UKOSS

UK Obstetric Surveillance System

Long-term Non-invasive ventilation study
Study 01/23

Data Collection Form - CASE

Please report any woman delivering on or after the 01/04/2023 and before 31/03/2025

Case Definition:

Please report any pregnant woman who commenced non-invasive ventilation (NIV) or continuous positive airway pressure (CPAP) either prior to or during the current pregnancy who are booked for antenatal care in a UK obstetric unit for a long-term condition

EXCLUDED

Women commencing PAP for an acute condition such as covid-19 infection

Case ID Number: | | | | | | |

Royal College of Obstetricians and Gynaecologists

Bringing to life the best in women's health care

Please return the completed form to:

ukoss@npeu.ox.ac.uk

UKOSS
National Perinatal Epidemiology Unit
University of Oxford, Old Road Campus, Oxford, OX3 7LF

Phone: 01865 617764 / 617774

Reporting Month: _____

Reporting Hospital: _____

NPEU

Instructions

1. Please do not enter any personally identifiable information (e.g. name, address or hospital number) on this form.
2. Please record the ID number from the front of this form against the woman's name for your own reference.
3. Fill in the form using the information available in the woman's case notes.
4. Tick the boxes as appropriate. If you require any additional space to answer a question please use the space provided in section 7.
5. Please complete all dates in the format DD/MM/YY, and all times using the 24hr clock e.g. 18.37
6. If codes or examples are required, some lists (not exhaustive) are included on the back page of the form.
7. If the woman has not yet delivered, please complete the form as far as you are able, excluding delivery and outcome information, and return to the UKOSS Administrator. We will send these sections again for you to complete two weeks after the woman's expected date of delivery.
8. If you do not know the answers to some questions, please indicate this in section 7.
9. If you encounter any problems with completing the form please contact the UKOSS Administrator or use the space in section 7 to describe the problem.

Section 1: Woman's details

FOR OFFICE USE ONLY

1.1 Year of birth Y Y Y Y

1.2 Ethnic group[1]* *(enter code, please see back cover for guidance)* ☐☐

1.3 Was the woman in paid employment at booking? Yes ☐ No ☐

If Yes, what is her occupation _____ ☐

If No, what is her partner's (if any) occupation _____ ☐

1.4 Height at booking ☐☐☐ cm

1.5 Weight at booking ☐☐☐.☐ kg

1.6 Smoking status

never ☐ gave up prior to pregancy ☐ current ☐ gave up during pregnancy ☐

1.7 Vaping Status

never ☐ gave up prior to pregancy ☐ current ☐ gave up during pregnancy ☐

Section 2: Previous Obstetric History

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2.1 Gravidity

Number of previous completed pregnancies beyond 24 weeks ☐☐

Number of previous pregnancies less than 24 weeks ☐☐

If no previous pregnancies, *please go to section 3*

2.2 Did the woman have any previous pregnancy problems?[2]* Yes ☐ No ☐

If Yes, please specify _____ ☐

Section 3: Previous Medical History and commencement of NIV/CPAP

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3.1 Does the woman use NIV or CPAP? *(tick one only)*

Non-invasive ventilation (NIV) ☐ CPAP ☐

3.2 What date was NIV/CPAP first commenced? D D / M M / Y Y

Was this pre-pregnancy? Yes ☐ No ☐

If Yes, did she have pre-pregnancy counselling? Yes ☐ No ☐

If No, what was the precipitating cause for the woman's deterioration? *(tick all that apply)*

Infection ☐ Breathlessness ☐ Unfreshing sleep ☐

Morning headaches ☐ Excessive daytime sleepiness ☐

Stopping breathing while asleep ☐ Snoring ☐

Recurrent respiratory infections ☐ Sleep disturbances ☐

Low oxygen levels (SpO_2 <94%) ☐ Other ☐

If Other, please specify _____

3.3 What was the main indication for starting NIV/CPAP? *(tick one only)*

Chest wall deformity e.g. congenital scoliosis ☐

Obstructive sleep apnoea (OSA) or hypoventilation ☐ Muscular dystrophy ☐

Myasthenia gravis ☐ Spinal muscular atrophy ☐ Other ☐

If Other, please specify _____

3.4 Was the woman reviewed by a specialist respiratory or sleep team prior to pregnancy? Yes ☐ No ☐ Not known ☐

If Yes, which respiratory/sleep centre did the patient attend

_____ ***OR*** tick if not known ☐

3.5 Did the woman have any other pre-existing medical problems?[3]* Yes ☐ No ☐

If Yes, please specify _____

Section 4: This Pregnancy

FOR OFFICE USE ONLY

4.1 Final Estimated Date of Birth (EDB)[4]* D D / M M / Y Y

4.2 Was this pregnancy a result of assisted conception? Yes ☐ No ☐

4.3 Was this pregnancy a multiple pregnancy? Yes ☐ No ☐

If Yes, specify number of fetuses ☐

4.4 Was the woman referred antenatally for review in a High-risk Anaesthetic clinic? Yes ☐ No ☐

If Yes, was this a multidisciplinary review? Yes ☐ No ☐

If Yes, were any of the following involved? (tick all that apply)

Respiratory physician ☐ Obstetric physician ☐ Obstetrician ☐ None ☐

4.5 Was an advanced plan made for anaesthetic and respiratory management during labour and birth? Yes ☐ No ☐

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4.6 Please indicate who managed this woman's respiratory support (tick all that apply):

Clinician	Pre-pregnancy	Antenatal	Intra-partum	Post-partum	Not applicable
Maternal Medicine / Maternal Fetal Medicine specialist	☐	☐	☐	☐	☐
General Obstetrician Consultant	☐	☐	☐	☐	☐
Specialist Respiratory / Sleep Physician	☐	☐	☐	☐	☐
Obstetric Anaesthetist	☐	☐	☐	☐	☐
Critical Care	☐	☐	☐	☐	☐
Physiotherapist	☐	☐	☐	☐	☐
Specialist nurse	☐	☐	☐	☐	☐
Midwife	☐	☐	☐	☐	☐

4.7 What were the ventilator settings at first review? *(please seek advice from the anaesthetic team to complete this)*

	NIV		CPAP	
Mode:	Pressure support	☐	Fixed pressure	_____ cm H_2O
	Pressure control	☐	Auto-titrating CPAP	☐
	Not known	☐	Not known	☐
Settings:	IPAP _____	cm H_2O		
	EPAP _____	cm H_2O		
	Backup _____	per min		
	Not known	☐		

4.8 Did the woman require supplemental oxygen? Yes ☐ No ☐

4.9 How many hours a day did she use NIV/CPAP for? *(tick one only)*

Nocturnal use only ☐ Nocturnal and daytime naps ☐
24 hours per day ☐ Not known ☐

4.10 Did the woman have any arterial blood gas measurements? Yes ☐ No ☐

If Yes, were these *(tick all that apply)*:

Antenatal ☐ In labour ☐ During caesarean ☐ In recovery ☐

Please provide the arterial blood gas results (if more than one taken at any stage, please provide the first results) **OR** tick if not available

Arterial blood gas	Result		Date
Antenatal	FiO_2 _____	N/A ☐	D D / M M / Y Y
	pH _____	N/A ☐	
	$PaCO_2$ _____	N/A ☐	
	PaO_2 _____	N/A ☐	
	HCO_3 _____	N/A ☐	
	BE _____	N/A ☐	

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Arterial blood gas	Result		Date
In labour	FiO_2 _____	N/A ☐	D D / M M / Y Y
	pH _____	N/A ☐	
	$PaCO_2$ _____	N/A ☐	
	PaO_2 _____	N/A ☐	
	HCO_3 _____	N/A ☐	
	BE _____	N/A ☐	
During caesarean section	FiO_2 _____	N/A ☐	D D / M M / Y Y
	pH _____	N/A ☐	
	$PaCO_2$ _____	N/A ☐	
	PaO_2 _____	N/A ☐	
	HCO_3 _____	N/A ☐	
	BE _____	N/A ☐	
In recovery	FiO_2 _____	N/A ☐	D D / M M / Y Y
	pH _____	N/A ☐	
	$PaCO_2$ _____	N/A ☐	
	PaO_2 _____	N/A ☐	
	HCO_3 _____	N/A ☐	
	BE _____	N/A ☐	

4.11 Did this woman develop any of the following during pregnancy?

Gestational hypertension Yes ☐ No ☐

Pre-eclampsia Yes ☐ No ☐

Gestational diabetes Yes ☐ No ☐

4.12 Was this pregnancy identified as high risk for fetal growth restriction? Yes ☐ No ☐

If Yes:

Was she commenced on low dose aspirin? Yes ☐ No ☐

Were serial growth scans performed? Yes ☐ No ☐

Was the fetus known to be SGA in pregnancy? Yes ☐ No ☐

Were uterine artery Dopplers performed at 20-22 weeks? Yes ☐ No ☐

If Yes, were they abnormal? Yes ☐ No ☐

4.13 Where was the planned place of birth? *(tick one only)*

Booking Non Tertiary hospital ☐ Booking Tertiary unit ☐

Tertiary unit referral ☐ Other ☐

If Other, please specify _____

4.14 What was the planned date of birth? D D / M M / Y Y

OR tick if no specific date planned ☐

4.15 What was the planned mode of birth?

Induction of labour ☐ Await spontaneous labour ☐ Caesarean section ☐

4.16 Did the woman receive steroids for fetal lung maturity? Yes ☐ No ☐

If Yes, what was the date of the first dose? D D / M M / Y Y

4.17 Were there any other problems in this pregnancy?[2]* Yes ☐ No ☐

If Yes, please specify _____

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Section 5: End of Pregnancy

5.1 Did this woman have a miscarriage? Yes ☐ No ☐

If Yes, please specify date D D / M M / Y Y

5.2 Did this woman have a termination of pregnancy? Yes ☐ No ☐

If Yes, please specify date D D / M M / Y Y

If Yes to 5.1 or 5.2, please now complete sections 6a, 7 and 8

5.3 Is this woman still undelivered? Yes ☐ No ☐

If Yes, will she be receiving the rest of her antenatal care from your hospital? Yes ☐ No ☐

If No, please indicate name of hospital providing future care

_____

Will she give birth at your hospital? Yes ☐ No ☐

If No, please indicate name of delivery hospital, *then go to Section 7*

_____

5.4 Was induction of labour attempted? Yes ☐ No ☐

If Yes, please state indication _____

5.5 Did the woman labour? Yes ☐ No ☐

If Yes, please provide date of onset of labour D D / M M / Y Y

What was the mode of analgesia in labour? *(tick one only)*

Epidural ☐ PCA ☐ None ☐ Other ☐

If Other, please specify _____

5.6 What type of respiratory support did the woman receive? *(tick all that apply)*

Respiratory support	In labour	For caesarean
Low flow supplemental oxygen	☐	☐
High flow humidified oxygen	☐	☐
CPAP (continuous positive airway pressure)	☐	☐
NIV (non-invasive ventilation)	☐	☐
None	☐	☐

5.7 Did she have an arterial line in situ? *(tick all that apply)*

Yes in labour ☐ Yes for caesarean ☐ No ☐

5.8 Did she have a caesarean birth? Yes ☐ No ☐

If Yes, please state:

Grade of urgency[5]* ☐

Indication for caesarean section _____

Method of anaesthesia: *(tick all that apply)*

Epidural top-up ☐ Spinal anaesthesia ☐

Epidural de novo ☐ Combined spinal epidural (CSE) ☐

Elective general anaesthetic ☐ Emergency general anaesthetic ☐

5.9 What was the date and time of childbirth? D D / M M / Y Y h h : m m (24hr)

5.10 Mode of birth

Spontaneous vaginal ☐ Ventouse ☐ Forceps ☐ Breech ☐

Pre-labour caesarean section ☐ Caesarean section after onset of labour ☐

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Section 6: Outcomes
Section 6a: Woman

6a.1 Was the woman admitted to ITU (critical care level 3)? Yes ☐ No ☐

If Yes, please specify

Duration of stay ☐☐ days

Or Tick if woman is still in ITU (critical care level 3) ☐

Or Tick if woman was transferred to another hospital ☐

6a.2 Was the woman admitted to HDU (critical care level 2)? Yes ☐ No ☐

If Yes, please specify

Duration of stay ☐☐ days

Or Tick if woman is still in HDU (critical care level 2) ☐

Or Tick if woman was transferred to another hospital ☐

6a.3 Did the woman receive enhanced maternal care? Yes ☐ No ☐

If Yes, please specify

Duration of stay ☐☐ days

Or Tick if woman is still receiving enhanced maternal care ☐

Or Tick if woman was transferred to another hospital ☐

6a.4 Did the woman have any of the following after giving birth? *(tick all that apply)*

Postpartum haemorrhage Yes ☐ No ☐

Venous thromboembolism Yes ☐ No ☐

Sepsis Yes ☐ No ☐

6a.5 Did any other major maternal morbidity occur?[6]* Yes ☐ No ☐

If Yes, please specify _____

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☐

6a.6 **Was the woman seen by any of the following in the first 24 hours after giving birth?**

Anaesthetic registrar	Yes ☐	No ☐
Consultant anaesthetist	Yes ☐	No ☐
Respiratory registrar	Yes ☐	No ☐
Consultant respiratory physician	Yes ☐	No ☐

6a.7 **Has the woman been discharged post birth?** Yes ☐ No ☐

If Yes, please give date of discharge D D / M M / Y Y

6a.8 **Did the woman die?** Yes ☐ No ☐

If Yes, please specify date of death D D / M M / Y Y

What was the primary cause of death as stated on the death certificate?

(Please state if not known.) _____

Section 6b: Infant 1

NB: If more than one infant, please enter data for each additional infant in Section 7.

6b.1 **Birthweight** ☐☐☐☐ g

6b.2 **Sex of infant:** Male ☐ Female ☐ Indeterminate ☐

6b.3 **Was the infant stillborn?** Yes ☐ No ☐

If Yes, *please go to section 7.*

6b.4 **5 min Apgar** ☐☐

6b.5 **Was the infant admitted to the neonatal unit?** Yes ☐ No ☐

6b.6 **Did any other major infant complications occur?[7]*** Yes ☐ No ☐

If Yes, please specify _____

6b.7 **Did this infant die?** Yes ☐ No ☐

If Yes, please specify date of death D D / M M / Y Y

What was the primary cause of death as stated on the death certificate?

(Please state if not known.) _____

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Section 7:

Please use this space to enter any other information you feel may be important

Section 8:

Name of person completing the form _____

Designation _____

Today's date D D / M M / Y Y

You may find it useful in the case of queries to keep a copy of this form.

Definitions

1. UK Census Coding for ethnic group

WHITE

01. English, Welsh, Scottish, Northern Irish or British
02. Irish
03. Gypsy or Irish Traveller
04. Roma
05. Any other white background

MIXED

06. White and black Caribbean
07. White and black African
08. White and Asian
09. Any other mixed or multiple ethnic background

ASIAN OR ASIAN BRITISH

10. Indian
11. Pakistani
12. Bangladeshi
13. Chinese
14. Any other Asian background

BLACK OR BLACK BRITISH

15. Caribbean
16. African
17. Any other black, black British or Caribbean background

OTHER ETHNIC GROUP

18. Arab
19. Any other ethnic group

2. Previous or current pregnancy problems, including:

Thrombotic event
Amniotic fluid embolism
Eclampsia
3 or more miscarriages
Preterm birth or mid trimester loss
Neonatal death
Stillbirth
Baby with a major congenital abnormality
Small for gestational age (SGA) infant
Large for gestational age (LGA) infant
Infant requiring intensive care
Puerperal psychosis
Placenta praevia
Gestational diabetes
Significant placental abruption
Post-partum haemorrhage requiring transfusion
Surgical procedure in pregnancy
Hyperemesis requiring admission
Dehydration requiring admission
Ovarian hyperstimulation syndrome
Severe infection e.g. pyelonephritis

3. Previous or pre-existing maternal medical problems, including:

Cardiac disease (congenital or acquired)
Renal disease
Endocrine disorders e.g. hypo or hyperthyroidism
Psychiatric disorders
Haematological disorders e.g. sickle cell disease, diagnosed thrombophilia
Inflammatory disorders e.g. inflammatory bowel disease
Autoimmune diseases
Cancer
HIV

4. Estimated date of birth (EDB):

Use the best estimate (ultrasound scan or date of last menstrual period) based on a 40 week gestation

5. RCA/RCOG/CEMACH/CNST Classification for urgency of caesarean section:

1. Immediate threat to life of woman or fetus
2. Maternal or fetal compromise which is not immediately life-threatening
3. Needing early delivery but no maternal or fetal compromise
4. At a time to suit the woman and maternity team

6. Major maternal medical complications, including:

Persistent vegetative state
Cardiac arrest
Cerebrovascular accident
Adult respiratory distress syndrome
Disseminated intravascular coagulopathy
HELLP
Pulmonary oedema
Secondary infection e.g.pneumonia
Renal failure
Thrombotic event
Septicaemia
Required ventilation

7. Fetal/infant complications, including:

Respiratory distress syndrome
Intraventricular haemorrhage
Necrotising enterocolitis
Neonatal encephalopathy
Chronic lung disease
Severe jaundice requiring phototherapy
Major congenital anomaly
Severe infection e.g. septicaemia, meningitis
Exchange transfusion