



Clinical trial results:

A phase III, open, controlled study to assess the persistence of antibodies after one dose of GlaxoSmithKline Biologicals' meningococcal serogroup ACWY conjugate vaccine (MenACWY-TT) given intramuscularly versus one dose of Mencevax™ ACWY given subcutaneously to healthy subjects aged 11 through 17 years in the primary study 109069 (MenACWY-TT-036)

Summary

| | |
|--------------------------|----------------|
| EudraCT number | 2012-005641-21 |
| Trial protocol | Outside EU/EEA |
| Global end of trial date | 17 May 2013 |

Results information

| | |
|--------------------------------|---|
| Result version number | v2 (current) |
| This version publication date | 07 April 2016 |
| First version publication date | 17 July 2015 |
| Version creation reason | <ul style="list-style-type: none">• New data added to full data set• Correction of full data set Data for secondary endpoints have been added. Data for rSBA seropositivity and seroconversion primary and secondary endpoints were updated. |

Trial information

Trial identification

| | |
|-----------------------|--------|
| Sponsor protocol code | 112148 |
|-----------------------|--------|

Additional study identifiers

| | |
|------------------------------------|-------------|
| ISRCTN number | - |
| ClinicalTrials.gov id (NCT number) | NCT00974363 |
| WHO universal trial number (UTN) | - |

Notes:

Sponsors

| | |
|------------------------------|---|
| Sponsor organisation name | GlaxoSmithKline Biologicals |
| Sponsor organisation address | Rue de l'Institut 89, Rixensart, Belgium, B-1330 |
| Public contact | Clinical Trials Call Center, GlaxoSmithKline Biologicals, 044 2089-904466, GSKClinicalSupportHD@gsk.com |
| Scientific contact | Clinical Trials Call Center, GlaxoSmithKline Biologicals, 044 2089-904466, GSKClinicalSupportHD@gsk.com |

Notes:

Paediatric regulatory details

| | |
|--|-----|
| Is trial part of an agreed paediatric investigation plan (PIP) | No |
| 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 | 30 June 2015 |
| Is this the analysis of the primary completion data? | Yes |
| Primary completion date | 17 May 2013 |
| Global end of trial reached? | Yes |
| Global end of trial date | 17 May 2013 |
| Was the trial ended prematurely? | No |

Notes:

General information about the trial

Main objective of the trial:

At 24, 36, 48, and 60 months after primary vaccination of adolescents with Nimenrix™ or Mencevax™ ACWY vaccine:

- To evaluate the persistence of meningococcal antibodies in terms of percentage of subjects with serum bactericidal antibodies using baby rabbit complement (rSBA) titres $\geq 1:8$ for each of the 4 serogroups.

Protection of trial subjects:

Vaccines were administered by qualified and trained personnel. Vaccines were administered only to eligible subjects that had no contraindications to any components of the vaccines.

Background therapy: -

Evidence for comparator: -

| | |
|---|-------------------|
| Actual start date of recruitment | 08 September 2009 |
| Long term follow-up planned | Yes |
| Long term follow-up rationale | Efficacy |
| Long term follow-up duration | 5 Years |
| Independent data monitoring committee (IDMC) involvement? | No |

Notes:

Population of trial subjects

Subjects enrolled per country

| | |
|--------------------------------------|------------------|
| Country: Number of subjects enrolled | Philippines: 388 |
| Country: Number of subjects enrolled | India: 309 |
| Worldwide total number of subjects | 697 |
| 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) | 0 |
| Children (2-11 years) | 0 |
| Adolescents (12-17 years) | 697 |
| Adults (18-64 years) | 0 |
| From 65 to 84 years | 0 |
| 85 years and over | 0 |

Subject disposition

Recruitment

Recruitment details: -

Pre-assignment

Screening details:

During the screening the following steps occurred: check for inclusion/exclusion criteria, contraindications/precautions, medical history of the subjects and signing informed consent forms.

