

## Suspected Adverse Reaction Analysis

### CERVARIX Human papillomavirus (HPV) vaccine

29 July 2010

This is the final routine report summarising the adverse reactions suspected to have been caused by Cervarix human papillomavirus (HPV) vaccine in the UK. This includes reports received between 14 April 2008 and 28 July 2010.

Since the start of the UK HPV immunisation programme in September 2008, MHRA has published these safety reports on a weekly basis. Now that the second school year of the HPV immunisation programme has come to a close, MHRA will cease production of weekly updates. Of course, as with all other vaccines used in the UK, the MHRA will continue to actively monitor the safety of HPV vaccine. However, from 30 July, updates on suspected adverse reaction reports will be provided on request only. These can be obtained by e-mailing [pharmacovigilance@mhra.gsi.gov.uk](mailto:pharmacovigilance@mhra.gsi.gov.uk).

Suspected adverse reaction reports have been voluntarily submitted to the MHRA by healthcare professionals and members of the public via the Yellow Card Scheme (visit [www.yellowcard.gov.uk](http://www.yellowcard.gov.uk)) and by the manufacturers of the vaccine as part of their legal requirements. It is essential to bear in mind that reports to the MHRA relate only to adverse medical events which the reporter considered could have been caused by the vaccine (i.e. if there was merely a **suspicion** of causality). Therefore, cases may be true side-effects or they may have been purely coincidental events due to underlying or undiagnosed illness that would have occurred anyway in the absence of vaccination. Events may also have been psychogenic<sup>1</sup> in origin. This report therefore cannot be considered to represent a list of known side-effects of the vaccine. These data also cannot be used to determine the frequency, or incidence, of known side-effects because they are often under-reported. The known side-effects, and their frequencies (based on clinical trial data), are available in the product information (see <http://emc.medicines.org.uk/>).

The reactions in this report have been broken down into 5 categories based on scientific assessment of individual cases by MHRA assessors: injection-site reactions; allergic reactions; 'psychogenic' events; other recognised reactions; and 'suspected adverse reactions not currently recognised' (reactions in this latter category are divided into the high-level classification of System Organ Class)<sup>2</sup>. The same event term may appear in more than one category (e.g. 'rash' may be associated with injection site, allergic or unrecognised suspected reactions and 'psychogenic' events). However, an event from a single report will appear in only one category.

A single report may contain more than one reaction, more than one sign or symptom of a single reaction or different reactions in more than one of the above categories. Therefore the total number of listed reactions is greater than the total number of reports and total reports in each of the 5 tables should not be added together.

#### Headline summary:

**The vast majority of suspected adverse reactions reported to MHRA in association with Cervarix vaccine continue to be related to either the signs and symptoms of recognised side effects listed in the product information or to the injection process and not the vaccine itself (i.e. 'psychogenic' in nature such as faints).**

**For the isolated cases of other medical conditions reported, the available evidence does not suggest that the vaccine caused the condition and these may have been coincidental events.**

**Following administration of at least 4 million doses across the UK since September 2008, the balance of risks and benefits of Cervarix remains positive.**

<sup>1</sup> For this analysis, defined as non-allergic events which occurred within minutes of, or soon after, vaccination and were most likely a psychogenic response to, or anticipation of, the injection. These are not side effects to the vaccine as such and can occur with any needle injection procedure.

