reactogenicity Sign After Vaccination in Children 2 to 5 Years of Age

End point title	Percentages of Subjects With at Least One Reactogenicity Sign After Vaccination in Children 2 to 5 Years of Age[13]

End point description:

Safety was assessed in terms of the percenatges of subjects with reported local and systemic reactions up to 7 days after each vaccination per vaccination group.

The analysis was performed on the safety population.

End point type	Secondary

End point timeframe:

Study days 1 to 7

Notes:

[13] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: statistical analyses not applicable for this endpoint.

End point values	MenACWY-CRM (1 Dose)_2 to 5 Years	Menactra_2 to 5 Years		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	693	684		
Units: Percentages of subjects				
Injection site pain	226	241		
Injection site erythema	186	170		
Injection site induration	126	126		
Change in Eating Habits (N=683, 671)	64	69		
Sleepiness (N=692, 684)	109	126		
Irritability (N=692, 684)	147	152		
Vomiting (N=692, 684)	21	21		
Diarrhoea (N=692, 684)	50	53		
Arthralgia	24	24		
Headache	33	39		
Rash	30	34		
Fever (≥ 38C ; N=692, 684)	15	17		
Temperature (≥ 40.0C)	0	0		
Stayed home (N=682, 670)	20	14		
Analgesic/Antipyretic medication used	77	87		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentages of subjects With at Least One Reactogenicity Sign After Vaccination in Children 6 to 10 Years of Age

End point title	Percentages of subjects With at Least One Reactogenicity Sign After Vaccination in Children 6 to 10 Years of Age[14]

End point description:

Safety was assessed in terms of the percentages of subjects with reported local and systemic reactions up to 7 days after each vaccination per vaccination group.

The analysis was performed on the safety population.

End point type	Secondary

End point timeframe:

Study days 1 to 7

Notes:

[14] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: statistical analyses not applicable for this endpoint.

End point values	MenACWY-CRM (1 Dose)_6 to 10 Years	Menactra_6 to 10 Years		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	582	571		
Units: Percentages of Subjects				
Injection site pain	226	256		
Injection site erythema	164	126		
Injection site induration	97	73		
Chills	30	26		
Nausea	37	49		
Malaise	82	62		
Myalgia	61	59		
Arthralgia	37	25		
Headache	103	77		
Rash	28	19		
Fever (≥ 38C ; N=582, 570)	13	10		
Temperature (≥ 40.0C; N=582, 570)	0	2		
Stayed home (N=575,566)	17	13		
Analgesic/Antipyretic medication used	52	56		

Statistical analyses

No statistical analyses for this end point

Secondary: Percentages of subjects with unsolicited AEs occurring throughout the study in children aged 2 to 10 years

End point title	Percentages of subjects with unsolicited AEs occurring throughout the study in children aged 2 to 10 years[15]

End point description:

Safety was assessed in terms of the percentage of subjects with unsolicited AEs occurring throughout the study .

The analysis was performed on the safety population.

End point type	Secondary

End point timeframe:

Throughout the study

Notes:

[15] - The end point is not reporting statistics for all the arms in the baseline period. It is expected all the baseline period arms will be reported on when providing values for an end point on the baseline period.
Justification: statistical analyses not applicable for this endpoint.

End point values	MenACWY-CRM (1 Dose)_2 to 10 Years	Menactra_2 to 10 Years		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	1275	1255		
Units: Percentages of Subjects				
Any AEs	248	226		
Possibly probably related AEs	60	62		
SAEs	8	7		
AEs leading to discontinuation	0	0		
Possibly probably related SAEs	0	0		
Death	0	0		

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

All adverse events and serious adverse events were collected throughout the entire study period.

Adverse event reporting additional description:

If the adverse event was solicited then the event is listed as systematic assessment. However, if the adverse event was not solicited (i.e., unsolicited), then the event is listed under non-systematic method of collection. Subjects not vaccinated were excluded from the safety analysis.