Pre-assignment period milestones

| | |
|------------------------------|-----|
| Number of subjects started | 697 |
| Number of subjects completed | 689 |

Pre-assignment subject non-completion reasons

| | |
|----------------------------|----------------------------|
| Reason: Number of subjects | No vaccination received: 8 |
|----------------------------|----------------------------|

Period 1

| | |
|------------------------------|---------------------------|
| Period 1 title | Month 24 (overall period) |
| Is this the baseline period? | Yes |
| Allocation method | Randomised - controlled |
| Blinding used | Not blinded |

Arms

| | |
|------------------------------|----------------|
| Are arms mutually exclusive? | Yes |
| Arm title | Nimenrix Group |

Arm description:

Subjects vaccinated with a single dose of MenACWY-TT vaccine, in the primary study 109069 (NCT00464815).

| | |
|--|-------------------|
| Arm type | No Intervention |
| Investigational medicinal product name | Nimenrix™ |
| Investigational medicinal product code | |
| Other name | MenACWY-TT |
| Pharmaceutical forms | Injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

MenACWY-TT vaccine was administered by intramuscular injection in the deltoid region of the nondominant arm.

| | |
|------------------|----------------|
| Arm title | Mencevax Group |
|------------------|----------------|

Arm description:

Subjects vaccinated with a single dose of MenACWY vaccine, in the primary study 109069 (NCT00464815).

| | |
|---|-----------------|
| Arm type | No intervention |
| No investigational medicinal product assigned in this arm | |

| Number of subjects in period 1 ^[1] | Nimenrix Group | Mencevax Group |
|--|----------------|----------------|
| | | |
| Started | 521 | 168 |
| Completed | 521 | 168 |

Notes:

[1] - The number of subjects reported to be in the baseline period are not the same as the worldwide number enrolled in the trial. It is expected that these numbers will be the same.

Justification: No vaccination was received for 8 subjects, hence they were excluded from the study.

Baseline characteristics

Reporting groups

| | |
|--|----------------|
| Reporting group title | Nimenrix Group |
| Reporting group description: | |
| Subjects vaccinated with a single dose of MenACWY-TT vaccine, in the primary study 109069 (NCT00464815). | |
| Reporting group title | Mencevax Group |
| Reporting group description: | |
| Subjects vaccinated with a single dose of MenACWY vaccine, in the primary study 109069 (NCT00464815). | |

| Reporting group values | Nimenrix Group | Mencevax Group | Total |
|--|----------------|----------------|-------|
| Number of subjects | 521 | 168 | 689 |
| Age categorical | | | |
| Units: Subjects | | | |
| In utero | | | 0 |
| Preterm newborn infants (gestational age < 37 wks) | | | 0 |
| Newborns (0-27 days) | | | 0 |
| Infants and toddlers (28 days-23 months) | | | 0 |
| Children (2-11 years) | | | 0 |
| Adolescents (12-17 years) | | | 0 |
| Adults (18-64 years) | | | 0 |
| From 65-84 years | | | 0 |
| 85 years and over | | | 0 |
| Age continuous | | | |
| Units: years | | | |
| arithmetic mean | 16.4 | 16.4 | |
| standard deviation | ± 1.94 | ± 2 | - |
| Gender categorical | | | |
| Units: Subjects | | | |
| Female | 273 | 86 | 359 |
| Male | 248 | 82 | 330 |

End points

End points reporting groups

| | |
|--|----------------|
| Reporting group title | Nimenrix Group |
| Reporting group description: Subjects vaccinated with a single dose of MenACWY-TT vaccine, in the primary study 109069 (NCT00464815). | |
| Reporting group title | Mencevax Group |
| Reporting group description: Subjects vaccinated with a single dose of MenACWY vaccine, in the primary study 109069 (NCT00464815). | |

Primary: Number of subjects with Meningitis A antibody titres by serum bactericidal assay (using rabbit complement) (rSBA-MenA) $\geq 1:8$

| | |
|--|--|
| End point title | Number of subjects with Meningitis A antibody titres by serum bactericidal assay (using rabbit complement) (rSBA-MenA) $\geq 1:8$ ^[1] |
| End point description: These analyses were performed by the Public Health England (PHE) laboratory and by GSK Biologicals' laboratory | |
| End point type | Primary |
| End point timeframe: At months 24, 36, 48 and 60 post primary dose | |