<sup>2</sup>Using MedDRA terminology

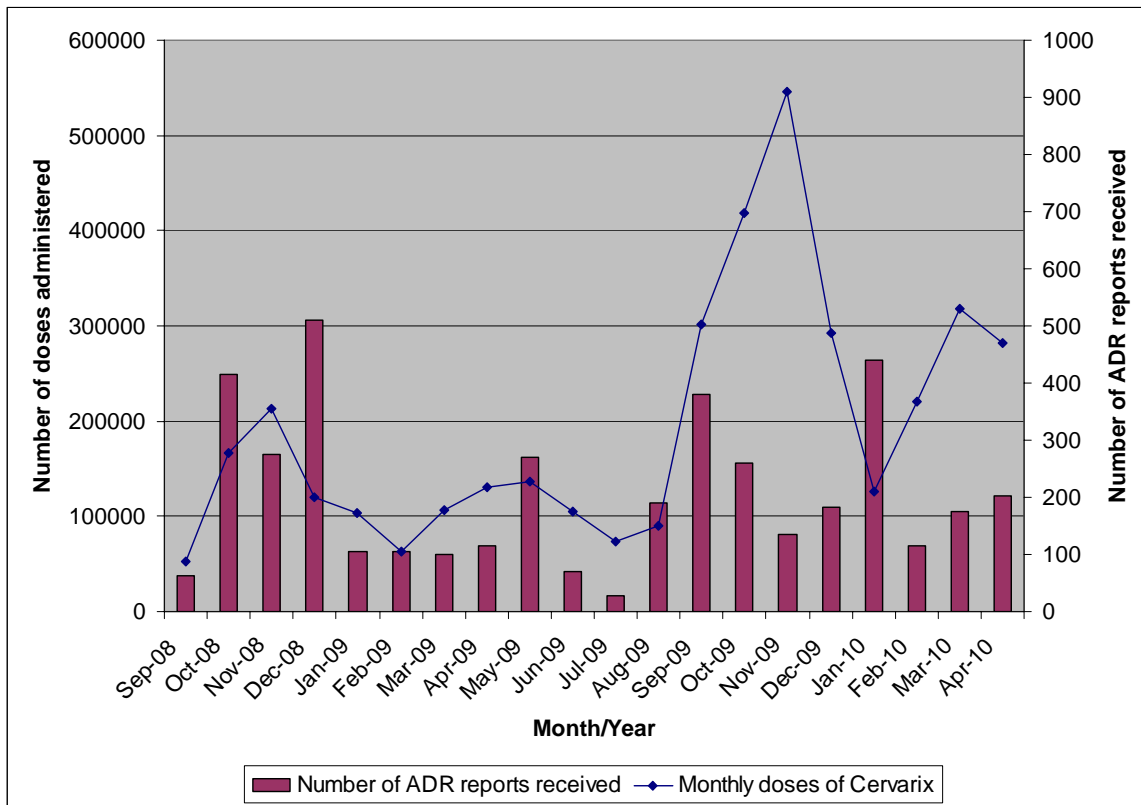
## SUMMARY OF UK SAFETY EXPERIENCE

Total number of reports received: 4,445

Total number of suspected reactions: 9,673

Estimated number of doses administered across the UK: at least 4 million doses<sup>3</sup>

Graph: Number of suspected ADR reports received relative to doses administered per month



As can be seen from the above graph, peaks in the number of suspected ADR reports received broadly correlate with the timing of the recommended immunisation schedule (i.e. 0, 1-2 months and 6 months from Sep/Oct). Vaccine exposure in the 2<sup>nd</sup> year is increased due to immunisation of the additional catch-up groups in England. As expected, the number of suspected ADR reports received during the 2<sup>nd</sup> year of the programme are reduced relative to the marked increase in exposure.

<sup>3</sup> Based on UK-wide vaccine uptake data up to April 2010. As the Yellow Card data are up to the present date, the available uptake data should not be used to derive adverse reaction reporting rates (as this will result in an over-estimation)

## A. Injection-site reactions

Injection-site reactions including redness, pain and swelling are recognised side-effects of Cervarix vaccine and are listed in the product information. These may occur at a frequency<sup>4</sup> of more than 1 in 10 persons vaccinated. The reported cases of 'Pain in extremity' mainly relate to a sore arm.

The cases reported to the MHRA during use of the vaccine in the UK do not indicate any change in the severity or nature of injection-site reactions.

Reported event (Preferred Term <sup>2</sup> )	Number of cases
Pain in extremity	485
Injection site swelling	113
Oedema peripheral	109
Limb discomfort	106
Hypoaesthesia	105
Injection site erythema	85
Injection site pain	81
Erythema	45
Paraesthesia	37
Skin discolouration	33
Injection site rash	32
Injection site mass	29
Injection site reaction	26
Pain	23
Contusion	21
Musculoskeletal stiffness	21
Peripheral coldness	20
Local reaction	19
Injection site inflammation	18
Injection site warmth	18
Local swelling	15
Sensation of heaviness	15
Injection site haematoma	12
Injection site pruritus	11
Rash macular	10
Feeling cold	8
Injection site induration	8
Injection site nodule	8
Livedo reticularis	8
Swelling	8
Injection site anaesthesia	6
Muscular weakness	6
Myalgia	6
Neck pain	6
Rash	6
Feeling hot	5
Pruritus	5
Cyanosis	4
Feeling abnormal	4
Injection site infection	4
Pallor	4
Sensory disturbance	4
Tenderness	4
Asthenia	3

