Clinical trial results:
A randomised controlled trial comparing two pertussis-containing vaccines in pregnancy and vaccine responses in UK mothers and their infants (immunising Mums Against Pertussis, iMAP2)

Summary

EudraCT number	2013-004495-34
Trial protocol	GB
Global end of trial date	30 June 2017

Results information

Result version number	v1 (current)
This version publication date	02 February 2019
First version publication date	02 February 2019

Trial information

Trial identification

Sponsor protocol code	iMAP2

Additional study identifiers

ISRCTN number	-
ClinicalTrials.gov id (NCT number)	NCT02145624
WHO universal trial number (UTN)	-
Other trial identifiers	Eudract: 2013-004495-34

Notes:

Sponsors

Sponsor organisation name	Public Health England
Sponsor organisation address	Wellington House , London , United Kingdom, SE1 8UG
Public contact	Elizabeth Coates elizabeth.coates@phe.gov.uk, Public Health England Wellington House, London SE1 8UG, +44 01980612922, elizabeth.coates@phe.gov.uk
Scientific contact	Elizabeth Coates elizabeth.coates@phe.gov.uk, Public Health England Wellington House, London SE1 8UG, +44 01980612922, elizabeth.coates@phe.gov.uk

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?	No

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	30 June 2017
Is this the analysis of the primary completion data?	Yes
Primary completion date	30 June 2017
Global end of trial reached?	Yes
Global end of trial date	30 June 2017
Was the trial ended prematurely?	No

Notes:

General information about the trial

Main objective of the trial:

Technical version - To compare anti-Pertussis Toxin (PT) IgG responses following primary immunisation with an acellular pertussis- containing vaccine in infants born to mothers who received REPEVAX in pregnancy compared to infants whose mothers received BOOSTRIX-IPV in pregnancy.

Lay version - to compare the amount of antibody against a particular part of the whooping cough vaccine in babies born to mothers given either Repevax or Boostrix-IPV whilst they were pregnant.

Protection of trial subjects:

Fieldwork undertaken by specialised vaccine research nurses trained in paediatric venepuncture techniques. participants who were consented to provide blood samples were offered local anaesthetic cream prior to venepuncture

Background therapy: -

Evidence for comparator: -

Actual start date of recruitment	01 January 2014
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	No

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	United Kingdom: 154
Worldwide total number of subjects	154
EEA total number of subjects	154

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)	0
Adults (18-64 years)	154
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

154 pregnant women randomised to receive 1 of two TdaP/IPV booster vaccines in the third trimester plus a control group of pregnant women who elected not to receive vaccine in pregnancy

Pre-assignment

Screening details:

• Bleeding disorder ,Received immunoglobulin or other blood product within the preceding 3 months ,Fulfil any of the contraindications to vaccination specified in The Green Book on Immunisation, including: A confirmed anaphylactic reaction to a previous dose of diphtheria, tetanus, pertussis or poliomyelitis containing vaccine , A confirmed anaphyl

Period 1

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

Blinding implementation details:

NOT BLINDED

Arms

Are arms mutually exclusive?	Yes
Arm title	ARM1

Arm description:

Randomised to receive Repevax

Arm type	Experimental
Investigational medicinal product name	Repevax
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection in pre-filled syringe
Routes of administration	Intramuscular use

Dosage and administration details:

0.5ml

Arm title	ARM2

Arm description:

Randomised to receive IPV-Boostrix

Arm type	Experimental
Investigational medicinal product name	IPV-Boostrix
Investigational medicinal product code	
Other name	
Pharmaceutical forms	Suspension for injection in pre-filled syringe
Routes of administration	Intramuscular use

Dosage and administration details:

0.5ml

Number of subjects in period 1	ARM1	ARM2
Started	77	77
Completed	77	77

Baseline characteristics

Reporting groups	
Reporting group title	ARM1
Reporting group description:	
Randomised to receive Repevax	
Reporting group title	ARM2
Reporting group description:	
Randomised to receive IPV-Boostrix	

Reporting group values	ARM1	ARM2	Total
Number of subjects	77	77	154
Age categorical Units: Subjects			
In utero	0	0	0
Preterm newborn infants (gestational age < 37 wks)	0	0	0
Newborns (0-27 days)	0	0	0
Infants and toddlers (28 days-23 months)	0	0	0
Children (2-11 years)	0	0	0
Adolescents (12-17 years)	0	0	0
Adults (18-64 years)	77	77	154
From 65-84 years	0	0	0
85 years and over	0	0	0
Gender categorical Units: Subjects			
Female	77	77	154
Male	0	0	0

End points

End points reporting groups	
Reporting group title	ARM1
Reporting group description:	
Randomised to receive Repevax	
Reporting group title	ARM2
Reporting group description:	
Randomised to receive IPV-Boostrix	

Primary: Primary Immunological	
End point title	Primary Immunological
End point description:	
The geometric mean titres to Pertussis toxin in infants after primary immunisation to 4 pertussis antigens in infants of mothers who received repevax versus those who received Boostrix-IPV	
End point type	Primary
End point timeframe:	
3 to 6 weeks after vaccination	

End point values	ARM1	ARM2		
Subject group type	Reporting group	Reporting group		
Number of subjects analysed	65	62		
Units: Geometric Mean titres				
geometric mean (confidence interval 95%)	33.5 (28.89 to 38.96)	30.72 (26.32 to 35.84)		

Statistical analyses

Statistical analysis title	Pre Planned Analysis
Statistical analysis description:	
Comparison of GMTs in infants and mothers by vaccine group at different time points	
Comparison groups	ARM1 v ARM2
Number of subjects included in analysis	127
Analysis specification	Pre-specified
Analysis type	superiority[1]
P-value	< 5
Method	Kruskal-wallis

Notes:

[1] - . Geometric mean titres, concentrations and fold differences, as well as proportions above thresholds will also be calculated with 95% confidence intervals.

Adverse events

Adverse events information[1]

Timeframe for reporting adverse events:

Vaccination to last visit for blood sampling at 3-6 weeks post vaccination

Adverse event reporting additional description:

All SAEs will be reported to relevant research governance requirements

Assessment type	Non-systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	10

Reporting groups

Reporting group title	ARM1

Reporting group description:

Mothers receiving Repevax

Reporting group title	ARM2

Reporting group description:

Mothers receiving Boostrix

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: None systematically collected. only SAEs collected in this study

Serious adverse events	ARM1	ARM2	
Total subjects affected by serious adverse events			
subjects affected / exposed	2 / 77 (2.60%)	2 / 77 (2.60%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	
Pregnancy, puerperium and perinatal conditions			
ERCP			
subjects affected / exposed	1 / 77 (1.30%)	0 / 77 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	
PROM			
subjects affected / exposed	0 / 77 (0.00%)	1 / 77 (1.30%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	
Infections and infestations			
Pustular rash			
subjects affected / exposed	1 / 77 (1.30%)	0 / 77 (0.00%)	
occurrences causally related to treatment / all	0 / 1	0 / 0	
deaths causally related to treatment / all	0 / 0	0 / 0	

Infection			
subjects affected / exposed	0 / 77 (0.00%)	1 / 77 (1.30%)	
occurrences causally related to treatment / all	0 / 0	0 / 1	
deaths causally related to treatment / all	0 / 0	0 / 0	

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

Non-serious adverse events	ARM1	ARM2	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	0 / 77 (0.00%)	0 / 77 (0.00%)	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
14 August 2014	Correction of column headings in treatment table(section 6.2) Amendment of first infant blood sample, to be collected from 0-7 days Addition of polio testing in main protocol and appendices, as well as actions for extra vaccine doses on low antibody results
08 July 2015	Addition of Bexsero (Meningococcal group B vaccine) to vaccine schedule as per UK national immunisation schedule. Inclusion of possible testing of Men B responses if sufficient sera and funding
11 January 2016	Inclusion of option for home visits for vaccination as well as sample collection on p.28

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

Limitations of the trial such as small numbers of subjects analysed or technical problems leading to unreliable data.

NONE

Notes: