

Appendix

Appendix 1: Key CPRD GOLD variables

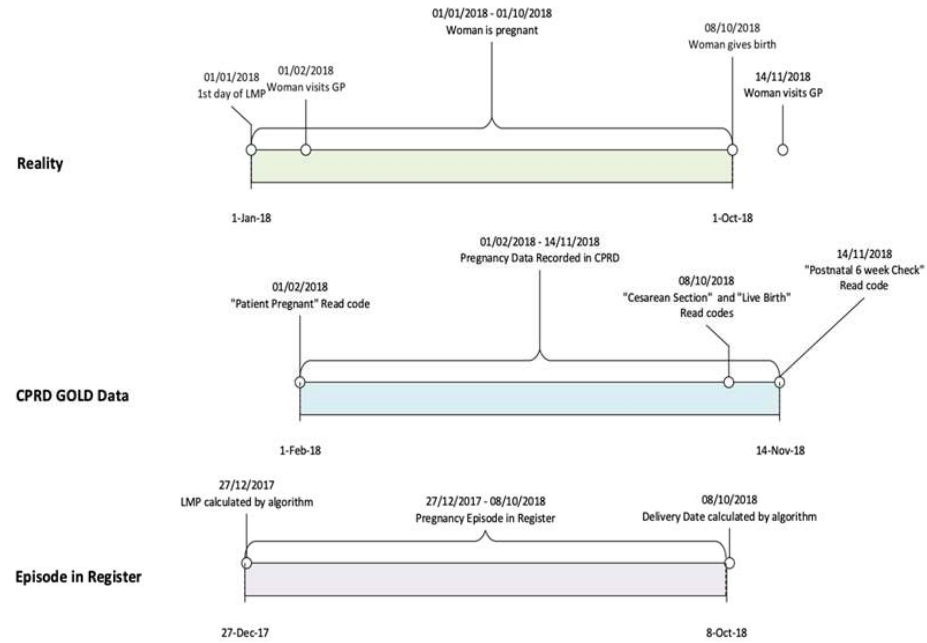
<i>Column name</i>	<i>Field name</i>	<i>Description</i>
Last Collection Date	lcd	Date of the last collection for the practice
Up to Standard Date	uts	Date at which the practice data is deemed to be of research quality. Derived using a CPRD algorithm that primarily looks at practice death recording and gaps in the data
First Registration Date	frd	Date the patient first registered with the practice.
Current Registration Date	crd	Date the patient's current period of registration with the practice began.
Transfer Out Date	tod	Date the patient transferred out of the practice, if relevant. Empty for patients who have not transferred out
Death Date	deathdate	Patient's date of death – derived using a CPRD algorithm
Acceptable Patient Flag	accept	Flag to indicate whether the patient has met certain quality standards: 1 = acceptable, 0 = unacceptable
Event Date	eventdate	Date associated with the event, as entered by the GP

System Date	sysdate	The date on which information was entered on to the GP software system (generated automatically)
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Appendix 2: CPRD Pregnancy Register Variables

<i>Field name</i>	<i>Description</i>
Patid	Encrypted unique patient identifier
Pregid	Unique identifier of the pregnancy episode
Mblbabies	Number of babies the pregnancy is linked to in the MBL
babypatid ¹	Encrypted unique patient identifier (linked baby)
babymob	Baby's month of birth as recorded in the baby's medical record
babyyob	Baby's year of birth as recorded in the baby's medical record
totalpregs	Total number of identified pregnancy episodes (per woman)
pregnumber	Pregnancy episode number (per woman)
pregstart	Estimated start date of pregnancy
firstantenatal	Date of earliest antenatal record within the pregnancy

Appendix 3 Example of how a pregnancy may appear in the Register vs GOLD data vs reality



Appendix 4: ICD codes indicating end of pregnancy

O00	Ectopic pregnancy	
O00.0	Abdominal pregnancy	
O00.1	Tubal pregnancy	
O00.2	Ovarian pregnancy	
O00.8	Other ectopic pregnancy	
O00.9	Ectopic pregnancy, unspecified	
O01	Hydatidiform mole	
O01.0	Classical hydatidiform mole	
O01.1	Incomplete and partial hydatidiform mole	
O01.9	Hydatidiform mole, unspecified	
O02	Other abnormal products of conception	
O02.0	Blighted ovum and nonhydatidiform mole	
O02.1	Missed abortion	
O02.8	Other specified abnormal products of conception	
O02.9	Abnormal product of conception, unspecified	
O03	Spontaneous abortion	
O03.0	Spontaneous abortion	Incomplete, complicated by genital tract and pelvic infection
O03.1	Spontaneous abortion	Incomplete, complicated by delayed or excessive haemorrhage
O03.2	Spontaneous abortion	Incomplete, complicated by embolism
O03.3	Spontaneous abortion	Incomplete, with other and unspecified complications
O03.4	Spontaneous abortion	Incomplete, without complication
O03.5	Spontaneous abortion	Complete or unspecified, complicated by genital tract and pelvic infection
O03.6	Spontaneous abortion	Complete or unspecified, complicated by delayed or excessive haemorrhage
O03.7	Spontaneous abortion	Complete or unspecified, complicated by embolism
O03.8	Spontaneous abortion	Complete or unspecified, with other and unspecified complications
O03.9	Spontaneous abortion	Complete or unspecified, without complication

O04	Medical abortion	
O04.0	Medical abortion	Incomplete, complicated by genital tract and pelvic infection
O04.1	Medical abortion	Incomplete, complicated by delayed or excessive haemorrhage
O04.2	Medical abortion	Incomplete, complicated by embolism
O04.3	Medical abortion	Incomplete, with other and unspecified complications
O04.4	Medical abortion	Incomplete, without complication
O04.5	Medical abortion	Complete or unspecified, complicated by genital tract and pelvic infection
O04.6	Medical abortion	Complete or unspecified, complicated by delayed or excessive haemorrhage
O04.7	Medical abortion	Complete or unspecified, complicated by embolism
O04.8	Medical abortion	Complete or unspecified, with other and unspecified complications
O04.9	Medical abortion	Complete or unspecified, without complication
O05	Other abortion	
O05.0	Other abortion	Incomplete, complicated by genital tract and pelvic infection
O05.1	Other abortion	Incomplete, complicated by delayed or excessive haemorrhage
O05.2	Other abortion	Incomplete, complicated by embolism
O05.3	Other abortion	Incomplete, with other and unspecified complications
O05.4	Other abortion	Incomplete, without complication
O05.5	Other abortion	Complete or unspecified, complicated by genital tract and pelvic infection
O05.6	Other abortion	Complete or unspecified, complicated by delayed or excessive haemorrhage
O05.7	Other abortion	Complete or unspecified, complicated by embolism
O05.8	Other abortion	Complete or unspecified, with other and unspecified complications
O05.9	Other abortion	Complete or unspecified, without complication
O06	Unspecified abortion	
O06.0	Unspecified abortion	Incomplete, complicated by genital tract and pelvic infection
O06.1	Unspecified abortion	Incomplete, complicated by delayed or excessive haemorrhage
O06.2	Unspecified abortion	Incomplete, complicated by embolism
O06.3	Unspecified abortion	Incomplete, with other and unspecified complications

O06.4	Unspecified abortion	Incomplete, without complication
O06.5	Unspecified abortion	Complete or unspecified, complicated by genital tract and pelvic infection
O06.6	Unspecified abortion	Complete or unspecified, complicated by delayed or excessive haemorrhage
O06.7	Unspecified abortion	Complete or unspecified, complicated by embolism
O06.8	Unspecified abortion	Complete or unspecified, with other and unspecified complications
O06.9	Unspecified abortion	Complete or unspecified, without complication
O07	Failed attempted abortion	
O07.0	Failed medical abortion, complicated by genital tract and pelvic infection	
O07.1	Failed medical abortion, complicated by delayed or excessive haemorrhage	
O07.2	Failed medical abortion, complicated by embolism	
O07.3	Failed medical abortion, with other and unspecified complications	
O07.4	Failed medical abortion, without complication	
O07.5	Other and unspecified failed attempted abortion, complicated by genital tract and pelvic infection	
O07.6	Other and unspecified failed attempted abortion, complicated by delayed or excessive haemorrhage	
O07.7	Other and unspecified failed attempted abortion, complicated by embolism	
O07.8	Other and unspecified failed attempted abortion, with other and unspecified complications	
O07.9	Other and unspecified failed attempted abortion, without complication	
O08	Complications following abortion and ectopic and molar pregnancy	
O08.0	Genital tract and pelvic infection following abortion and ectopic and molar pregnancy	
O08.1	Delayed or excessive haemorrhage following abortion and ectopic and molar pregnancy	
O08.2	Embolism following abortion and ectopic and molar pregnancy	
O08.3	Shock following abortion and ectopic and molar pregnancy	
O08.4	Renal failure following abortion and ectopic and molar pregnancy	
O08.5	Metabolic disorders following abortion and ectopic and molar pregnancy	
O08.6	Damage to pelvic organs and tissues following abortion and ectopic and molar pregnancy	
O08.7	Other venous complications following abortion and ectopic and molar pregnancy	
O08.8	Other complications following abortion and ectopic and molar pregnancy	
O08.9	Complication following abortion and ectopic and molar pregnancy, unspecified	

O60.1	Preterm spontaneous labour with preterm delivery
O60.2	Preterm spontaneous labour with term delivery
O62.3	Precipitate labour
O68	Labour and delivery complicated by fetal stress [distress]
O68.0	Labour and delivery complicated by fetal heart rate anomaly
O68.1	Labour and delivery complicated by meconium in amniotic fluid
O68.2	Labour and delivery complicated by fetal heart rate anomaly with meconium in amniotic fluid
O68.3	Labour and delivery complicated by biochemical evidence of fetal stress
O68.8	Labour and delivery complicated by other evidence of fetal stress
O68.9	Labour and delivery complicated by fetal stress, unspecified
O69	Labour and delivery complicated by umbilical cord complications
O69.0	Labour and delivery complicated by prolapse of cord
O69.1	Labour and delivery complicated by cord around neck, with compression
O69.2	Labour and delivery complicated by other cord entanglement, with compression
O69.3	Labour and delivery complicated by short cord
O69.4	Labour and delivery complicated by vasa praevia
O69.5	Labour and delivery complicated by vascular lesion of cord
O69.8	Labour and delivery complicated by other cord complications
O69.9	Labour and delivery complicated by cord complication, unspecified

O70	Perineal laceration during delivery
O70.0	First degree perineal laceration during delivery
O70.1	Second degree perineal laceration during delivery
O70.2	Third degree perineal laceration during delivery
O70.3	Fourth degree perineal laceration during delivery
O70.9	Perineal laceration during delivery, unspecified
O74	Complications of anaesthesia during labour and delivery
O74.0	Aspiration pneumonitis due to anaesthesia during labour and delivery
O74.1	Other pulmonary complications of anaesthesia during labour and delivery
O74.2	Cardiac complications of anaesthesia during labour and delivery
O74.3	Central nervous system complications of anaesthesia during labour and delivery
O74.4	Toxic reaction to local anaesthesia during labour and delivery
O74.5	Spinal and epidural anaesthesia-induced headache during labour and delivery
O74.6	Other complications of spinal and epidural anaesthesia during labour and delivery
O74.7	Failed or difficult intubation during labour and delivery
O74.8	Other complications of anaesthesia during labour and delivery
O74.9	Complication of anaesthesia during labour and delivery, unspecified
O75	Other complications of labour and delivery, not elsewhere classified
O75.0	Maternal distress during labour and delivery

O75.1	Shock during or following labour and delivery
O75.5	Delayed delivery after artificial rupture of membranes
O75.6	Delayed delivery after spontaneous or unspecified rupture of membranes
O75.7	Vaginal delivery following previous caesarean section
O75.8	Other specified complications of labour and delivery
O75.9	Complication of labour and delivery, unspecified
O80	Single spontaneous delivery
O80.0	Spontaneous vertex delivery
O80.1	Spontaneous breech delivery
O80.8	Other single spontaneous delivery
O80.9	Single spontaneous delivery, unspecified
O81	Single delivery by forceps and vacuum extractor
O81.0	Low forceps delivery
O81.1	Mid-cavity forceps delivery
O81.3	Other and unspecified forceps delivery
O81.4	Vacuum extractor delivery
O81.5	Delivery by combination of forceps and vacuum extractor
O82	Single delivery by caesarean section
O82.0	Delivery by elective caesarean section

O82.1	Delivery by emergency caesarean section
O82.2	Delivery by caesarean hysterectomy
O82.8	Other single delivery by caesarean section
O82.9	Delivery by caesarean section, unspecified
O83	Other assisted single delivery
O83.0	Breech extraction
O83.1	Other assisted breech delivery
O83.2	Other manipulation-assisted delivery
O83.4	Destructive operation for delivery
O83.8	Other specified assisted single delivery
O83.9	Assisted single delivery, unspecified
O84	Multiple delivery
O84.0	Multiple delivery, all spontaneous
O84.1	Multiple delivery, all by forceps and vacuum extractor
O84.2	Multiple delivery, all by caesarean section
O84.8	Other multiple delivery
O84.9	Multiple delivery, unspecified
P03	Fetus and newborn affected by other complications of labour and delivery
P03.0	Fetus and newborn affected by breech delivery and extraction

P03.1	Fetus and newborn affected by other malpresentation, malposition and disproportion during labour and delivery
P03.2	Fetus and newborn affected by forceps delivery
P03.3	Fetus and newborn affected by delivery by vacuum extractor [ventouse]
P03.4	Fetus and newborn affected by caesarean delivery
P03.5	Fetus and newborn affected by precipitate delivery
P03.8	Fetus and newborn affected by other specified complications of labour and delivery
P03.9	Fetus and newborn affected by complication of labour and delivery, unspecified
P04.0	Fetus and newborn affected by maternal anaesthesia and analgesia in pregnancy, labour and delivery
P20.1	Intrauterine hypoxia first noted during labour and delivery
P61.2	Anaemia of prematurity
Z37	Outcome of delivery
Z37.0	Single live birth
Z37.1	Single stillbirth
Z37.2	Twins, both liveborn
Z37.3	Twins, one liveborn and one stillborn
Z37.4	Twins, both stillborn
Z37.5	Other multiple births, all liveborn
Z37.6	Other multiple births, some liveborn
Z37.7	Other multiple births, all stillborn

Z38	Liveborn infants according to place of birth
Z38.0	Singleton, born in hospital
Z38.1	Singleton, born outside hospital
Z38.2	Singleton, unspecified as to place of birth
Z38.3	Twin, born in hospital
Z38.4	Twin, born outside hospital
Z38.5	Twin, unspecified as to place of birth
Z38.6	Other multiple, born in hospital
Z38.7	Other multiple, born outside hospital
Z38.8	Other multiple, unspecified as to place of birth
Z39.0	Care and examination immediately after delivery

Appendix 5: OPCS codes indicating end of pregnancy

OPCS		
P141	INCISION OF INTROITUS OF VAGINA	POSTERIOR EPISIOTOMY AND DIVISION OF LEVATOR ANI MUSCLE
P142	INCISION OF INTROITUS OF VAGINA	POSTERIOR EPISIOTOMY NEC
P143	INCISION OF INTROITUS OF VAGINA	ANTERIOR EPISIOTOMY
Q101	CURETTAGE OF UTERUS	DILATION OF CERVIX UTERI AND CURETTAGE OF PRODUCTS OF CONCEP
Q102	CURETTAGE OF UTERUS	CURETTAGE OF PRODUCTS OF CONCEPTION FROM UTERUS NEC
Q111	OTHER EVACUATION OF CONTENTS OF UTERUS	VACUUM ASPIRATION OF PRODUCTS OF CONCEPTION FROM UTERUS NEC
Q112	OTHER EVACUATION OF CONTENTS OF UTERUS	DILATION OF CERVIX UTERI AND EVACUATION OF PRODUCTS OF CONCE
Q113	OTHER EVACUATION OF CONTENTS OF UTERUS	EVACUATION OF PRODUCTS OF CONCEPTION FROM UTERUS NEC
Q115	OTHER EVACUATION OF CONTENTS OF UTERUS	VACUUM ASPIRATION/PRODUCTS OF CONCEPTION/UTERUS USING RIGID
Q116	OTHER EVACUATION OF CONTENTS OF UTERUS	VACUUM ASPIRATION/PRODUCTS OF CONCEPTION/UTERUS USING FLEXI
Q141	INTRODUCTION OF ABORTIFACIENT INTO UTERINE CAVITY	INTRA-AMNIOTIC INJECTION OF PROSTAGLANDIN
Q142	INTRODUCTION OF ABORTIFACIENT INTO UTERINE CAVITY	INTRA-AMNIOTIC INJECTION OF ABORTIFACIENT NEC
Q143	INTRODUCTION OF ABORTIFACIENT INTO UTERINE CAVITY	EXTRA-AMNIOTIC INJECTION OF PROSTAGLANDIN
Q144	INTRODUCTION OF ABORTIFACIENT INTO UTERINE CAVITY	EXTRA-AMNIOTIC INJECTION OF ABORTIFACIENT NEC
Q145	INTRODUCTION OF ABORTIFACIENT INTO UTERINE CAVITY	INSERTION OF PROSTAGLANDIN PESSARY

Q146	INTRODUCTION OF ABORTIFACIENT INTO UTERINE CAVITY	INSERTION OF ABORTIFACIENT PESSARY NEC
Q148	INTRODUCTION OF ABORTIFACIENT INTO UTERINE CAVITY	OTHER SPECIFIED
Q149	INTRODUCTION OF ABORTIFACIENT INTO UTERINE CAVITY	UNSPECIFIED
R031	SELECTIVE DESTRUCTION OF FETUS	EARLY SELECTIVE FETICIDE
R032	SELECTIVE DESTRUCTION OF FETUS	LATE SELECTIVE FETICIDE
R038	SELECTIVE DESTRUCTION OF FETUS	OTHER SPECIFIED
R039	SELECTIVE DESTRUCTION OF FETUS	UNSPECIFIED
R141	SURGICAL INDUCTION OF LABOUR	FOREWATER RUPTURE OF AMNIOTIC MEMBRANE
R142	SURGICAL INDUCTION OF LABOUR	HINDWATER RUPTURE OF AMNIOTIC MEMBRANE
R148	SURGICAL INDUCTION OF LABOUR	OTHER SPECIFIED
R149	SURGICAL INDUCTION OF LABOUR	UNSPECIFIED
R151	OTHER INDUCTION OF LABOUR	MEDICAL INDUCTION OF LABOUR
R158	OTHER INDUCTION OF LABOUR	OTHER SPECIFIED
R159	OTHER INDUCTION OF LABOUR	UNSPECIFIED
R171	ELECTIVE CAESAREAN DELIVERY	ELECTIVE UPPER UTERINE SEGMENT CAESAREAN DELIVERY
R172	ELECTIVE CAESAREAN DELIVERY	ELECTIVE LOWER UTERINE SEGMENT CAESAREAN DELIVERY
R178	ELECTIVE CAESAREAN DELIVERY	OTHER SPECIFIED
R179	ELECTIVE CAESAREAN DELIVERY	UNSPECIFIED
R181	OTHER CAESAREAN DELIVERY	UPPER UTERINE SEGMENT CAESAREAN DELIVERY NEC
R182	OTHER CAESAREAN DELIVERY	LOWER UTERINE SEGMENT CAESAREAN DELIVERY NEC
R188	OTHER CAESAREAN DELIVERY	OTHER SPECIFIED
R189	OTHER CAESAREAN DELIVERY	UNSPECIFIED

R191	BREECH EXTRACTION DELIVERY	BREECH EXTRACTION DELIVERY WITH VERSION
R198	BREECH EXTRACTION DELIVERY	OTHER SPECIFIED
R199	BREECH EXTRACTION DELIVERY	UNSPECIFIED
R201	OTHER BREECH DELIVERY	SPONTANEOUS BREECH DELIVERY
R202	OTHER BREECH DELIVERY	ASSISTED BREECH DELIVERY
R208	OTHER BREECH DELIVERY	OTHER SPECIFIED
R209	OTHER BREECH DELIVERY	UNSPECIFIED
R211	FORCEPS CEPHALIC DELIVERY	HIGH FORCEPS CEPHALIC DELIVERY WITH ROTATION
R212	FORCEPS CEPHALIC DELIVERY	HIGH FORCEPS CEPHALIC DELIVERY NEC
R213	FORCEPS CEPHALIC DELIVERY	MID FORCEPS CEPHALIC DELIVERY WITH ROTATION
R214	FORCEPS CEPHALIC DELIVERY	MID FORCEPS CEPHALIC DELIVERY NEC
R215	FORCEPS CEPHALIC DELIVERY	LOW FORCEPS CEPHALIC DELIVERY
R218	FORCEPS CEPHALIC DELIVERY	OTHER SPECIFIED
R219	FORCEPS CEPHALIC DELIVERY	UNSPECIFIED
R221	VACUUM DELIVERY	HIGH VACUUM DELIVERY
R222	VACUUM DELIVERY	LOW VACUUM DELIVERY
R223	VACUUM DELIVERY	VACUUM DELIVERY BEFORE FULL DILATION OF CERVIX
R228	VACUUM DELIVERY	OTHER SPECIFIED
R229	VACUUM DELIVERY	UNSPECIFIED
R231	CEPHALIC VAGINAL DELIVERY WITH ABNORMAL PRESENTATION OF	MANIPULATIVE CEPHALIC VAGINAL DELIVERY WITH ABNORMAL PRESENT
R232	CEPHALIC VAGINAL DELIVERY WITH ABNORMAL PRESENTATION OF	NON-MANIPULATIVE CEPHALIC VAGINAL DELIVERY WITH ABNORMAL PRE
R238	CEPHALIC VAGINAL DELIVERY WITH ABNORMAL PRESENTATION OF	OTHER SPECIFIED

R239	CEPHALIC VAGINAL DELIVERY WITH ABNORMAL PRESENTATION OF	UNSPECIFIED
R249	NORMAL DELIVERY	ALL
R251	OTHER METHODS OF DELIVERY	CAESAREAN HYSTERECTOMY
R252	OTHER METHODS OF DELIVERY	DESTRUCTIVE OPERATION TO FACILITATE DELIVERY
R258	OTHER METHODS OF DELIVERY	OTHER SPECIFIED
R259	OTHER METHODS OF DELIVERY	UNSPECIFIED
R271	OTHER OPERATIONS TO FACILITATE DELIVERY	EPISIOTOMY TO FACILITATE DELIVERY
R278	OTHER OPERATIONS TO FACILITATE DELIVERY	OTHER SPECIFIED
R279	OTHER OPERATIONS TO FACILITATE DELIVERY	UNSPECIFIED
R281	INSTRUMENTAL REMOVAL/PRODUCTS/CONCEPTION FROM DEL.UTERU	CURETTAGE OF DELIVERED UTERUS
R288	INSTRUMENTAL REMOVAL/PRODUCTS/CONCEPTION FROM DEL.UTERU	OTHER SPECIFIED
R289	INSTRUMENTAL REMOVAL/PRODUCTS/CONCEPTION FROM DEL.UTERU	UNSPECIFIED
R291	MANUAL REMOVAL/PRODUCTS/CONCEPTION FROM DELIVERED UTERU	MANUAL REMOVAL OF PLACENTA FROM DELIVERED UTERUS
R298	MANUAL REMOVAL/PRODUCTS/CONCEPTION FROM DELIVERED UTERU	OTHER SPECIFIED
R299	MANUAL REMOVAL/PRODUCTS/CONCEPTION FROM DELIVERED UTERU	UNSPECIFIED

R301	OTHER OPERATIONS ON DELIVERED UTERUS	REPOSITIONING OF INVERTED DELIVERED UTERUS
R302	OTHER OPERATIONS ON DELIVERED UTERUS	EXPRESSION OF PLACENTA
R303	OTHER OPERATIONS ON DELIVERED UTERUS	INSTRUMENTAL EXPLORATION OF DELIVERED UTERUS NEC
R304	OTHER OPERATIONS ON DELIVERED UTERUS	MANUAL EXPLORATION OF DELIVERED UTERUS NEC
R308	OTHER OPERATIONS ON DELIVERED UTERUS	OTHER SPECIFIED
R309	OTHER OPERATIONS ON DELIVERED UTERUS	UNSPECIFIED
R321	REPAIR OF OBSTETRIC LACERATION	REPAIR OF OBSTETRIC LACERATION OF UTERUS OR CERVIX UTERI
R322	REPAIR OF OBSTETRIC LACERATION	REPAIR OF OBSTETRIC LACERATION OF PERINEUM AND SPHINCTER
R323	REPAIR OF OBSTETRIC LACERATION	REPAIR OF OBSTETRIC LACERATION OF VAGINA AND FLOOR OF PELVIS
R324	REPAIR OF OBSTETRIC LACERATION	REPAIR OF MINOR OBSTETRIC LACERATION
R325	REPAIR OF OBSTETRIC LACERATION	REPAIR OBSTETRIC LACERATION PERINEUM SPHINCTER MUCOSA ANUS
R328	REPAIR OF OBSTETRIC LACERATION	OTHER SPECIFIED
R329	REPAIR OF OBSTETRIC LACERATION	UNSPECIFIED

Appendix 6: HES Maternity Values to indicate delivery

<i>Variable</i>	<i>Definition</i>	<i>Acceptable values</i>
numbaby	Number of babies delivered	1-4
delmeth	Method used to deliver a baby that is a registrable birth	0-9
delplac	Actual type of delivery place	0-8
delprean	Anaesthetic or analgesic administered before and during labour and delivery	1-7
delposan	Anaesthetic or analgesic administered after delivery	1-7
neodur	Baby's age in days	>=1
neocare	Neonatal level of care	0-3
postdur	Postnatal days of stay	>=1

Appendix 7: Pregnancy Read codes identified as likely to be recorded as useful pregnancy history

medcode	read_oxmis_code	read_oxmis_term
164	635..13	Premature baby
165	L04..11	Miscarriage
255	L05..12	Termination of pregnancy
364	7F13111	Lower uterine segment caesarean section (LSCS) NEC
618	L398400	Delivery by emergency caesarean section
683	Q420.00	Haemolytic disease due to rhesus isoimmunisation
720	L398.00	Caesarean delivery
740	7F12.00	Elective caesarean delivery
863	L398200	Caesarean section - pregnancy at term
974	Q4z..15	Stillbirth NEC
1413	L264.00	Intrauterine death
1492	L36..00	Postpartum haemorrhage (PPH)
1744	L03..00	Ectopic pregnancy
2240	Q4z..12	Neonatal death
2638	L1...00	Pregnancy complications
2639	E204.11	Postnatal depression
2664	L180900	Gestational diabetes mellitus
2787	L11..11	Antepartum haemorrhage
2923	62T1.00	Puerperal depression
2924	7E06600	Hysterotomy and termination of pregnancy
3029	L166500	Infections of kidney in pregnancy
3085	7F12z00	Elective caesarean delivery NOS
3327	L13..11	Hyperemesis gravidarum
3874	L031200	Tubal abortion
4367	L362.00	Secondary and delayed postpartum haemorrhage
4530	L00..00	Hydatidiform mole
4607	L414.00	Postnatal deep vein thrombosis

4638	7F13.00	Other caesarean delivery
4786	L213200	Multiple delivery, all by caesarean section
4979	Eu53012	[X]Postpartum depression NOS
5113	L39y411	Postnatal vaginal discomfort
5464	L11y100	Other antepartum haemorrhage - delivered
7174	L43..00	Obstetric pulmonary embolism
7670	L398z00	Caesarean delivery NOS
7916	Z254500	Delivered by caesarean section - pregnancy at term
8147	L264.11	Fetal death in utero
8295	Q48D100	[X]Macerated stillbirth
8446	L180811	Gestational diabetes mellitus
8776	Q48D.00	[X] Stillbirth
8906	ZV27.12	[V]Stillbirth
9067	L125.00	Severe pre-eclampsia
9668	7F12100	Elective lower uterine segment caesarean delivery
9800	L398300	Delivery by elective caesarean section
10049	7F12111	Elective lower uterine segment caesarean section (LSCS)
10278	L180800	Diabetes mellitus arising in pregnancy
11359	L180.00	Diabetes mellitus during pregnancy/childbirth/puerperium
11947	L181500	Postpartum thyroiditis
11986	7E13300	Excision of ruptured ectopic tubal pregnancy
12090	L126.00	Eclampsia
12118	7F13300	Emergency caesarean section
12320	L09..11	Complications following abortion/ectopic/molar pregnancies
13307	Eu53011	[X]Postnatal depression NOS
13584	3885	Edinburgh postnatal depression scale
15061	L13..12	Hyperemesis of pregnancy
15514	7F13000	Upper uterine segment caesarean delivery NEC
15533	L451400	Obstetric breast abscess with postnatal complication

16250	L414.12	Phlegmasia alba dolens - obstetric
16281	L45z400	Obstetric breast infection NOS with postnatal complication
16321	L360.00	Third-stage postpartum haemorrhage
17614	Eu53111	[X]Puerperal psychosis NOS
17744	7F13100	Lower uterine segment caesarean delivery NEC
18258	L167.00	Liver disorder in pregnancy
18369	ZV27100	[V]Single stillbirth
18702	6G00.00	Postnatal depression counselling
18770	Q20yz13	Renal injury due to birth trauma
18830	L414.11	DVT - deep venous thrombosis, postnatal
20152	L090y00	Sepsis NOS following abortion/ectopic/molar pregnancy
20165	L363.00	Postpartum coagulation defects
20307	L091.00	Delayed/excessive haemorrhage following abortive pregnancy
20573	Q48D000	[X]Fresh stillbirth
22775	L11y.00	Other antepartum haemorrhage
23015	6334	Twins - 1 still + 1 live born
23588	L414200	Postnatal deep vein thrombosis with postnatal complication
23642	Eu53z00	[X]Puerperal mental disorder, unspecified
24089	L356z00	Obstetric damage to pelvic joints and ligaments NOS
24927	Eu53.00	[X]Mental and behav disorders assoc with the puerperium NEC
24951	L18C.00	Endocrine nutrition+metab dis complic pregn,childbirth+puerp
25028	L09z.00	Complication NOS following abortion/ectopic/molar pregnancy
25415	Q411.00	Perinatal intraventricular haemorrhage
28364	Q420.12	Rhesus isoimmunisation of the newborn
28861	L398500	Delivery by caesarean hysterectomy
29155	7F1A000	Caesarean hysterectomy

31203	6332	Single stillbirth
31857	Q204.00	Spine or spinal cord injury due to birth trauma
32950	L03y100	Cornual pregnancy
33477	L398100	Caesarean delivery - delivered
33724	L03z.00	Ectopic pregnancy NOS
34136	L120z00	Benign essential hypertension in preg/childb/puerp NOS
34173	L12B.00	Proteinuric hypertension of pregnancy
34299	L240.00	Congenital abnormality of uterus in preg/childbirth/puerp
34502	6335	Twins - both still born
34639	L180100	Diabetes mellitus during pregnancy - baby delivered
34868	L4...00	Complications of the puerperium
35190	7F13z00	Other caesarean delivery NOS
35309	6755	Post miscarriage counselling
36421	L167z00	Liver disorder in pregnancy NOS
37280	L36z.00	Postpartum haemorrhage NOS
39117	L126500	Eclampsia in pregnancy
40224	Eu53000	[X]Mild mental/behav disorder assoc with the puerperium NEC
40500	Eu53100	[X]Severe mental and behav disorder assoc wth puerperium NEC
40730	L125z00	Severe pre-eclampsia NOS
42088	L125100	Severe pre-eclampsia - delivered
42598	L175.00	Maternal rubella in pregnancy, childbirth and the puerperium
44494	L441z00	Caesarean wound disruption NOS
45806	L070x00	Unspecified abortion with complication NOS
46756	L184.00	Mental disorders in pregnancy, childbirth and the puerperium
47227	ZV27300	[V]Twins, one live born and one stillborn
47542	L362200	Secondary postpartum haemorrhage with postnatal problem

47546	7F12y00	Other specified elective caesarean delivery
47607	L440.11	CVA - cerebrovascular accident in the puerperium
47686	L181.00	Thyroid dysfunction in pregnancy/childbirth/puerperium
47741	L127000	Pre-eclampsia or eclampsia with hypertension unspecified
47863	Lyu5200	[X]Other single delivery by caesarean section
48500	Q49..00	Cardiovascular disorders originating in the perinatal period
49363	Q200100	Subdural haemorrhage unspecified, due to birth trauma
50093	L093000	Oliguria following abortive pregnancy
52875	L398000	Caesarean delivery unspecified
52967	Lyu0B00	[X]Complic following abortion & ectopic & molar preg, unspec
53141	L241.00	Tumour of uterine body in pregnancy/childbirth/puerperium
54652	L362z00	Secondary and delayed postpartum haemorrhage NOS
55304	L131z00	Hyperemesis gravidarum with metabolic disturbance NOS
56279	L440.12	Stroke in the puerperium
57236	L400200	Puerperal endometritis with postnatal complication
58156	L03y.00	Other ectopic pregnancy
58982	L186.00	Other cardiovascular diseases in pregnancy/childbirth/puerp
61204	L414z00	Postnatal deep vein thrombosis NOS
61578	L441000	Caesarean wound disruption unspecified
62052	L092500	Uterus damage following abortive pregnancy
62358	L167000	Liver disorder in pregnancy unspecified
62919	L125200	Severe pre-eclampsia - delivered with postnatal complication
63277	L393.00	Acute renal failure following labour and delivery
64127	L121000	Renal hypertension in pregnancy/childbirth/puerp unspecified
64384	L180z00	Diabetes mellitus in pregnancy/childbirth/puerperium NOS
66213	Q20yz12	Kidney injury due to birth trauma

66594	L186.11	Heart disease during pregnancy
67006	L096400	Pulmonary embolism following abortive pregnancy
68319	L351300	Rupture of uterus during/after labour with postnatal problem
70891	L126400	Eclampsia with postnatal complication
71314	L093.00	Renal failure following abortive pregnancy
71717	L121100	Renal hypertension in pregnancy/childbirth/puerp - delivered
72215	L241z00	Uterine body tumour in pregnancy/childbirth/puerperium NOS
72230	L241100	Tumour of uterine body - baby delivered
72458	L393000	Post-delivery acute renal failure unspecified
72513	7F13200	Extraperitoneal caesarean section
73407	L261200	Rhesus isoimmunisation with antenatal problem
73617	L261000	Rhesus isoimmunisation unspecified
73647	L188000	Abnormal GTT - unspec whether during pregnancy/puerperium
86756	Qyu3600	[X]Other chronic resp diseases originating/perinatal period
93710	Q317y00	Other specified perinatal chronic respiratory disease
94718	L121z00	Renal hypertension in pregnancy/childbirth/puerperium NOS
97367	L43z100	Obstetric pulmonary embolism NOS - delivered
99188	L173.00	Maternal tuberculosis in pregnancy/childbirth/puerperium
103465	Qyu3B00	[X]Cardiovasc disord origin in the perinat period, unspecif
103677	Eu32B00	[X]Antenatal depression
110868	L181000	Thyroid dysfunction - unspec whether in pregnancy/puerperium
111574	L114z00	Antepartum haemorrhage with trauma NOS

Appendix 8: Antenatal Read codes identified as pregnancy advice codes

medcode	read_oxmis_code	read_oxmis_term
30351	67A6.00	Drugs in pregnancy advice
36903	67AZ.00	Pregnancy advice NOS
102359	67AF.00	Pregnancy advice for patients with epilepsy
107892	67lu.00	Advice on risk harm to fetus from maternl medictn dur preg
110888	67lt.00	Advice on risk harm to mother from maternl medictn dur preg

startsource	Data source used to estimate pregnancy start date: 1 = Imputed ² , 2 = EDD, 3 = LMP, 4 = Gestational age at birth, 5 = Gestational age from antenatal record, 6 = EDC
startadj	Flag to indicate whether the pregnancy start date has been adjusted: 0 = Not adjusted, 1 = Due to antenatal records in the preceding 4 weeks, 2 = Due to specific conflicts between the estimated pregnancy duration and records indicating gestational age at birth (live births and stillbirths only), 3 = Both
Secondtrim ³	Estimated start date of second trimester
Thirdtrim ³	Estimated start date of third trimester
pregend	Estimated end date of pregnancy. NB: For pregnancies with unknown outcome, the date of the latest antenatal record in the pregnancy episode is provided.
endsource	Data source used to estimate pregnancy end date: 1 = Delivery record, 2 = Postnatal record in the mother's medical record, 3 = Discharge date relating to a delivery, 4 = Baby's (month and) year of birth as recorded in the baby's medical record, 5 = Postnatal record in the baby's medical record, 6 = First consultation in the baby's medical record. Only completed for live births and stillbirths.
endadj	Flag to indicate whether the pregnancy end date has been adjusted: 0 = Not adjusted, 1 = Due to specific conflicts between the estimated pregnancy duration and records indicating gestational age, 2 = Due to prior adjustments to the start date, 3 = Both. Missing for deliveries based on late pregnancy records ⁴ .
gestdays	Estimated duration of pregnancy episode in days (calculated as pregend minus pregstart)

matage	Mother's age at end of pregnancy (years)
outcome	Outcome of pregnancy: 1 = Live birth, 2 = Stillbirth, 3 = 1 and 2, 4 = Miscarriage, 5 = TOP, 6 = Probable TOP, 7 = Ectopic, 8 = Molar, 9 = Blighted ovum, 10 = Unspecified loss, 11 = Delivery based on a third trimester pregnancy record, 12 = Delivery based on a late pregnancy record ⁴ , 13 = Outcome unknown
preterm_ev	Flag to indicate evidence of a premature delivery: 1=preterm, 0=no evidence of preterm, 9=not applicable (outcome not a delivery)
postterm_ev	Flag to indicate evidence of a post-term delivery: 1=post-term, 0=no evidence of post-term, 9=not applicable (outcome not a delivery)
multiple_ev	Flag to indicate evidence of a multiple pregnancy: 1=multiple, 0=no evidence of multiple. Missing for pregnancy losses.
conflict	Flag to indicate whether the pregnancy episode overlaps with another episode (within a woman): 1=conflicting, 0= non-conflicting

1 A single babypatid is provided. For multiple pregnancies resulting in >1 liveborn infant (when mblbabies>1), additional babypatids may be retrieved from the MBL.

2 For "Outcome unknown" pregnancies, the imputed start date is obtained by subtracting 4 weeks from the earliest antenatal record in the episode.

3 The timing of trimesters is estimated using a common convention: first trimester (first day of LMP [pregstart] to 13 completed weeks), second (weeks 14 to 26), and third (week 27 to delivery [pregend]).

4 Late pregnancy records refer to the period up to 3 weeks before delivery, e.g. "Baby overdue".

Appendix 9: Read codes potentially misclassified as antenatal rather than outcomes

medcode	read_oxmis_code	read_oxmis_term
424	L281.00	Premature rupture of membranes
906	L100.00	Threatened abortion
1413	L264.00	Intrauterine death
1737	L02..00	Missed abortion
1879	L071.00	Unspecified abortion incomplete
3004	L14..11	Premature labour
6730	L051.12	Surgical abortion - incomplete
7114	L044.00	Inevitable abortion incomplete
7413	L041.00	Spontaneous abortion incomplete
8076	8H7W.00	Refer to TOP counselling
8147	L264.11	Fetal death in utero
8173	L043.00	Inevitable abortion unspecified
12241	L02..11	Missed miscarriage
12337	L051.00	Legal abortion incomplete
17625	L044.11	Inevitable miscarriage incomp
20621	ZV25313	[V]Admission for termination of pregnancy
20809	L14..00	Early or threatened labour
20933	6776	Preg. termination counselling
25883	L071y00	Unspecified incomplete abortion + no mention of complication
28605	L051z00	Incomplete legal abortion NOS
29439	L041z00	Incomplete spontaneous abortion NOS
33964	LOA4.00	Failed medical abortion, without complication
35184	L071z00	Unspecified incomplete abortion NOS
35273	L097.00	Readmission for abortive pregnancy (NHS codes)
35701	L100000	Threatened abortion unspecified
37831	L264z00	Intrauterine death NOS

39754	L051.11	Medal abortion - incomplete
41118	L08z.00	Failed attempted abortion NOS
41783	L041100	Incomp spontaneous abortion + delayed/excessive haemorrhage
47376	L0A1.00	Failed medical abortion complic by genital tract/pelvic infn
47435	L097200	Readmission for retained produc of concept, illegal abortion
50903	L0A2.00	Failed medical abortion comp by delayed/excessive haem'ge
53201	ZV25B00	[V]Admission for administration of abortifacient
59572	L0A3.00	Failed medical abortion, complicated by embolism
59789	L14z.00	Early or threatened labour NOS
65716	Q011.00	Fetus/neonate affected maternal premature rupture membrane
68683	7E0B.00	Introduction of abortifacient into uterine cavity
96418	L06z.00	Illegally induced abortion NOS
97391	L281200	Premature rupture of membranes with antenatal problem
99205	7E0Bz00	Introduction of abortifacient into uterine cavity NOS
101959	7E0B300	Extraamniotic injection of abortifacient NEC
102362	389B.00	Assessment for termination of pregnancy
102494	8Hh3.00	Self referral to termination of pregnancy service
105048	7E0By00	Introduction of abortifacient into uterine cavity OS

Appendix 10: Outcome Groupings

Pregnancy Outcomes will be grouped together with those pregnancies which would have similar rules applied and combinations of outcome group for each pair will be coded.

<i>Group</i>	<i>Pregnancy Register codes</i>	<i>Group</i>
Early Pregnancy Loss	4, 5, 6, 10, 7, 8, 9	1
Delivery	1, 2, 3, 11, 12	2
Unknown Outcome	13	3

Appendix 11: Read Codes identified as likely to only be recorded during current pregnancy

medcode	read_oxmis_term
30979	[SO]Fetus
36441	[V]Amniocentesis to screen for chromosomal anomalies
61455	[V]Amniotic fluid to screen for alphafetoprotein levels
6298	[V]Antenatal screening
49665	[V]Antenatal screening for chromosomal anomalies
35912	[V]Pregnancy confirmed
43428	[V]Screening for fetal growth retardation using ultrasonics
103341	[V]Screening for isoimmunisation
7536	[V]Screening for malformations using ultrasonics
13167	A/N 12 weeks examination
13166	A/N 16 week examination
29364	A/N 20 week examination
13169	A/N 24 week examination
26554	A/N 28 week examination
29627	A/N 30 week examination
13171	A/N 32 week examination
13170	A/N 34 week examination
29727	A/N 35 week examination
29610	A/N 36 week examination
26552	A/N 37 week examination
26553	A/N 38 week examination
26551	A/N 39 week examination
29280	A/N 40 week examination
37029	A/N 41 week examination
55605	A/N 42 week examination
3517	A/N booking examination
13984	Antenatal ultrasound confirms ectopic pregnancy
12260	A/N Rh antibody screen

68089	A/N Rh antibody screen NOS
70616	A/N sickle cell screen done
102099	A/N sickle cell screen NOS
64141	A/N syphilis screen-blood sent
14086	A/N U/S scan abnormal
27057	A/N U/S scan for ? abnormality
64537	A/N U/S scan for slow growth
37221	A/N U/S scan normal +? dates
35826	A/N U/S scan normal += dates
106588	Antenatal 22 week examination
106923	Antenatal 25 week examination
106425	Antenatal 31 week examination
13168	Antenatal examination NOS
10056	Antenatal examinations
13416	Antenatal sickle cell screen
13417	Antenatal syphilis screen
42326	Antenatal syphilis screen NOS
13968	Antenatal ultrasound confirms intra-uterine pregnancy
2029	Antenatal ultrasound scan
27056	Antenatal ultrasound scan at 17-22 weeks
39611	Antenatal ultrasound scan at 22-40 weeks
14084	Antenatal ultrasound scan at 9-16 weeks
14083	Antenatal ultrasound scan NOS
14085	Antenatal ultrasounds scan at 4-8 weeks
12890	Confirmation of pregnancy
50546	Dating scan
9462	Dating/booking US scan
100164	Detailed structural scan
103741	Doppler ultrasound scan of middle cerebral artery of fetus
102885	Doppler ultrasound scan of umbilical artery
95166	Doppler ultrasound scan of uterine artery
46126	Double test
13414	Downs screen - blood test

38358	Downs screen blood test abnormal
34508	Downs screen blood test normal
64832	Downs screening - blood sent
39173	Downs screening blood test NOS
103893	Fetal ascites scan
19720	Fetal monitoring
19590	Fetal movements felt
55493	Fetal movements seen
53420	Fetal tachycardia
9164	Fetal U-S scan
31110	Fundal height equal to dates
25875	Fundal height high for dates
37039	Fundal height low for dates
37038	Girth of pregnant abdomen
91773	Good baseline variability in fetal heart rate
105992	Height of uterine fundus
92171	Mid trimester scan
85992	Non routine obstetric scan for fetal observations
95875	Non routine obstetric scan for fetal observations NOS
38846	Normal fetal heart baseline pattern
13997	Nuchal scan
95881	O/E - fetal heart < 40
101119	O/E - fetal heart > 200
68996	O/E - fetal heart 100-120
26707	O/E - fetal heart 120-160
62903	O/E - fetal heart 160-180
62898	O/E - fetal heart 180-200
72837	O/E - fetal heart 40-80
70856	O/E - fetal heart 80-100
7681	O/E - fetal heart heard
22815	O/E - fetal movements
25153	O/E - fetal movements felt
52857	O/E - fetal movements NOS
53687	O/E - fetal movements seen

27801	O/E - fetal movemnt.diminished
26710	O/E - fetal presentation
67186	O/E - fetal presentation NOS
69819	O/E - fetal station NOS
24701	O/E - fetus very active
26708	O/E - fundal size = dates
37049	O/E - fundus = term size
26705	O/E - fundus 12-16 week size
37051	O/E - fundus 16-20 week size
26704	O/E - fundus 20-24 week size
26709	O/E - fundus 24-28 week size
30802	O/E - fundus 28-32 week size
30803	O/E - fundus 32-34 week size
26703	O/E - fundus 34-36 week size
26706	O/E - fundus 36-38 week size
13318	O/E - fundus size - obstetric
30804	O/E - gravid uterus size
62897	O/E - gravid uterus size NOS
37180	O/E - lie of fetus
29788	O/E - multiple presentation
63024	O/E -fetal presentation unsure
37050	O/E -fundus 38 weeks-term size
49519	Observation of position of pregnancy
12625	Obstetric monitoring
44173	Obstetric X-ray - fetus
56727	Obstetric X-ray - placenta
85951	Other non routine obstetric scan NOS
96343	Other specified routine obstetric scan
13165	Patient currently pregnant
127	Patient pregnant
14899	Patient pregnant NOS
38669	Placenta U-S scan
9986	Pregnancy care
4536	Pregnancy confirmed

15338	Pregnancy unplanned ? wanted
14877	Pregnant - ? planned
30817	Pregnant - blood test confirms
51298	Pregnant - on abdom. palpation
20240	Pregnant - planned
16215	Pregnant - urine test confirms
35592	Pregnant - V.E. confirms
10173	Pregnant abdomen observation
15567	Pregnant -unplanned-not wanted
107698	Pregnant uterus displaced laterally
32975	Pregnant, diaphragm failure
29692	Pregnant, IUD failure
14994	Pregnant, sheath failure
11989	Referral for termination of pregnancy
2278	Requests pregnancy termination
69815	Rh screen - 1st preg. sample
29623	Rh screen - 2nd preg. sample
109416	Rh screen - 3rd preg. sample
93946	Rhesus detailed scan
86011	Routine obstetric scan
85245	Routine obstetric scan NOS
6095	Seen in antenatal clinic
29205	Serum pregnancy test positive
70845	Sinusoidal pattern of fetal heart
27614	Triple test
39218	Ultrasonic doppler for fetal heart sounds
19800	Ultrasound in obstetric diagn.
12837	Ultrasound monitoring of early pregnancy
13965	Ultra-sound scan - obstetric
3030	Urine pregnancy test positive
2382	U-S obstetric diagn. scan NOS
29685	U-S obstetric scan abnormal
4797	U-S obstetric scan normal
45963	U-S scan - fetal abnormality

72159	U-S scan - fetal cephalometry
42093	U-S scan - fetal maturity
41919	U-S scan - fetal presentation
41937	U-S scan - multiple fetus
35558	U-S scan - obstetric, diagn.
68858	U-S scan -placental localisatn
67047	Viability scan
37147	Viability US scan
10306	Weeks pregnant

Appendix 12: Outcome Group Combinations

Within conflicting pairs combinations of outcome groups will be coded as follows:

<i>Outcome Group combination</i>	<i>Variable Code</i>
1 1 (Loss- Loss)	1
1 2 (Loss- Delivery)	2
1 3 (Loss- Unknown)	3
2 2 (Delivery- Delivery)	4
2 3 (Delivery- Unknown)	5
3 3 (Unknown- Unknown)	6

Appendix 13: Read codes for Antenatal scan

medcode	read_oxmis_code	Read term
2029	62G..00	Antenatal ultrasound scan
13965	584..13	Ultra-sound scan - obstetric
9462	584A.00	Dating/booking US scan
2382	584Z.00	U-S obstetric diagn. scan NOS
13997	584G.00	Nuchal scan
42093	5846	U-S scan - fetal maturity
37147	584B.00	Viability US scan
4797	5842	U-S obstetric scan normal
27019	5841	U-S obstetric scan requested
9164	584..11	Fetal U-S scan
14083	62GZ.00	Antenatal ultrasound scan NOS
35826	62G6.00	A/N U/S scan normal +/- dates
14084	62GC.00	Antenatal ultrasound scan at 9-16 weeks
35558	584..12	U-S scan - obstetric, diagn.
50546	7F26000	Dating scan
29012	7F27300	Nuchal translucency scan
27056	62GD.00	Antenatal ultrasound scan at 17-22 weeks
39611	62GE.00	Antenatal ultrasound scan at 22-40 weeks
47415	62G5.00	A/N U/S scan awaited
37220	62G2.00	A/N U/S scan offered
14085	62GB.00	Antenatal ultrasounds scan at 4-8 weeks
29685	5843	U-S obstetric scan abnormal
72159	5845	U-S scan - fetal cephalometry
45963	5847	U-S scan - fetal abnormality
27057	62G9.00	A/N U/S scan for ? abnormality

41919	5849	U-S scan - fetal presentation
30885	62G4.00	A/N U/S scan wanted
86011	7F26.00	Routine obstetric scan
68858	5844	U-S scan -placental localisatn
67047	7F26100	Viability scan
41937	5848	U-S scan - multiple fetus
14086	62G8.00	A/N U/S scan abnormal
85992	7F27.00	Non routine obstetric scan for fetal observations
37221	62G7.00	A/N U/S scan normal +? dates
38669	5844.11	Placenta U-S scan
78449	7F28.00	Other non routine obstetric scan
100164	7F27100	Detailed structural scan
92171	7F26200	Mid trimester scan
95166	7F2A111	Doppler ultrasound scan of uterine artery
64537	62GA.00	A/N U/S scan for slow growth
47116	7F28000	Placental localisation scan
85245	7F26z00	Routine obstetric scan NOS
102885	7F2A011	Doppler ultrasound scan of umbilical artery
96343	7F26y00	Other specified routine obstetric scan
95875	7F27z00	Non routine obstetric scan for fetal observations NOS
85951	7F28z00	Other non routine obstetric scan NOS
98261	7F27y00	OS non routine obstetric scan for fetal observations
95698	7F28y00	Other specified other non routine obstetric scan

Appendix 14: DID Snomed foetal scan codes

Dating/booking ultrasound scan (procedure)	169229007
Fetal anatomy study (procedure)	271442007
Fetal biophysical profile (procedure)	21623001
Fetal echocardiography (procedure)	433235006
Magnetic resonance imaging of multiple pregnancy (procedure)	450825001
Placental localization (procedure)	164817009
Ultrasonography of multiple pregnancy for fetal anomaly (procedure)	445866007
Ultrasonography of multiple pregnancy for fetal nuchal translucency (procedure)	446810002
Ultrasound scan for amniotic fluid volume (procedure)	241494004
Ultrasound scan for fetal growth (procedure)	241493005

Appendix 15: Number of episodes with a suitably timed outcome in linked HES data

Dataset in which evidence of a suitably timed pregnancy outcome was found.	N pregnancy episodes where evidence of an outcome was found (% of episodes which were eligible for this linked data source)	N pregnancy episodes which were during current registration and UTS follow up	Total number of pregnancy episodes with recorded outcome missing which were eligible for HES linkage to each source
HES Diagnosis (Part of HES APC)	24,902 (5.9%)	16,389 (65.8%)	424,375
HES Maternity (Part of HES APC)	163,483 (38.5%)	109,393 (66.9%)	424,375
HES Procedures (Part of HES APC)	201,731 (47.5%)	133,077 (66.0%)	424,375
HES Episodes (Part of HES APC)	185,436 (43.7%)	122,350 (66.0%)	424,375
HES Outpatient	735 (0.2%)	560 (76.2%)	311,982
Any HES Source	211,070 (49.7%)	139,084 (65.9%)	424,375

Appendix 16: Numbers of pregnancy episodes with recorded outcome missing which were within practice UTS follow-up and patient's current registration period that were consistent with applied criteria for each scenario

Scenario	Description	N pregnancy episodes which meet this scenario (% of total episodes with missing outcome)	N pregnancy episodes which <u>only</u> meet this scenario (% of the total episodes with missing outcome)	N pregnancy episodes with evidence of an outcome in linked HES (% of linkage eligible episodes)
Denominator		475,664	475,664	265,264
<i>Problem 1: The women was pregnant at the time of the database record, but the outcome was not captured in CPRD primary care data.</i>				
Scenario 1a	The pregnancy outcome occurred in hospital or elsewhere and information wasn't fed back to the practice.	139,084 (29.2%)	1,825 (0.4%)	139,084 (52.4%)
Scenario 1b	The outcome of the pregnancy is recorded in the primary care data but has no event date associated with it.	475 (0.1%)	28 (0.0%)	113 (0.0%)
Scenario 1c	The pregnancy occurred before the patient was registered at the practice or before UTS	-	-	-

<i>Problem 2: The women was pregnant at the time of the database record, but the pregnancy was still ongoing at the end of available follow up in the database.</i>				
Scenario 2a	The patient transferred out before the putative end of pregnancy	117,571 (24.7%)	34,659 (7.3%)	52,601 (19.8%)
Scenario 2b	The last collection date of the practice was before the putative end of pregnancy	58,698 (12.3%)	20,122 (4.2%)	21,702 (8.2%)
<i>Problem 3: The patient was not pregnant at the time of the database record.</i>				
Scenario 3a	Episode is derived from historical pregnancy information recorded in the first few months after the patient joined the practice	3,875 (0.8%)	386 (0.1%)	1,271 (0.5%)
Scenario 3b	Patient asks for advice whilst planning a pregnancy	0 (0.0%)	0 (0.0%)	0 (0.0%)
<i>Problem 4: The pregnancy record belongs to another pregnancy episode in the Register.</i>				
Scenario 4a	Delay in recording the outcome of a pregnancy, algorithm calculates LMP too late and uncovers records at the beginning of pregnancy creating this PWO.	35,255 (7.4%)	8,265 (1.7%)	14,402 (5.4%)

Scenario 4b	The LMP is derived from the data and is wrong resulting in early codes being uncovered creating this episode	17,110 (3.6%)	3,715 (0.8%)	6,651 (2.5%)
Scenario 4c	The LMP has been shifted backwards uncovering records at the end of the pregnancy	0 (0.0%)	0 (0.0%)	0 (0.0%)
Scenario 4d	A code recorded relating to the patient's delivery history is incorrectly identified by the algorithm as a delivery uncovering records at the end.	219,505 (46.1%)	109,161 (22.9%)	65,883 (24.8%)
Scenario 4e	The outcome of the pregnancy episode has been misclassified as antenatal	18,222 (3.8%)	7,418 (1.6%)	3,990 (1.5%)
Pregnancy Episodes which didn't meet any scenario	These pregnancy episodes did not meet the criteria for any identified scenarios.	94,769 (19.9%)	0 (0.0%)	0 (0.0%)

Appendix 17: Numbers of conflicting pregnancy episodes which were within practice UTS follow-up and patient's current registration period that were consistent with applied criteria for each scenario

Scenario	Description	N pregnancy pairs (% of total conflicting pregnancy pairs)	N which only fit this scenario (% of the total pairs meeting this scenario)	N of pairs with a linked baby in the MBL (% of the total pairs meeting this scenario)	N pairs with evidence of pregnancy in linked HES
Denominator		144,670	144,670	144,670	93,100
<i>Problem 1: Both pregnancies are true but one is a current pregnancy and one is a historical pregnancy</i>					
Scenario 1a	The GP records a past delivery or loss during a current pregnancy with the same outcome resulting in another episode being created	1,981 (1.4%)	317 (0.2%)	1,782 (1.2%)	1,875 (2.0%)
Scenario 1b	A patient has a record relating to a loss recorded during a pregnancy ending in delivery or vice-versa. Conflicting episodes are generated by the algorithm	31,526 (21.8%)	15,453 (10.7%)	8,275 (5.7%)	11,410 (12.3%)
<i>Problem 2: Both pregnancies are historical</i>					

Scenario 2a	A patient has information on historical pregnancies recorded with the current date rather than the actual date.	12,557 (8.7%)	0 (0.0%)	97 (0.1%)	4,309 (4.6%)
<i>Problem 3: Both pregnancies are true and current but the gestation of the second pregnancy estimated by the algorithm is too long.</i>					
Scenario 3a	The woman has two losses which are >8weeks and <12weeks apart.	2,284 (1.6%)	3 (0.0%)	0 (0.0%)	635 (0.7%)
Scenario 3b	The woman has two pregnancies close together and the second ends in delivery. If the LMP information is wrong for this pregnancy, then algorithm episodes may overlap.	13,464 (9.3%)	2,387 (1.6%)	1,113 (0.8%)	4,502 (4.8%)
<i>Problem 4: : The pregnancy is true and current but is split into separate episodes by the rules of the algorithm</i>					
Scenario 4a	The GP records further information about a pregnancy outcome >25 weeks later for deliveries or >8weeks <12 weeks later for losses.	2,347 (1.6%)	183 (0.1%)	2,155 (1.5%)	2,255 (2.4%)

Scenario 4b	The GP records further antenatal information after the end of a pregnancy. Conflicting episodes are generated by the algorithm	27,131 (18.8%)	25,097 (17.3%)	11,097 (7.7%)	11,668 (12.5%)
Scenario 4c	The patient has a follow up scan after a pregnancy loss. The scan is recorded in the data as an antenatal scan, a conflicting episode is then generated by the algorithm.	2,088 (1.4%)	0 (0.0%)	0 (0.0%)	587 (0.6%)
Scenario 4d	The GP records information about a pregnancy but no outcome with >6 weeks between records. If the second episode has gestational information the start may be assigned before the start of the first episode.	9,911 (6.9%)	9,911 (6.9%)	0 (0.0%)	5,079 (5.5%)
Scenario 4e	The pregnancy dates have been shifted backwards by the rules of the algorithm leaving uncovered records. Conflicting episodes are generated by the algorithm.	55,205 (38.2%)	53,044 (36.7%)	43,945 (30.4%)	33,057 (35.5%)
None	These pairs of pregnancies did not meet the criteria for any identified scenarios.	15,650 (10.8%)	-	8,921 (6.2%)	8,235 (8.8%)

Appendix 18: Number of conflicting episode pairs by outcome combination

Outcome Combination	N pairs (% of total conflicting pairs)
two losses	65,826 (26.2%)
one loss one delivery	73,222 (29.2%)
one loss one unknown	62,776 (25.0%)
two deliveries	10,204 (4.1%)
one delivery one unknown	24,303 (9.7%)
two unknowns	14,695 (5.9%)
Total Pairs	251,026 (100%)