<sup>4</sup> Based on clinical trial data

Inflammation	3
Injection site discharge	3
Injection site discolouration	3
Injection site irritation	3
Injection site urticaria	3
Injection site vesicles	3
Limb immobilisation	3
Musculoskeletal pain	3
Poor peripheral circulation	3
Sensory loss	3
Skin warm	3
Dry skin	2
Grip strength decreased	2
Injected limb mobility decreased	2
Injection site cellulitis	2
Skin reaction	2
Blister	1
Complex regional pain syndrome	1
Extensive swelling of vaccinated limb	1
Hyperaesthesia	1
Hypokinesia	1
Immobile	1
Impetigo	1
Injection site abscess	1
Injection site coldness	1
Injection site discomfort	1
Injection site haemorrhage	1
Injection site joint movement impairment	1
Injection site joint pain	1
Injection site movement impairment	1
Injection site papule	1
Injection site paraesthesia	1
Injection site scab	1
Joint swelling	1
Muscle spasms	1
Muscle tightness	1
Nausea	1
Nodule	1
Pain of skin	1
Peripheral vascular disorder	1
Rash maculo-papular	1
Rash pruritic	1
Scab	1
Sensation of pressure	1
Tremor	1
Urticaria	1
Total reactions	<b>1669</b>
Total reports	<b>1155</b>

**B. Allergic reactions (including skin reactions not directly related to an injection-site reaction)**

Allergic reactions are recognised side-effect of Cervarix vaccine and are listed in the product information. These may occur at a frequency<sup>4</sup> between 1 in 10 persons (for non-serious types of allergic reaction such as rash and itching) to less than 1 in 10,000 persons vaccinated. Severe allergic reactions are very rare.

The cases reported to the MHRA during use of the vaccine in the UK do not indicate any change in the severity or nature of allergic reactions.

Reported event (Preferred Term <sup>2</sup> )	Number of cases
Rash	130
Urticaria	89
Pruritus	60
Erythema	47
Swelling face	42
Anaphylactic reaction	41
Dyspnoea	33
Rash generalised	31
Rash pruritic	31
Oedema peripheral	29
Lip swelling	26
Rash macular	24
Dizziness	23
Hypersensitivity	22
Eye swelling	18
Paraesthesia oral	17
Malaise	15
Throat tightness	14
Swollen tongue	13
Chest discomfort	11
Rash erythematous	11
Feeling hot	9
Flushing	9
Pruritus generalised	9
Dermatitis allergic	8
Pallor	8
Pharyngeal oedema	8
Fatigue	7
Oropharyngeal pain	7
Paraesthesia	7
Angioedema	6
Dysphagia	6
Headache	6
Inflammation	6
Pyrexia	6
Throat irritation	6
Blister	5
Hyperventilation	5
Hypoaesthesia oral	5
Vomiting	5
Wheezing	5
Anaphylactic shock	4
Hypoaesthesia	4
Local swelling	4

Nausea	4
Pain in extremity	4
Eyelid oedema	3
Eye pruritus	3
Hyperhidrosis	3
Laryngeal oedema	3
Limb discomfort	3
Nasopharyngitis	3
Ocular hyperaemia	3
Pain	3
Petechiae	3
Rash maculo-papular	3
Skin irritation	3
Skin reaction	3
Somnolence	3
Swelling	3
Vision blurred	3
Abdominal pain	2
Abdominal pain upper	2
Body temperature increased	2
Cold sweat	2
Dermatitis contact	2
Face oedema	2
Feeling cold	2
Heart rate increased	2
Heart rate irregular	2
Peripheral coldness	2
Skin discolouration	2
Skin disorder	2
Tachycardia	2
Type i hypersensitivity	2
Anaphylactoid reaction	1
Asthenia	1
Asthenopia	1
Asthma	1
Back pain	1
Breath sounds abnormal	1
Bronchospasm	1
Chest pain	1
Chills	1
Condition aggravated	1
Confusional state	1
Conjunctival hyperaemia	1
Convulsion	1
Cough	1
Dermatitis	1
Dry throat	1
Eczema	1
Eyelid disorder	1
Eyes sunken	1
Feeling abnormal	1
Feeling jittery	1
Generalised erythema	1
Gingival swelling	1
Hypersomnia	1
Hypertension	1

Hypoventilation	1
Increased bronchial secretion	1
Infusion site swelling	1
Lip blister	1
Lip ulceration	1
Local reaction	1
Loss of consciousness	1
Migraine	1
Muscle tightness	1
Musculoskeletal stiffness	1
Mydriasis	1
Neck pain	1
Oedema mouth	1
Oesophageal discomfort	1
Oral discomfort	1
Oral pain	1
Palpitations	1
Panic reaction	1
Periorbital oedema	1
Photophobia	1
Piloerection	1
Pulse absent	1
Purpura	1
Rash follicular	1
Rash papular	1
Respiratory rate increased	1
Sensation of foreign body	1
Sneezing	1
Speech disorder	1
Syncope	1
Systemic lupus erythematosus rash	1
Tenderness	1
Thirst	1
Tremor	1
Visual impairment	1
Total reactions	<b>1013</b>
Total reports	<b>511</b>

### C. 'Psychogenic' events

Psychogenic events including vasovagal syncope, faints and panic attacks can occur with any injection procedure, not just vaccination, and can be common in adolescents. These are due to fear and/or anticipation of the needle injection and are **not side-effects of Cervarix vaccine** as such. Such events can be associated with a wide range of temporary signs and symptoms including loss of consciousness, vision disturbance, injury, limb jerking (often misinterpreted as a seizure/convulsion), limb numbness or tingling, difficulty in breathing, hyperventilation etc.

The events in the list below were considered 'psychogenic' in nature based on MHRA assessment of the individual case details reported. The reported cases which do not refer specifically to vasovagal syncope, faint or panic attack (e.g. convulsion, transient blindness which refers to temporary loss of vision at the start of a faint) were concurrently reported as signs or symptom of the psychogenic event; **i.e. these also were not side-effects of the vaccine itself.**

Reported event (Preferred Term <sup>2</sup> )	Number of cases
Dizziness	327
Syncope	296
Nausea	151
Headache	109
Pallor	108
Vomiting	77
Malaise	74
Tremor	61
Vision blurred	46
Feeling hot	45
Flushing	40
Cold sweat	35
Hyperhidrosis	25
Presyncope	23
Hyperventilation	21
Loss of consciousness	19
Dyspnoea	18
Paraesthesia	18
Chills	17
Convulsion	17
Pyrexia	16
Somnolence	16
Fatigue	15
Heart rate increased	14
Unresponsive to stimuli	14
Muscle twitching	13
Rash	13
Asthenia	12
Feeling cold	12
Hypoaesthesia	12
Panic attack	12
Chest discomfort	11
Dyskinesia	11
Eye rolling	11
Tachycardia	11
Tearfulness	11
Nervousness	10
Erythema	9
Rash macular	9
Abdominal pain	8



Chest pain	8
Peripheral coldness	8
Abdominal pain upper	7
Anxiety	7
Fall	7
Hypotension	7
Lethargy	7
Muscular weakness	7
Photophobia	7
Visual impairment	7
Confusional state	6
Deafness	6
Feeling of body temperature change	6
Muscle rigidity	6
Musculoskeletal stiffness	6
Mydriasis	6
Nasopharyngitis	6
Throat tightness	6
Dizziness postural	5
Dysgeusia	5
Feeling abnormal	5
Skin discolouration	5
Urticaria	5
Abdominal discomfort	4
Blindness transient	4
Body temperature increased	4
Decreased appetite	4
Hot flush	4
Migraine	4
Muscle spasms	4
Pulse abnormal	4
Respiratory rate increased	4
Tinnitus	4
Urinary incontinence	4
Abasia	3
Agitation	3
Balance disorder	3
Blindness	3
Blood pressure decreased	3
Cyanosis	3
Disorientation	3
Disturbance in attention	3
Dysstasia	3
Emotional disorder	3
Feeling drunk	3
Hearing impaired	3
Heart rate irregular	3
Hypoventilation	3
Pain	3
Pain in extremity	3
Panic reaction	3
Sensory loss	3
Throat irritation	3
Vertigo	3
Amnesia	2
Body temperature decreased	2

Bradycardia	2
Circulatory collapse	2
Colour blindness acquired	2
Consciousness fluctuating	2
Diplopia	2
Dry mouth	2
Dry throat	2
Dysarthria	2
Dysphagia	2
Emotional distress	2
Heart rate decreased	2
Hypertension	2
Hypoacusis	2
Myalgia	2
Neck pain	2
Oropharyngeal pain	2
Paraesthesia oral	2
Procedural dizziness	2
Pruritus	2
Pulse pressure decreased	2
Pupil fixed	2
Rash generalised	2
Retching	2
Salivary hypersecretion	2
Shock	2
Abdominal distension	1
Abnormal behaviour	1
Altered state of consciousness	1
Aphasia	1
Asthma	1
Blood pressure increased	1
Blood pressure systolic decreased	1
Bruxism	1
Burning sensation	1
Condition aggravated	1
Cough	1
Deafness transitory	1
Depressed level of consciousness	1
Discomfort	1
Dissociation	1
Ear discomfort	1
Ear pain	1
Epistaxis	1
Eyelid oedema	1
Eye pain	1
Face injury	1
Facial spasm	1
Fear	1
Feeling of despair	1
Foaming at mouth	1
Gait disturbance	1
Grand mal convulsion	1
Grip strength decreased	1
Head banging	1
Head discomfort	1
Heat rash	1

Hemiparesis	1
Hypersomnia	1
Hypoaesthesia facial	1
Hypokinesia	1
Hypotonia	1
Incontinence	1
Lip swelling	1
Livedo reticularis	1
Muscle contracture	1
Myoclonus	1
Nervous system disorder	1
Oral discomfort	1
Palpitations	1
Peripheral circulatory failure	1
Pharyngeal oedema	1
Poor peripheral circulation	1
Psychomotor hyperactivity	1
Respiratory arrest	1
Respiratory rate decreased	1
Seizure anoxic	1
Sensation of heaviness	1
Sinus tachycardia	1
Sleep attacks	1
Sudden onset of sleep	1
Tachypnoea	1
Total reactions	<b>2126</b>
Total reports	<b>846</b>

#### D. 'Other recognised' reactions

This section includes other events recognised to be side-effects of Cervarix vaccine and not already included in sections A and B above. This also includes signs and symptoms of recognised side effects. The frequencies, where known, are listed in the product information.

The cases reported to the MHRA during use of the vaccine in the UK so far do not indicate any change in the severity or nature of these reactions.

Reported event (Preferred Term <sup>2</sup> )	Number of cases
Nausea	631
Headache	629
Dizziness	625
Vomiting	260
Malaise	220
Fatigue	216
Pyrexia	175
Abdominal pain	69
Diarrhoea	55
Abdominal pain upper	54
Myalgia	49
Lethargy	48
Feeling hot	43
Body temperature increased	36
Pain	34

Influenza like illness	28
Oropharyngeal pain	28
Arthralgia	25
Pallor	22
Somnolence	22
Asthenia	21
Chills	21
Pain in extremity	21
Rash	21
Lymphadenopathy	18
Abdominal discomfort	15
Flushing	14
Paraesthesia	14
Tremor	12
Pruritus	11
Decreased appetite	10
Neck pain	8
Feeling cold	7
Back pain	6
Cough	6
Hyperhidrosis	6
Hypoaesthesia	6
Musculoskeletal stiffness	6
Nasopharyngitis	6
Erythema	4
Feeling of body temperature change	4
Migraine	4
Nervousness	4
Lower respiratory tract infection	3
Muscle fatigue	3
Muscular weakness	3
Rash generalised	3
Cold sweat	2
Feeling abnormal	2
Gait disturbance	2
Head discomfort	2
Hot flush	2
Joint swelling	2
Listless	2
Local reaction	2
Nasal congestion	2
Pruritus generalised	2
Rash macular	2
Skin warm	2
Throat irritation	2
Abdominal pain lower	1
Axillary mass	1
Bedridden	1
Body temperature	1
Body temperature fluctuation	1
Dyspnoea	1
Generalised erythema	1
Groin pain	1
Hypotension	1
Ill-defined disorder	1
Immunisation reaction	1

Induration	1
Insomnia	1
Limb discomfort	1
Local swelling	1
Loss of consciousness	1
Mobility decreased	1
Muscle spasms	1
Muscle twitching	1
Musculoskeletal chest pain	1
Musculoskeletal discomfort	1
Musculoskeletal pain	1
Night sweats	1
Peripheral coldness	1
Pharyngitis	1
Rash erythematous	1
Respiratory disorder	1
Restlessness	1
Rhinorrhoea	1
Sensation of heaviness	1
Sudden onset of sleep	1
Swelling	1
Swelling face	1
Syncope	1
Thirst	1
Throat tightness	1
Upper respiratory tract infection	1
Urticaria	1
Weight decreased	1
<b>Total reactions</b>	<b>3591</b>
<b>Total reports</b>	<b>1963</b>

#### **E. Suspected adverse reactions not currently recognised**

This section includes reports which, based on MHRA assessment of the case details provided, do not fit into one of the above 4 categories.

These suspected ADRs are not currently recognised as side effects of Cervarix vaccine and the available evidence does not suggest a causal link with the vaccine. These are isolated medical events which may have been coincidental with vaccination. These reports are continually assessed by the MHRA.

Guillain Barre Syndrome (GBS) naturally occurs in the population and is usually thought to be caused by a preceding infectious illness. At least 4 million doses of Cervarix have been given to girls and there is no evidence that the vaccine has increased the frequency of GBS above that expected to occur naturally in the population.

Encephalitis naturally occurs in the population and it is most often caused by a preceding viral infection. The four cases of encephalitis reported so far, amongst the number of girls immunised, do not exceed the numbers normally expected in the absence of vaccination. There is therefore no suggestion at present that the vaccine can cause encephalitis.

Chronic fatigue syndrome (CFS) is not an uncommon condition amongst adolescents and rates are greater in females than in males. Given that at least 4 million doses of Cervarix have now been given in the UK, it is inevitable that conditions such as CFS will occur not long after vaccination regardless of any causal association with the vaccine.

MHRA has conducted an analysis of reported cases of CFS compared to the normal background frequency. This analysis shows that amongst the population of 12-13 yr old girls immunised so far in the UK, we would have expected to observe more than 100 new cases of CFS already, regardless of vaccination. We would also expect to have seen many more cases of chronic fatigue-like syndrome that have not necessarily met the diagnostic criteria for CFS amongst this population.

The Government's independent expert advisory Committee on vaccines and medicines safety, the Commission on Human Medicines (CHM), recently reviewed the cases of CFS, post-viral fatigue syndrome and cases that could possibly represent a chronic fatigue-like syndrome. They advised that the available evidence does not support a causal association between Cervarix vaccine and CFS, and the balance of risks and benefits of Cervarix remains positive. Cases of possible CFS will remain under close and continual review by the MHRA.

System Organ Class	Reported event (Preferred Term <sup>2</sup> )	Number of cases
Blood and lymphatic system disorders	Anaemia	1
	Aplastic anaemia	1
	Eosinophilia	1
	Haemolytic uraemic syndrome	1
	Neutropenia	1
	Pancytopenia	1
Cardiac disorders	Cardiac arrest	1
	Cyanosis	4
	Palpitations	6
	Sinus tachycardia	1
	Tachycardia	2
Congenital, familial and genetic disorders	Arteriovenous malformation	1
	Cerebral palsy	1
	Cleft palate	1
	Heart disease congenital	1
	Hypospadias	1
	Limb malformation	1
	Pilonidal cyst congenital	2
Ear and labyrinth disorders	Deafness	1
	Deafness bilateral	1
	Ear discomfort	1
	Ear pain	6
	Hypoacusis	1
	Tinnitus	1
	Vertigo	2
Endocrine disorders	Adrenocortical insufficiency acute	1
Eye disorders	Accommodation disorder	1
	Blindness unilateral	1
	Conjunctival hyperaemia	1
	Dark circles under eyes	1
	Diplopia	2
	Dry eye	1
	Excessive eye blinking	1
	Eye disorder	1
	Eyelid oedema	1
	Eye pain	2
	Eye swelling	1
	Gaze palsy	1

	Mydriasis	3
	Photophobia	7
	Vision blurred	8
	Visual impairment	6
	Vitreous floaters	1
Gastrointestinal disorders	Abdominal discomfort	1
	Abdominal pain	10
	Abdominal pain lower	1
	Abdominal pain upper	2
	Abnormal faeces	1
	Colitis	1
	Colitis ulcerative	1
	Constipation	1
	Diarrhoea	7
	Diarrhoea haemorrhagic	1
	Flatulence	1
	Frequent bowel movements	1
	Gastrointestinal disorder	1
	Hypoaesthesia oral	1
	Intestinal functional disorder	1
	Irritable bowel syndrome	1
	Lip blister	1
	Lip swelling	1
	Mouth ulceration	3
	Nausea	24
	Paraesthesia oral	2
	Swollen tongue	1
	Vomiting	17
General disorders and administration site conditions	Abasia	5
	Asthenia	11
	Axillary pain	1
	Chest discomfort	9
	Chest pain	17
	Chills	4
	Chronic fatigue syndrome	4
	Condition aggravated	4
	Fatigue	18
	Feeling abnormal	3
	Feeling cold	7
	Feeling hot	4
	Gait disturbance	2
	Hyperpyrexia	1
	Inflammation	1
	Influenza like illness	32
	Injection site erythema	1
	Injection site swelling	1
	Local swelling	2
	Malaise	19
	Oedema peripheral	5
	Pain	16
	Pyrexia	18
	Sensation of foreign body	1
	Sensation of pressure	1
	Swelling	1

	Systemic inflammatory response syndrome	1
Hepatobiliary disorders	Jaundice	1
Immune system disorders	Hypersensitivity	1
Infections and infestations	Abscess	1
	Acarodermatitis	1
	Anogenital warts	1
	Application site pustules	1
	Beta haemolytic streptococcal infection	1
	Bronchitis	1
	Folliculitis	1
	Furuncle	1
	Hepatitis viral	1
	Herpes zoster	2
	Hordeolum	2
	Infectious mononucleosis	3
	Influenza	2
	Kidney infection	1
	Laryngitis	1
	Lower respiratory tract infection	6
	Molluscum contagiosum	1
	Nasopharyngitis	4
	Otitis media	1
	Pharyngitis	2
	Pneumonia viral	1
	Post viral fatigue syndrome	6
	Respiratory syncytial virus infection	1
	Respiratory tract infection	1
	Sepsis	1
	Severe acute respiratory syndrome	1
	Staphylococcal infection	1
	Streptococcal sepsis	1
	Urinary tract infection	2
	Varicella	1
	Viraemia	1
Viral infection	7	
Injury, poisoning and procedural complications	Contusion	4
	Drug exposure before pregnancy	2
	Drug exposure during pregnancy	18
	Fall	1
	Inappropriate schedule of drug administration	1
	Incorrect dose administered	1
	Wrong technique in drug usage process	1
Investigations	Alanine aminotransferase increased	1
	Blood cortisol decreased	1
	Blood glucose increased	4



	Blood pressure decreased	1
	Blood pressure increased	1
	Body temperature increased	2
	Cell marker increased	1
	Csf cell count increased	1
	Heart rate decreased	1
	Neutrophil count decreased	1
	Peak expiratory flow rate decreased	1
	Platelet count decreased	1
	Radial pulse	1
	Respiratory rate increased	1
	Weight decreased	5
	Weight increased	2
Metabolism and nutrition disorders	Decreased appetite	8
	Dehydration	2
	Diabetes mellitus inadequate control	1
	Diabetic ketoacidosis	1
	Hypoglycaemia	1
	Increased appetite	1
	Type 1 diabetes mellitus	1
Musculoskeletal and connective tissue disorders	Arthralgia	20
	Arthritis	1
	Arthritis reactive	1
	Arthropathy	1
	Back pain	15
	Bone pain	1
	Flank pain	1
	Groin pain	2
	Joint stiffness	1
	Joint swelling	2
	Mobility decreased	2
	Muscle rigidity	1
	Muscle spasms	2
	Muscle twitching	3
	Muscular weakness	12
	Musculoskeletal chest pain	1
	Musculoskeletal pain	2
	Musculoskeletal stiffness	6
	Myalgia	10
	Neck pain	6
	Osteitis	1
	Pain in extremity	27
	Palindromic rheumatism	1
	Rheumatoid arthritis	2
Sensation of heaviness	5	
Weight bearing difficulty	1	
Neoplasms benign, malignant and unspecified (incl cysts and polyps)	Acute myeloid leukaemia	1
	Benign hydatidiform mole	1
	Neoplasm malignant	1

Nervous system disorders	Aphasia	1
	Aphonia	3
	Areflexia	1
	Ataxia	1
	Balance disorder	2
	Burning sensation	1
	Complex regional pain syndrome	2
	Convulsion	28
	Coordination abnormal	1
	Crying	2
	Depressed level of consciousness	1
	Diplegia	2
	Disturbance in attention	2
	Dizziness	29
	Dizziness postural	1
	Drooling	2
	Dysarthria	6
	Dysgeusia	2
	Dyskinesia	5
	Dysstasia	5
	Encephalitis	4
	Epilepsy	6
	Facial palsy	5
	Facial paresis	2
	Grand mal convulsion	5
	Guillain-barre syndrome	4
	Headache	47
	Head discomfort	3
	Hemiparesis	3
	Hypertonia	1
	Hypoaesthesia	29
	Hypokinesia	2
	Ivth nerve paralysis	1
	Lethargy	19
	Loss of consciousness	11
	Meningism	1
	Migraine	16
	Migraine with aura	1
	Monoplegia	1
	Myoclonic epilepsy	1
	Optic neuritis	2
	Paraesthesia	20
	Paralysis	1
	Petit mal epilepsy	2
	Presyncope	1
	Psychomotor hyperactivity	1
	Radiculitis brachial	1
Sedation	1	
Sensory disturbance	6	
Sensory loss	3	
Somnolence	14	
Speech disorder	1	
Status epilepticus	1	
Syncope	35	

	Tremor	14
	Unresponsive to stimuli	3
	Visual field defect	3
Pregnancy, puerperium and perinatal conditions	Abortion spontaneous	11
	Live birth	3
	Pregnancy with injectable contraceptive	1
	Premature baby	3
Psychiatric disorders	Abnormal behaviour	2
	Abnormal sleep-related event	1
	Acute psychosis	1
	Aggression	1
	Anxiety	4
	Confusional state	4
	Decreased interest	1
	Depressed mood	2
	Depression	1
	Depressive symptom	1
	Disorientation	3
	Dysphemia	1
	Eating disorder	1
	Emotional disorder	2
	Emotional distress	1
	Fear	1
	Hallucination	6
	Hallucination, auditory	1
	Hallucination, visual	1
	Hypomania	1
	Insomnia	6
	Paranoia	1
	Psychiatric symptom	1
	Psychotic disorder	1
	Screaming	1
	Sleep disorder	2
	Somatisation disorder	1
Tearfulness	3	
Renal and urinary disorders	Neurogenic bladder	1
	Pollakiuria	1
	Renal failure	1
	Urinary incontinence	2
	Urinary retention	2
Reproductive system and breast disorders	Amenorrhoea	9
	Breast pain	1
	Breast swelling	1
	Breast tenderness	1
	Cervix inflammation	1
	Dysmenorrhoea	4
	Menorrhagia	4
	Menstrual disorder	2
	Menstruation delayed	3
	Menstruation irregular	5
	Metrorrhagia	1
	Vaginal discharge	1
	Vaginal haemorrhage	7
Vaginal lesion	1	

	Vulval ulceration	2
Respiratory, thoracic and mediastinal disorders	Acute respiratory failure	1
	Asthma	7
	Cough	8
	Dyspnoea	19
	Epistaxis	8
	Haemoptysis	2
	Hyperventilation	2
	Hypoventilation	1
	Increased upper airway secretion	1
	Oropharyngeal blistering	1
	Oropharyngeal pain	10
	Productive cough	1
	Rhinorrhoea	2
	Throat tightness	1
	Upper airway obstruction	1
	Wheezing	4
Skin and subcutaneous tissue disorders	Acne	1
	Alopecia	8
	Alopecia areata	2
	Angioedema	2
	Blister	4
	Cold sweat	1
	Dermatitis allergic	1
	Eczema	5
	Eczema vesicular	1
	Erythema	4
	Erythema multiforme	5
	Guttate psoriasis	1
	Henoch-schonlein purpura	1
	Hyperhidrosis	3
	Hypoaesthesia facial	7
	Livedo reticularis	2
	Photosensitivity reaction	2
	Psoriasis	1
	Rash	4
	Rash generalised	2
	Rash maculo-papular	1
	Rash vesicular	1
	Skin discolouration	4
	Skin exfoliation	2
	Skin hypertrophy	1
	Skin irritation	1
	Skin lesion	1
	Stevens-johnson syndrome	1
	Swelling face	2
	Trichorrhexis	1
Urticaria	3	
Urticaria chronic	3	
Yellow skin	1	
Surgical and medical procedures	Abortion induced	3
Vascular disorders	Circulatory collapse	2

	Deep vein thrombosis	1
	Flushing	1
	Haemorrhage	2
	Hot flush	2
	Hypotension	4
	Pallor	5
	Peripheral coldness	9
Total reactions		<b>1274</b>
Total reports		<b>648</b>

In relation to safety in pregnancy, during pre-licensing studies of Cervarix it was found that almost 3,696 women became pregnant before or after receiving the vaccine. The overall rates of spontaneous abortion in these clinical trials were no greater than the background rates in the general population (i.e. regardless of vaccination). There is currently no evidence to suggest that Cervarix vaccine carries any risks during pregnancy. Nonetheless, Cervarix is not recommended for use in pregnancy.