Assessment type	Non-systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	12.1

Reporting groups

Reporting group title	MenACWY-CRM (2 Doses)

Reporting group description:

2 injections of the Novartis MenACWY-CRM vaccine administered on study days 1 and 61 in children 2 to 5 years of age.

Reporting group title	MenACWY-CRM (1 Dose)_2 to 5 Years

Reporting group description:

1 injection of the Novartis MenACWY-CRM vaccine administered on study day 1 in children 2 to 5 years of age.

Reporting group title	MenACWY-CRM (1 Dose)_6 to 10 Years

Reporting group description:

1 injection of the Novartis MenACWY-CRM vaccine administered on study day 1 in children 6 to 10 years of age.

Reporting group title	Menactra_2 to 5 Years

Reporting group description:

1 injection of the licensed meningococcal MenACWY polysaccharide vaccine administered on study day 1 in children 2 to 5 years of age.

Reporting group title	Menactra_6 to 10 Years

Reporting group description:

1 injection of the licensed meningococcal MenACWY polysaccharide vaccine administered on study day 1 in children 6 to 10 years of age.

Serious adverse events	MenACWY-CRM (2 Doses)	MenACWY-CRM (1 Dose)_2 to 5 Years	MenACWY-CRM (1 Dose)_6 to 10 Years
Total subjects affected by serious adverse events			
subjects affected / exposed	2 / 351 (0.57%)	5 / 693 (0.72%)	3 / 582 (0.52%)
number of deaths (all causes)	0	0	0
number of deaths resulting from adverse events	0	0	0
Injury, poisoning and procedural complications			
ADRENAL HAEMATOMA			
alternative dictionary used: MedDRA 17.1			

subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	1 / 582 (0.17%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
LACERATION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	1 / 582 (0.17%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
PULMONARY CONTUSION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	1 / 582 (0.17%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
RIB FRACTURE			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	1 / 582 (0.17%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
SKIN ABRASION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
TRAUMATIC LIVER INJURY			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	1 / 582 (0.17%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Nervous system disorders			
LOSS OF CONSCIOUSNESS			
alternative dictionary used: MedDRA 17.1			

subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	1 / 582 (0.17%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
General disorders and administration site conditions			
PYREXIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Gastrointestinal disorders			
INGUINAL HERNIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
INTESTINAL OBSTRUCTION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	1 / 351 (0.28%)	0 / 693 (0.00%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
MOUTH CYST			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Respiratory, thoracic and mediastinal disorders			
BRONCHOSPASM			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	1 / 693 (0.14%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
PNEUMOTHORAX			
alternative dictionary used: MedDRA 17.1			

subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	1 / 582 (0.17%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Psychiatric disorders			
PSYCHIATRIC SYMPTOM			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Infections and infestations			
ARTHRITIS BACTERIAL			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
BRONCHOPNEUMONIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	1 / 351 (0.28%)	0 / 693 (0.00%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
CELLULITIS STAPHYLOCOCCAL			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	1 / 582 (0.17%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
PARVOVIRUS INFECTION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	1 / 351 (0.28%)	0 / 693 (0.00%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 1	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
PERITONSILLAR ABSCESS			
alternative dictionary used: MedDRA 17.1			

subjects affected / exposed	0 / 351 (0.00%)	1 / 693 (0.14%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 1	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
PNEUMONIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	2 / 693 (0.29%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 2	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
SHIGELLA INFECTION			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	1 / 582 (0.17%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 1
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
VIRAL INFECTION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 0	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0
Metabolism and nutrition disorders			
DEHYDRATION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	2 / 693 (0.29%)	0 / 582 (0.00%)
occurrences causally related to treatment / all	0 / 0	0 / 2	0 / 0
deaths causally related to treatment / all	0 / 0	0 / 0	0 / 0

Serious adverse events	Menactra_2 to 5 Years	Menactra_6 to 10 Years	
Total subjects affected by serious adverse events			
subjects affected / exposed	5 / 684 (0.73%)	2 / 571 (0.35%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Injury, poisoning and procedural complications			
ADRENAL HAEMATOMA			
alternative dictionary used: MedDRA 17.1			

subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
LACERATION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
PULMONARY CONTUSION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
RIB FRACTURE			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
SKIN ABRASION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	1 / 684 (0.15%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
TRAUMATIC LIVER INJURY			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Nervous system disorders			
LOSS OF CONSCIOUSNESS			
alternative dictionary used: MedDRA 17.1			

subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
General disorders and administration site conditions			
PYREXIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	1 / 684 (0.15%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Gastrointestinal disorders			
INGUINAL HERNIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	1 / 684 (0.15%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
INTESTINAL OBSTRUCTION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
MOUTH CYST			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	1 / 571 (0.18%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Respiratory, thoracic and mediastinal disorders			
BRONCHOSPASM			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
PNEUMOTHORAX			
alternative dictionary used: MedDRA 17.1			

subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Psychiatric disorders			
PSYCHIATRIC SYMPTOM			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	1 / 571 (0.18%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infections and infestations			
ARTHRITIS BACTERIAL			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	1 / 684 (0.15%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
BRONCHOPNEUMONIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
CELLULITIS STAPHYLOCOCCAL			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
PARVOVIRUS INFECTION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
PERITONSILLAR ABSCESS			
alternative dictionary used: MedDRA 17.1			

subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
PNEUMONIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	1 / 684 (0.15%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
SHIGELLA INFECTION			
subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
VIRAL INFECTION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	1 / 684 (0.15%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
Metabolism and nutrition disorders			
DEHYDRATION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	0 / 571 (0.00%)	
occurrences causally related to treatment / all	0 / 0	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

Frequency threshold for reporting non-serious adverse events: 5 %

Non-serious adverse events	MenACWY-CRM (2 Doses)	MenACWY-CRM (1 Dose)_2 to 5 Years	MenACWY-CRM (1 Dose)_6 to 10 Years
Total subjects affected by non-serious adverse events			
subjects affected / exposed	253 / 351 (72.08%)	424 / 693 (61.18%)	340 / 582 (58.42%)
Nervous system disorders			
HEADACHE			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	27 / 351 (7.69%)	37 / 693 (5.34%)	105 / 582 (18.04%)
occurrences (all)	35	39	136

SOMNOLENCE			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	81 / 351 (23.08%)	109 / 693 (15.73%)	0 / 582 (0.00%)
occurrences (all)	118	122	0
General disorders and administration site conditions			
CHILLS			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	30 / 582 (5.15%)
occurrences (all)	0	0	33
INJECTION SITE ERYTHEMA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	131 / 351 (37.32%)	186 / 693 (26.84%)	164 / 582 (28.18%)
occurrences (all)	198	199	170
INJECTION SITE INDURATION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	82 / 351 (23.36%)	126 / 693 (18.18%)	97 / 582 (16.67%)
occurrences (all)	112	134	99
INJECTION SITE PAIN			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	151 / 351 (43.02%)	226 / 693 (32.61%)	226 / 582 (38.83%)
occurrences (all)	211	238	242
MALAISE			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	82 / 582 (14.09%)
occurrences (all)	0	0	88
PYREXIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	20 / 351 (5.70%)	25 / 693 (3.61%)	15 / 582 (2.58%)
occurrences (all)	23	28	18
Gastrointestinal disorders			
DIARRHOEA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	35 / 351 (9.97%)	52 / 693 (7.50%)	4 / 582 (0.69%)
occurrences (all)	47	66	4
NAUSEA			

alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	3 / 351 (0.85%)	2 / 693 (0.29%)	50 / 582 (8.59%)
occurrences (all)	3	2	57
VOMITING			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	19 / 351 (5.41%)	25 / 693 (3.61%)	2 / 582 (0.34%)
occurrences (all)	23	28	2
Skin and subcutaneous tissue disorders			
RASH			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	31 / 351 (8.83%)	33 / 693 (4.76%)	28 / 582 (4.81%)
occurrences (all)	34	36	29
Psychiatric disorders			
EATING DISORDER			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	56 / 351 (15.95%)	64 / 693 (9.24%)	0 / 582 (0.00%)
occurrences (all)	71	66	0
IRRITABILITY			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	98 / 351 (27.92%)	147 / 693 (21.21%)	0 / 582 (0.00%)
occurrences (all)	156	172	0
Musculoskeletal and connective tissue disorders			
ARTHRALGIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	20 / 351 (5.70%)	25 / 693 (3.61%)	38 / 582 (6.53%)
occurrences (all)	21	27	41
MYALGIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 351 (0.00%)	0 / 693 (0.00%)	62 / 582 (10.65%)
occurrences (all)	0	0	66
Infections and infestations			
UPPER RESPIRATORY TRACT INFECTION			
alternative dictionary used: MedDRA 17.1			

subjects affected / exposed	20 / 351 (5.70%)	13 / 693 (1.88%)	4 / 582 (0.69%)
occurrences (all)	22	13	4

Non-serious adverse events	Menactra_2 to 5 Years	Menactra_6 to 10 Years	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	419 / 684 (61.26%)	342 / 571 (59.89%)	
Nervous system disorders			
HEADACHE			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	39 / 684 (5.70%)	79 / 571 (13.84%)	
occurrences (all)	47	105	
SOMNOLENCE			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	126 / 684 (18.42%)	0 / 571 (0.00%)	
occurrences (all)	145	0	
General disorders and administration site conditions			
CHILLS			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	26 / 571 (4.55%)	
occurrences (all)	0	26	
INJECTION SITE ERYTHEMA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	170 / 684 (24.85%)	126 / 571 (22.07%)	
occurrences (all)	177	132	
INJECTION SITE INDURATION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	126 / 684 (18.42%)	73 / 571 (12.78%)	
occurrences (all)	130	79	
INJECTION SITE PAIN			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	241 / 684 (35.23%)	256 / 571 (44.83%)	
occurrences (all)	251	264	
MALAISE			
alternative dictionary used: MedDRA 17.1			

subjects affected / exposed	0 / 684 (0.00%)	62 / 571 (10.86%)	
occurrences (all)	0	71	
PYREXIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	20 / 684 (2.92%)	13 / 571 (2.28%)	
occurrences (all)	22	15	
Gastrointestinal disorders			
DIARRHOEA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	55 / 684 (8.04%)	2 / 571 (0.35%)	
occurrences (all)	67	2	
NAUSEA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	37 / 571 (6.48%)	
occurrences (all)	0	39	
VOMITING			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	22 / 684 (3.22%)	5 / 571 (0.88%)	
occurrences (all)	25	5	
Skin and subcutaneous tissue disorders			
RASH			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	35 / 684 (5.12%)	21 / 571 (3.68%)	
occurrences (all)	38	26	
Psychiatric disorders			
EATING DISORDER			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	69 / 684 (10.09%)	0 / 571 (0.00%)	
occurrences (all)	77	0	
IRRITABILITY			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	152 / 684 (22.22%)	0 / 571 (0.00%)	
occurrences (all)	176	0	
Musculoskeletal and connective tissue disorders			

ARTHRALGIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	24 / 684 (3.51%)	25 / 571 (4.38%)	
occurrences (all)	27	29	
MYALGIA			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	0 / 684 (0.00%)	59 / 571 (10.33%)	
occurrences (all)	0	62	
Infections and infestations			
UPPER RESPIRATORY TRACT INFECTION			
alternative dictionary used: MedDRA 17.1			
subjects affected / exposed	9 / 684 (1.32%)	1 / 571 (0.18%)	
occurrences (all)	10	1	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
28 January 2008	Change in the primary objective: At the request of FDA the primary objective is changed as measure of seroresponse within each age group rather than in the total group of children aged 2-10 Addition of Data monitoring Committee

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported

Online references

http://www.ncbi.nlm.nih.gov/pubmed/20943209