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: The scope of this primary endpoint was descriptive, no statistical analyses were conducted.

| End point values | Nimenrix Group | Mencevax Group | | |
|--|-----------------|-----------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 449 | 150 | | |
| Units: Subjects | | | | |
| rSBA-MenA M24 GSK laboratory [N=405;132] | 404 | 132 | | |
| rSBA-MenA M36 PHE laboratory [N=449;150] | 417 | 124 | | |
| rSBA-MenA M48 PHE laboratory [N=391;130] | 353 | 105 | | |
| rSBA-MenA M60 PHE laboratory [N=236;86] | 230 | 80 | | |

Statistical analyses

No statistical analyses for this end point

Primary: Number of subjects with rSBA-MenC antibody titres $\geq 1:8$

| | |
|-----------------|---|
| End point title | Number of subjects with rSBA-MenC antibody titres $\geq 1:8$ ^[2] |
|-----------------|---|

End point description:

These analyses were performed by the Public Health England (PHE) laboratory and by GSK Biologicals' laboratory

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

At months 24, 36, 48 and 60 post primary dose

Notes:

[2] - 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: The scope of this primary endpoint was descriptive, no statistical analyses were conducted.

| End point values | Nimenrix Group | Mencevax Group | | |
|--|-----------------|-----------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 449 | 150 | | |
| Units: Subjects | | | | |
| rSBA-MenC M24 GSK laboratory [N=407;132] | 404 | 131 | | |
| rSBA-MenC M36 PHE laboratory [N=449;150] | 409 | 129 | | |
| rSBA-MenC M48 PHE laboratory [N=390;130] | 367 | 113 | | |
| rSBA-MenC M60 PHE laboratory [N=236;85] | 209 | 74 | | |

Statistical analyses

No statistical analyses for this end point

Primary: Number of subjects with rSBA-MenW-135 antibody titres $\geq 1:8$

| | |
|-----------------|---|
| End point title | Number of subjects with rSBA-MenW-135 antibody titres |
|-----------------|---|

End point description:

These analyses were performed by the Public Health England (PHE) laboratory and by GSK Biologicals' laboratory

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

At months 24, 36, 48 and 60 post primary dose

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: The scope of this primary endpoint was descriptive, no statistical analyses were conducted.

| End point values | Nimenrix Group | Mencevax Group | | |
|--|-----------------|-----------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 449 | 150 | | |
| Units: Subjects | | | | |
| rSBA-MenW-135 M24 GSK laboratory [N=407;131] | 405 | 124 | | |
| rSBA-MenW-135 M36 PHE laboratory [N=449;150] | 368 | 45 | | |
| rSBA-MenW-135 M48 PHE laboratory [N=390;130] | 301 | 35 | | |

| | | | | |
|--|-----|----|--|--|
| rSBA-MenW-135 M60 PHE laboratory [N=236;86] | 203 | 30 | | |
|--|-----|----|--|--|

Statistical analyses

No statistical analyses for this end point

Primary: Number of subjects with rSBA-MenY antibody titres $\geq 1:8$

| | |
|-----------------|---|
| End point title | Number of subjects with rSBA-MenY antibody titres $\geq 1:8$ ^[4] |
|-----------------|---|

End point description:

These analyses were performed by the Public Health England (PHE) laboratory and by GSK Biologicals' laboratory

| | |
|----------------|---------|
| End point type | Primary |
|----------------|---------|

End point timeframe:

At months 24, 36, 48 and 60 post primary dose

Notes:

[4] - 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: The scope of this primary endpoint was descriptive, no statistical analyses were conducted.

| End point values | Nimenrix Group | Mencevax Group | | |
|---|-----------------|-----------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 449 | 150 | | |
| Units: Subjects | | | | |
| rSBA-MenY M24 GSK laboratory [N=407;130] | 407 | 126 | | |
| rSBA-MenY M36 PHE laboratory [N=449;150] | 418 | 87 | | |
| rSBA-MenY M48 PHE laboratory [N=389;130] | 348 | 63 | | |
| rSBA-MenY M60 PHE laboratory [N=236;86] | 228 | 57 | | |

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with rSBA-MenA antibody titres $\geq 1:128$

| | |
|-----------------|--|
| End point title | Number of subjects with rSBA-MenA antibody titres $\geq 1:128$ |
|-----------------|--|

End point description:

These analyses were performed by the Public Health England (PHE) laboratory and by GSK Biologicals' laboratory

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

At months 24, 36, 48 and 60 post primary dose

| End point values | Nimenrix Group | Mencevax Group | | |
|--|-----------------|-----------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 449 | 150 | | |
| Units: Subjects | | | | |
| rSBA-MenA M24 GSK laboratory [N=405;132] | 403 | 128 | | |
| rSBA-MenA M36 PHE laboratory [N=449;150] | 398 | 118 | | |
| rSBA-MenA M48 PHE laboratory [N=391;130] | 335 | 99 | | |
| rSBA-MenA M60 PHE laboratory [N=236;86] | 219 | 71 | | |

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with rSBA-MenC antibody titres $\geq 1:128$

| | |
|--|--|
| End point title | Number of subjects with rSBA-MenC antibody titres $\geq 1:128$ |
| End point description: | |
| These analyses were performed by the Public Health England (PHE) laboratory and by GSK Biologicals' laboratory | |
| End point type | Secondary |
| End point timeframe: | |
| At months 24, 36, 48 and 60 post primary dose | |

| End point values | Nimenrix Group | Mencevax Group | | |
|--|-----------------|-----------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 449 | 150 | | |
| Units: Subjects | | | | |
| rSBA-MenC M24 GSK laboratory [N=407;132] | 396 | 125 | | |
| rSBA-MenC M36 PHE laboratory [N=449;150] | 380 | 117 | | |
| rSBA-MenC M48 PHE laboratory [N=390;130] | 347 | 104 | | |
| rSBA-MenC M60 PHE laboratory [N=236;85] | 188 | 68 | | |

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with rSBA-MenW-135 antibody titres $\geq 1:128$

| | |
|-----------------|--|
| End point title | Number of subjects with rSBA-MenW-135 antibody titres $\geq 1:128$ |
|-----------------|--|

End point description:

These analyses were performed by the Public Health England (PHE) laboratory and by GSK Biologicals' laboratory

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

At months 24, 36, 48 and 60 post primary dose

| End point values | Nimenrix Group | Mencevax Group | | |
|--|-----------------|-----------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 449 | 150 | | |
| Units: Subjects | | | | |
| rSBA-MenW-135 M24 GSK laboratory [N=407;131] | 403 | 113 | | |
| rSBA-MenW-135 M36 PHE laboratory [N=449;150] | 350 | 36 | | |
| rSBA-MenW-135 M48 PHE laboratory [N=390;130] | 284 | 25 | | |
| rSBA-MenW-135 M60 PHE laboratory [N=236;86] | 195 | 26 | | |

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with rSBA-MenY antibody titres $\geq 1:128$

| | |
|-----------------|--|
| End point title | Number of subjects with rSBA-MenY antibody titres $\geq 1:128$ |
|-----------------|--|

End point description:

These analyses were performed by the Public Health England (PHE) laboratory and by GSK Biologicals' laboratory

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

At months 24, 36, 48 and 60 post primary dose

| End point values | Nimenrix Group | Mencevax Group | | |
|--|-----------------|-----------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 449 | 150 | | |
| Units: Subjects | | | | |
| rSBA-MenY M24 GSK laboratory [N=407;130] | 407 | 123 | | |

| | | | | |
|---|-----|----|--|--|
| rSBA-MenY M36 PHE laboratory [N=449;150] | 401 | 77 | | |
| rSBA-MenY M48 PHE laboratory [N=389;130] | 333 | 60 | | |
| rSBA-MenY M60 PHE laboratory [N=236;86] | 225 | 56 | | |

Statistical analyses

No statistical analyses for this end point

Secondary: Antibody titers for rSBA-MenA

| | |
|--|-------------------------------|
| End point title | Antibody titers for rSBA-MenA |
| End point description: These analyses were performed by the Public Health England (PHE) laboratory and by GSK Biologicals' laboratory | |
| End point type | Secondary |
| End point timeframe: At months 24, 36, 48 and 60 post primary dose | |

| End point values | Nimenrix Group | Mencevax Group | | |
|---|------------------------|------------------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 449 | 150 | | |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | | | | |
| rSBA-MenA M24 GSK laboratory [N=405;132] | 1493.4 (1369 to 1629) | 780.3 (665.3 to 915.2) | | |
| rSBA-MenA M36 PHE laboratory [N=449;150] | 448.3 (381.4 to 527.1) | 206 (147.4 to 288.1) | | |
| rSBA-MenA M48 PHE laboratory [N=391;130] | 386.9 (321.2 to 466.2) | 174.4 (121.2 to 250.8) | | |
| rSBA-MenA M60 PHE laboratory [N=236;86] | 643.8 (530.7 to 781) | 296 (202.4 to 432.9) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: Antibody titers for rSBA-MenC

| | |
|--|-------------------------------|
| End point title | Antibody titers for rSBA-MenC |
| End point description: These analyses were performed by the Public Health England (PHE) laboratory and by GSK Biologicals' laboratory | |
| End point type | Secondary |

End point timeframe:

At months 24, 36, 48 and 60 post primary dose

| End point values | Nimenrix Group | Mencevax Group | | |
|--|-------------------------|-------------------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 449 | 150 | | |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | | | | |
| rSBA-MenC M24 GSK laboratory [N=407;132] | 1137.5 (1006.1 to 1286) | 1543 (1145.8 to 2077.7) | | |
| rSBA-MenC M36 PHE laboratory [N=449;150] | 371.4 (309.4 to 445.8) | 389.8 (262 to 579.9) | | |
| rSBA-MenC M48 PHE laboratory [N=390;130] | 378.5 (319.7 to 448.1) | 364 (242.7 to 545.9) | | |
| rSBA-MenC M60 PHE laboratory [N=236;85] | 248.6 (194.2 to 318.2) | 366.5 (224.1 to 599.4) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: Antibody titers for rSBA-MenW-135

| | |
|------------------------|--|
| End point title | Antibody titers for rSBA-MenW-135 |
| End point description: | These analyses were performed by the Public Health England (PHE) laboratory and by GSK Biologicals' laboratory |
| End point type | Secondary |
| End point timeframe: | At months 24, 36, 48 and 60 post primary dose |

| End point values | Nimenrix Group | Mencevax Group | | |
|--|-------------------------|------------------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 449 | 150 | | |
| Units: Titers | | | | |
| geometric mean (confidence interval 95%) | | | | |
| rSBA-MenW-135 M24 GSK laboratory [N=407;131] | 1977.6 (1775 to 2203.4) | 418.2 (317.6 to 550.6) | | |
| rSBA-MenW-135 M36 PHE laboratory [N=449;150] | 338 (268.4 to 425.6) | 16 (10.9 to 23.6) | | |
| rSBA-MenW-135 M48 PHE laboratory [N=390;130] | 209.8 (163.9 to 268.6) | 11.7 (8.2 to 16.8) | | |
| rSBA-MenW-135 M60 PHE laboratory [N=236;86] | 436.9 (324.4 to 588.4) | 19.7 (11.8 to 32.9) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: Antibody titers for rSBA-MenY

| | |
|-----------------|-------------------------------|
| End point title | Antibody titers for rSBA-MenY |
|-----------------|-------------------------------|

End point description:

These analyses were performed by the Public Health England (PHE) laboratory and by GSK Biologicals' laboratory

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

At months 24, 36, 48 and 60 post primary dose

| End point values | Nimenrix Group | Mencevax Group | | |
|--|---------------------------|--------------------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 449 | 150 | | |
| Units: Titer | | | | |
| geometric mean (confidence interval 95%) | | | | |
| rSBA-MenY M24 GSK laboratory [N=407;130] | 3502.5 (3203.2 to 3829.7) | 1028.3 (797.3 to 1326.1) | | |
| rSBA-MenY M36 PHE laboratory [N=449;150] | 740.5 (620 to 884.3) | 69.6 (44.6 to 108.6) | | |
| rSBA-MenY M48 PHE laboratory [N=389;130] | 533.4 (430 to 661.7) | 49.8 (30.7 to 80.9) | | |
| rSBA-MenY M60 PHE laboratory [N=236;86] | 1000.2 (824.1 to 1214) | 124.9 (71.2 to 219.3) | | |

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with anti-polysaccharide A (anti-PSA), anti-polysaccharide C (anti-PSC), anti-polysaccharide W-135 (anti-PSW-135) and anti-polysaccharide Y (anti-PSY) antibody concentrations equal to or above the cut-off values

| | |
|-----------------|--|
| End point title | Number of subjects with anti-polysaccharide A (anti-PSA), anti-polysaccharide C (anti-PSC), anti-polysaccharide W-135 (anti-PSW-135) and anti-polysaccharide Y (anti-PSY) antibody concentrations equal to or above the cut-off values |
|-----------------|--|

End point description:

These analyses were performed by the GSK Biologicals' laboratory

| | |
|----------------------|-----------|
| End point type | Secondary |
| End point timeframe: | |
| At month 24 | |

| End point values | Nimenrix Group | Mencevax Group | | |
|--|-----------------|-----------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 208 | 66 | | |
| Units: Subjects | | | | |
| Anti-PSA \geq 0.3 $\mu\text{g/mL}$ [N=196; 65] | 196 | 65 | | |
| Anti-PSA \geq 2.0 $\mu\text{g/mL}$ [N=196; 65] | 179 | 64 | | |
| Anti-PSC \geq 0.3 $\mu\text{g/mL}$ [N=192; 66] | 176 | 66 | | |
| Anti-PSC \geq 2.0 $\mu\text{g/mL}$ [N=192; 66] | 96 | 62 | | |
| Anti-PSW-135 \geq 0.3 $\mu\text{g/mL}$ [N=198; 62] | 187 | 61 | | |
| Anti-PSW-135 \geq 2.0 $\mu\text{g/mL}$ [N=198; 62] | 127 | 49 | | |
| Anti-PSY \geq 0.3 $\mu\text{g/mL}$ [N=208; 65] | 203 | 63 | | |
| Anti-PSY \geq 2.0 $\mu\text{g/mL}$ [N=208; 65] | 130 | 51 | | |

Statistical analyses

No statistical analyses for this end point

Secondary: Concentrations of anti-PSA, anti-PSC, anti-PSW-135 and anti-PSY antibodies

| | |
|------------------------|--|
| End point title | Concentrations of anti-PSA, anti-PSC, anti-PSW-135 and anti-PSY antibodies |
| End point description: | |
| End point type | Secondary |
| End point timeframe: | |
| At month 24 | |

| End point values | Nimenrix Group | Mencevax Group | | |
|--|----------------------|------------------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 208 | 66 | | |
| Units: $\mu\text{g/mL}$ | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Anti-PSA [N=196; 65] | 10.16 (8.47 to 12.2) | 18.17 (13.33 to 24.77) | | |
| Anti-PSC [N=192; 66] | 1.95 (1.61 to 2.35) | 10.88 (8.22 to 14.41) | | |
| Anti-PSW-135 [N=198; 62] | 3.29 (2.71 to 4) | 5.22 (3.74 to 7.27) | | |

| | | | | |
|----------------------|-----------------|----------------------|--|--|
| Anti-PSY [N=208; 65] | 3.63 (3 to 4.4) | 6.99 (4.83 to 10.11) | | |
|----------------------|-----------------|----------------------|--|--|

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects with serious adverse events (SAEs)

| | |
|-----------------|---|
| End point title | Number of subjects with serious adverse events (SAEs) |
|-----------------|---|

End point description:

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

At months 24, 36, 48 and 60

| End point values | Nimenrix Group | Mencevax Group | | |
|-----------------------------|-----------------|-----------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 521 | 168 | | |
| Units: Subjects | | | | |
| SAEs Month 24 [N=521;168] | 0 | 0 | | |
| SAEs Month 36 [N=488;155] | 0 | 0 | | |
| SAEs Month 48 [N=407;134] | 0 | 0 | | |
| SAEs Month 60 [N=356;122] | 0 | 0 | | |

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information^[1]

Timeframe for reporting adverse events:

Serious adverse events (SAEs): up to Month 24, 36, 48 and 60.

| | |
|-----------------|----------------|
| Assessment type | Non-systematic |
|-----------------|----------------|

Dictionary used

| | |
|-----------------|--------|
| Dictionary name | MedDRA |
|-----------------|--------|

| | |
|--------------------|------|
| Dictionary version | 18.0 |
|--------------------|------|

Reporting groups

| | |
|-----------------------|----------------|
| Reporting group title | Mencevax Group |
|-----------------------|----------------|

Reporting group description:

Subjects vaccinated with a single dose of MenACWY vaccine.

| | |
|-----------------------|----------------|
| Reporting group title | Nimenrix Group |
|-----------------------|----------------|

Reporting group description:

Subjects vaccinated with a single dose of MenACWY-TT vaccine.

| Serious adverse events | Mencevax Group | Nimenrix Group | |
|---|-----------------|-----------------|--|
| Total subjects affected by serious adverse events | | | |
| subjects affected / exposed | 0 / 168 (0.00%) | 0 / 521 (0.00%) | |
| number of deaths (all causes) | 0 | 0 | |
| number of deaths resulting from adverse events | 0 | 0 | |

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

| Non-serious adverse events | Mencevax Group | Nimenrix Group | |
|---|-----------------|-----------------|--|
| Total subjects affected by non-serious adverse events | | | |
| subjects affected / exposed | 0 / 168 (0.00%) | 0 / 521 (0.00%) | |

Notes:

[1] - There are no non-serious adverse events recorded for these results. It is expected that there will be at least one non-serious adverse event reported.

Justification: No information about unsolicited AEs was collected during this study as no product was administered.

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

| Date | Amendment |
|------------------|---|
| 15 December 2011 | <p>The primary objective of the study was to evaluate the persistence of meningococcal antibodies in terms of the percentage of subjects with rabbit serum bactericidal assay (rSBA) titres $\geq 1:8$ for each of the four serogroups (rSBA-MenA, rSBA-MenC, rSBA-MenW-135, rSBA-MenY) at 24, 36, 48 and 60 months after primary vaccination of adolescents with MenACWY-TT or Mencevax™ ACWY vaccine.</p> <p>To support the data obtained by rSBA testing, antibody concentrations against meningococcal polysaccharides are planned to be assessed by ELISA (anti-polysaccharides [PS] testing) at 24, 36, 48 and 60 months after primary vaccination with MenACWY-TT. The anti-PS testing will be performed at 24 months after vaccine administration, but the sponsor decided not to perform the anti-PS testing at 36, 48 and 60 months after vaccine administration for the following reasons:</p> <ul style="list-style-type: none">•the World Health Organisation (WHO) considers SBA the primary means of assessing immune response to meningococcal conjugate vaccines [WHO, 2006; WHO, 1999].•circulating bactericidal antibodies are more critical for persistent protection against meningococcal disease than non-functional antibodies against meningococcal polysaccharides [Centres for Disease Control (CDC), 2011; WHO, 2006]. <p>Although antibody concentrations will not be determined by ELISA at 36, 48 and 60 months after primary vaccination with MenACWY-TT or, all subjects will be informed of their rSBA antibody titres at each immunogenicity time point when statistical analyses at that time point have been completed.</p> <p>In addition:</p> <ul style="list-style-type: none">•The protocol amendment clarifies in which laboratory the different assays will be performed.•The introduction has been updated with the current licensing status of competitor vaccines and the current recommendations for meningococcal vaccines. The rationale for the study has been updated according to this new information.•The list of abbreviations and reference list have been updated according to changes in the clinical study team. |

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported