

MBRRACE-UK perinatal mortality surveillance

User guide for perinatal and infant death data entry and reports

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1 Introduction

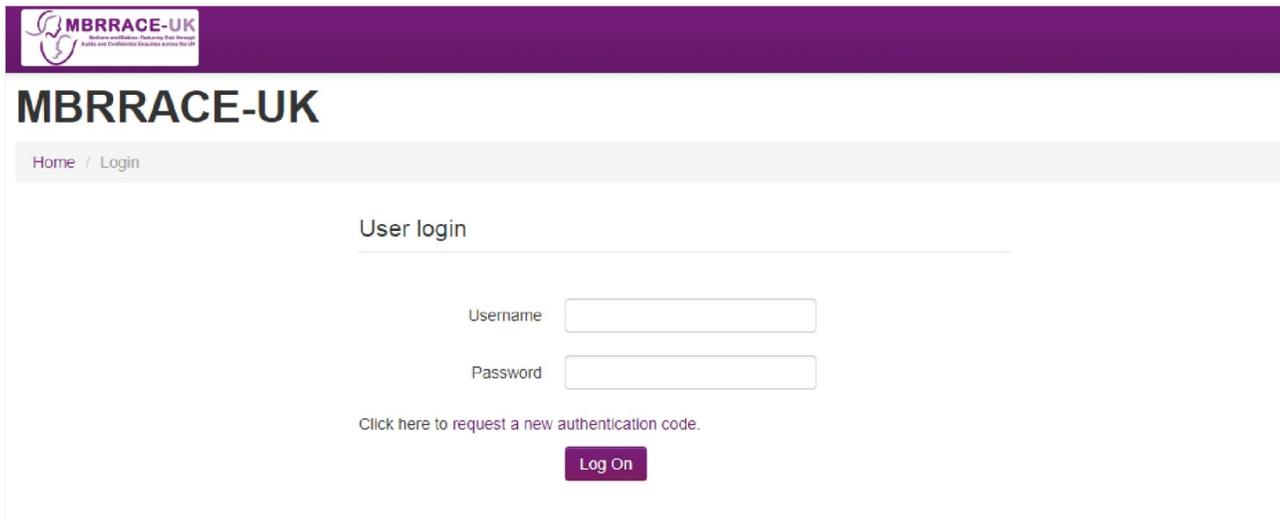
This guide is designed to provide you with a basic overview of how to use the MBRRACE-UK website to record perinatal deaths. This user guide will show you how to notify perinatal deaths and how to manage your reported cases; it also has a section on entering surveillance data (see the separate support materials for reviewing cases with the PMRT, available at www.npeu.ox.ac.uk/pmrt/). There are also podcasts available to introduce the use of the system for both surveillance and review.

1.1 Minimum specification requirements

The MBRRACE-UK data entry system which has been designed to collect MBRRACE-UK data has very high levels of security in place to meet all the requirements of NHS Information Governance. We are aware that some Units are using computers which are running relatively old software which will not work properly with the MBRRACE-UK data entry system. It is **essential** that you check that you are using an up-to-date internet browser i.e. the programme that you use to access the internet.

1.2 Logging in for the first time

The MBRRACE-UK website is located at: www.mbrpace.ox.ac.uk. You will arrive at the login screen, where you will be asked to enter the user details that have been sent to your registered email address.



When logging in and registering for the first time, users will need to **request a new authentication code**.

- This code will be sent to your registered email address.
- This code is a **single use** temporary password. You will be asked to change this when you log in for the first time.
- This can also be done if you forget your password.

The rules for passwords are:

- Maximum length of 20 and a minimum length of 8
- No dictionary words longer than three characters

- At least 1 number and 4 letters
- The letters must be mixed case
- Special characters from the list \$@#+![]
- Special characters are not required but may be included
- Different to the last five passwords

1.3 The home page

Once you have logged in, you will come to the home screen. You are able to check project news, updates and reports as well as accessing the data entry form. A “traffic lights” indicator of key Trust/Health Board counts is also available.

Message of the day | Perinatal Surveillance | PMRT

Perinatal and Infant Death Confidential Survey

Trust/health board traffic lights

There are: **6** open cases **1** missing cases **15** open notifications **16** complete notifications
1 each baby counts **0** assigned to you (requiring action) **1** assigned by you (waiting return)

Data entry

Reports

Selecting a traffic light takes you to the main case management screen. The list of cases will be filtered to show the case type selected in the traffic light.

- **Open cases** – surveillance cases which have been started but are not complete and closed
- **Missing cases** – deaths identified in routine data sources which MBRRACE-UK have been unable to match to an existing surveillance case
- **Open notifications** – deaths which have been notified to MBRRACE-UK where the notification is incomplete
- **Complete notifications** – deaths which have been notified to MBRRACE-UK where the notification is complete but the surveillance case has not been started
- **Assigned to you (requiring action)** – cases assigned to you by another Trust/Health Board for completion of additional data
- **Assigned by you (waiting return)** – cases assigned by you to another Trust/Health Board for completion of additional information

There are similar traffic lights for the PMRT.

1.4 MBRRACE-UK reporting requirements and PMRT support

Type of death	Eligible for reporting to MBRRACE-UK	Supported by the PMRT
Late fetal losses – the baby is delivered between 22 ⁺⁰ and 23 ⁺⁶ weeks of gestation showing no signs of life, irrespective of when the death occurred	Yes From 400g where an accurate estimate of gestation is not available (See Note 1)	Yes From 500g where an accurate estimate of gestation is not available
Stillbirths – the baby is delivered from 24 ⁺⁰ weeks of gestation showing no signs of life, irrespective of when the death occurred	Yes From 400g where an accurate estimate of gestation is not available (See Note 1)	Yes From 500g where an accurate estimate of gestation is not available
Early neonatal deaths – death of a live born baby occurring before 7 completed days after birth	Yes From 20 ⁺⁰ weeks gestation or 400g where an accurate estimate of gestation is not available	Yes From 22 ⁺⁰ weeks gestation or 500g where an accurate estimate of gestation is not available
Late neonatal deaths – death of a live born baby occurring between 7 and 28 completed days after birth	Yes From 20 ⁺⁰ weeks gestation of pregnancy or 400g where an accurate estimate of gestation is not available	Yes From 22 ⁺⁰ weeks gestation or 500g where an accurate estimate of gestation is not available
Post-neonatal deaths – death of a live born baby (born at 20 ⁺⁰ weeks gestation of pregnancy or later or 400g where an accurate estimate of gestation is not available) occurring after 29 or more completed days after birth.	No Notification supported if death is to be reviewed with the PMRT.	Yes From 22 ⁺⁰ weeks gestation or 500g where an accurate estimate of gestation is not available. Baby must have received neonatal care.
Surviving sibling(s) in a multiple pregnancy – any live born baby who lives beyond 28 days, as part of a multiple pregnancy resulting in at least one late fetal loss, stillbirth or neonatal death.	Yes Notification only. Surveillance not required.	No
Terminations of pregnancy – Any registered stillbirth (from 24 completed weeks' gestation) or neonatal death (from 20 completed weeks' gestation) resulting from a termination of pregnancy should be notified. However, you will only be required to complete the initial notification. Completion of the full surveillance form is not required, and these deaths will not be supported for review using the PMRT.	Yes Notification only. Surveillance not required.	No

Note 1 – Unknown gestation: Where a baby is born without signs of life, and an accurate estimate of gestation is not available, the death will be recorded as a stillbirth. Should a post-mortem examination subsequently confirm the gestation the notification should be updated accordingly to ensure the death is classified correctly.

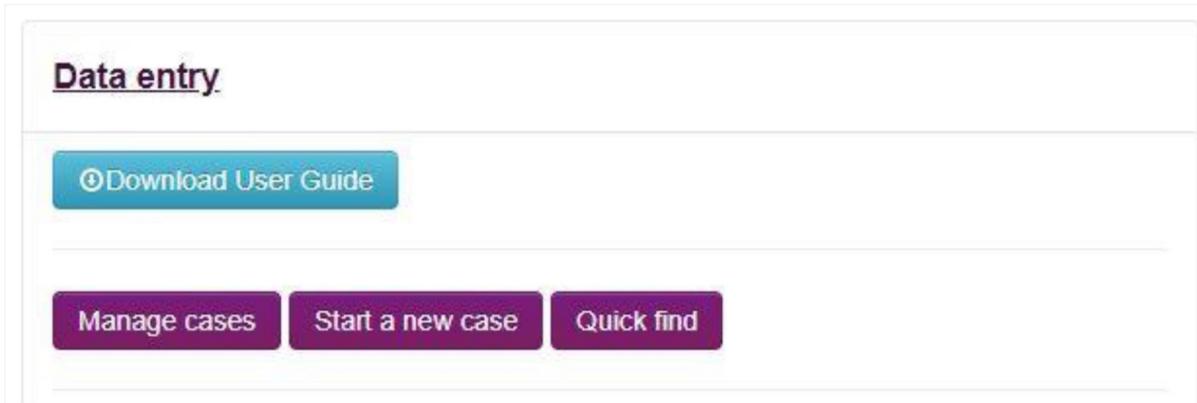
Note 2 - Multiple pregnancies: (a) Where the death of a baby is confirmed before 20⁺⁰ weeks gestation but the baby is delivered at 22⁺⁰ weeks gestation or later AND the birthweight is less than 200g, you will only be required to complete the initial notification. If the baby was not weighed at birth please **enter** an estimated birthweight under 200g. (b) Review is not supported for multiples where the death is confirmed before 22⁺⁰ weeks gestation but the baby is delivered after 22⁺⁰ weeks gestation AND birthweight is under 400g.

If there are no late fetal losses, stillbirths or neonatal deaths in a multiple pregnancy notification is not required.

2 Notifying a death and entering surveillance data

2.1 Introduction

Notifying a death and entering the surveillance data is done via the case management screen. To access the case management screen directly click on **Data entry > Manage cases**.



The case management screen has two modes: surveillance and review/PMRT. Your account permissions will determine which modes are available to you. If your account allows access to both surveillance and the PMRT you can switch between the two modes via a single button.



From the case management screen you can:

- Start a new perinatal case
- Search for an existing case and either view or edit the data
- Manage your perinatal cases, including:
 - Filtering cases to select different subsets
 - Viewing the current status of each case
 - Performing case actions such as assigning a case to another organisation or requesting a case be cancelled

2.2 Starting/notifying a new perinatal case

In order to start a new case you must first create an initial case notification. This is the common starting point for any new case. Once this notification is complete you will then be able to add the surveillance data or, if your user profile allows it, start a review using the PMRT.

Before starting a new case you should first check that the death has not already been notified by searching for it using the **Quick find** function (see Section 0)

To create an initial notification, from the case management screen click on **Start a new case**. You will then be asked to enter a number of key data items to identify the mother, baby, and units involved in their care.

Perinatal case notification

Please enter/edit the information required to notify a case

Perinatal case ID: **New case**

Reporting hospital/unit information

Reporting user
Ian Gallimore

Reporting trust/health board
MBRRACE

Reporting unit/hospital

What was the role of this unit/hospital (tick all that apply)

- Mother was booked here
- Mother laboured here
- Mother gave birth here
- Baby died here

Location at booking/onset of care in labour

Intended unit of care at booking

Unit name

Location at onset of care in labour

Unit name

Mother's information

Mother's date of birth

Was mother eligible for an NHS/CHI number Yes No

Mother's NHS/CHI number

Mother's given/first name

Mother's family/surname

Mother's address

Mother's postcode

For live births the place of death is automatically checked, and if the location is a non-clinical setting (e.g. a hospice or at home) you will be asked to confirm the circumstances of the baby's death.

Place of death

Unit name

Reason if there was transfer of care

-
-
-
-

Unit of care prior to transfer for

Unit name

When you have completed the notification click **Validate and save** to check the data for completeness and highlight any errors.



Accepted values are highlighted in **green**. Unusual values will be highlighted in **amber** but will be accepted by the system if you confirm them by clicking the **Validate and save** button again. Values which are missing or not permitted will be highlighted in **red** and you will be unable to proceed until the data has been amended.

Alternatively, you can save the notification for completion later by selecting **Save (for later completion)**. If you choose to save the notification without validating the data you will be unable to begin entering the surveillance data or to start a review.

Once the notification is complete and validated you will be taken to the **Perinatal surveillance case list** which will now show your newly notified case.

Perinatal surveillance case list click heading to sort

Case ID	Reporting hospital	Date case reported	Mother's family name	Mother's date of birth	Mother's NHS/CHI Number	Live birth	Date of birth	Surveillance case status	CASE ACTIONS
I&S		10/01/2019	Doe	Not known (Mother's age 33)		No	10/01/2019	Surveillance not started	Surveillance ▼

From here you can view the notification you have just created, including its status, as well as begin to add surveillance data (see section 2.4).

Perinatal case **I&S**

Case status: surveillance

This case is eligible for surveillance

- Baby 1: Reportable birth

Case status: review

- Baby 1: Supported for review
Review: Review started

Reporting hospital

Case ID: **I&S** ▼ NPEU

[View notification](#)

Notification status →

[View full surveillance case details](#)

2.3 Finding an existing case

To search for an existing case click on **Quick find** from the case management screen to open the search screen.

The screenshot shows a search interface with the following components:

- Start a new case** (purple button) and **Quick find** (grey button) at the top.
- Case identifier** section: A text input for "Case ID" and a green **Find** button.
- Mother's identifiers** section: Two text inputs for "Family name" and "Date of birth", each with a help icon.
- NHS/CHI numbers** section: Two text inputs for "Mother's NHS/CHI number" and "Baby's NHS/CHI number", each with a help icon.
- At the bottom: A grey bar containing a **Clear** button and a green **Find** button.

You can search for a case using any of the following:

- Case identifier
 - MBRRACE-UK case ID
- Mother's identifiers
 - Family name
 - Date of birth
- NHS/CHI numbers
 - Mother's NHS/CHI number
 - Baby's NHS/CHI number

Enter the search criteria, then click on the **Find** button.

The results will appear on the case management screen. If there is more than one case containing the same identifier (for example, multiple mothers with the same surname, or more than one case with the same mother's NHS number) the results will appear as a list.

Perinatal surveillance case list click heading to sort

Case ID	Reporting hospital	Date case reported	Mother's family name	Mother's date of birth	Mother's NHS/CHI Number	Live birth	Date of birth	Surveillance case status	CASE ACTIONS
<input type="text"/> ▾	XXXXXX Hospital	2023-01-01	Smith	1980-01-01	123456789	Yes	2023-01-01	Cancelled	Surveillance ▾
<input type="text"/> ▾	XXXXXX Hospital	2023-01-01	Smith	1980-01-01	123456789	No	2023-01-01	Cancelled	Surveillance ▾
<input type="text"/> ▾	XXXXXX Hospital	2023-01-01	Smith	1980-01-01	123456789	Yes	2023-01-01	Surveillance started	Surveillance ▾
<input type="text"/> ▾	XXXXXX Hospital	2023-01-01	Smith	1980-01-01	123456789	No	2023-01-01	Surveillance started	Surveillance ▾

From this list you can then view the notification for each case, start or complete the surveillance data, or view the full surveillance details. You can also assign a case to another Trust or Health Board as well as request that a case be cancelled.

2.4 Cancelling a notification

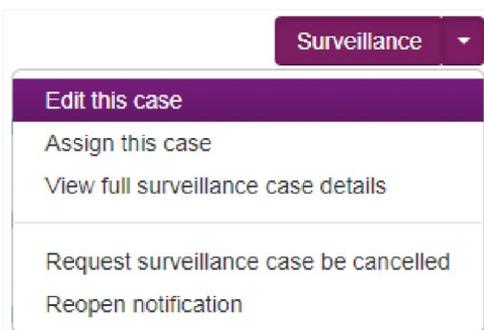
If you have started a notification by mistake then you can request that it be cancelled by clicking on the **Contact Us** button at the top of the screen and entering the reason for cancellation.

2.5 Entering surveillance data

Once you have completed a notification you can then enter the surveillance data. If you have just added a new notification and the case status is "Surveillance not started" you can begin to enter the surveillance data by selecting **Start surveillance case** from the Case Actions menu. Any data entered as part of the initial notification will be automatically imported into the surveillance form but you will not be able to edit it. Occasionally you may notice errors in this data which need correction. To make any changes to these fields you will therefore have to reopen the notification via the **Case actions > Reopen notification** facility.

Once you have made the necessary changes you will need to re-validate the notification before you can continue to add the surveillance data.

If the surveillance data has already been started but isn't complete you can continue to edit the data by selecting **Edit this case**. This will open the surveillance form so you can begin or continue to add data.



The first section of the form you will see is **1 Notification and Woman's details**.

1 Notification and Woman's details

1.1 Woman's identifiers

Given name/first name I&S	NHS/CHI number [REDACTED]
Family name/surname I&S	Date of birth PD/06/1999
Address PD	Hospital number in this hospital I&S
Postcode PD	

[Confirm and continue](#)

Before continuing you will need to confirm that the record you are about to edit relates to the correct mother. To confirm you wish to edit the record click **Confirm and continue**. Once you have confirmed the mother's details you can then add information to the rest of the form.

2.6 Sections of the form

There are six sections you are required to complete. These are:



2.6.1 Finding your place

The index page allows you to access different sections of the form for editing. You can close and expand each section of the form using this menu.

The screenshot displays a web form interface with several sections. Section 4, 'This pregnancy', includes sub-sections 4.1 'Booking' and 4.2 'Antenatal care provision'. Section 5, 'Delivery and outcomes', includes 5.1 'Delivery and outcomes summary'. Section 6, 'Check and complete the form', includes 6.1 'Add clinicians' and 6.2 'Check and close the case'. A callout box with a purple arrow points to section 4.2, containing the text 'Click to expand section'. On the right side, a dropdown menu is open, listing the following sections: 1.1 Woman's identifiers, 1.2 Woman's details, 2.1 Woman's health, 3.1 Previous pregnancies, 3.2 Obstetric history, 4.1 Booking, 4.2 Antenatal care provision, 5.1 Delivery and outcomes, 6.1 Add clinicians, and 6.2 Check the form. At the bottom of the page, there is a navigation bar with a dropdown menu showing '15/01/16 10:06 saved 'as is'', buttons for 'Save 'as is'' and 'Open FAQs', and a 'Jump to section' button which is circled in red.

The **Jump to section** button at the bottom of the page allows you to quickly access other parts of the form.

Using these headings to navigate through the form will automatically save work in progress. However, it is worth continually saving work to make sure data is not lost.

2.6.2 Saving work in progress

At the end of each section, there is a **Save and continue** button. Once you have finished a section click this button to avoid losing data.

Alternatively, you can save a section as it currently stands, even if it is incomplete, using the **Save 'as is'** option at the bottom of the page.

The screenshot shows a close-up of the bottom navigation bar. It features a dropdown menu with the text '15/01/16 10:06 saved 'as is'', a 'Save 'as is'' button, and an 'Open FAQs' button with a question mark icon.

2.6.3 Finalising the form

Before finishing the form, you will be asked to check through the data to rectify any mistakes. This is in section 6.1 "Check and close the case".

- Click on the heading **Check and close the case**
- Then click **Check all sections**
- Any errors will show up in the list on the right-hand side

- You can jump to the relevant section by clicking on the **highlighted text** on the left.

Errors for sections 1 to 4 and section 6	
Section	Error
Woman's identifiers	No errors
Woman's details	No errors
Woman's health	No errors
Previous pregnancies	Outcome of previous pregnancy is required
	Year of previous pregnancy is required
	The gestation in weeks is required
	The birth weight (g) is required
	A reponse to 'Fetal anomaly' is required
	A reponse to 'infant death' is required
	Year of previous pregnancy is required
	The gestation in weeks is required
Obstetric history	Please indicate whether the woman had previous pregnancy problems
Booking	No errors
Antenatal care	No errors
Clinicians	Please supply the name of the clinician responsible for care
	Please supply the name of the neonatologist/pediatrician responsible for care

Once you have corrected any errors you should re-check the form before closing it. Once the form has been closed you will be able to view the full surveillance details but will be unable to make any changes without reopening the case (see Section 2.8.1)

Leaving the form is easy: simply click on the MBRRACE-UK logo or **Home** at the top of the page. The **Logout** button can be found in the top-right corner of the page.

If the form has been inactive for some time, you will be logged out automatically. You may lose unsaved data if this happens. You can also leave the form by clicking the **Perinatal and Infant Death** heading at the top of the page.

To ensure confidentiality, and to avoid losing unsaved data, please log out of the database if you have to leave your computer station unattended. When leaving the site, you will be reminded to make sure your data is saved.

2.7 Printing a completed surveillance form

Once you have completed a surveillance form you can print out a copy for your records, if required.

- Using the **Quick Find** facility locate the case you wish to print
- Select **View full surveillance case details** from the list of case actions
- Select the "print" function from your web browser options menu

2.8 Reopening, assigning, and cancelling a case

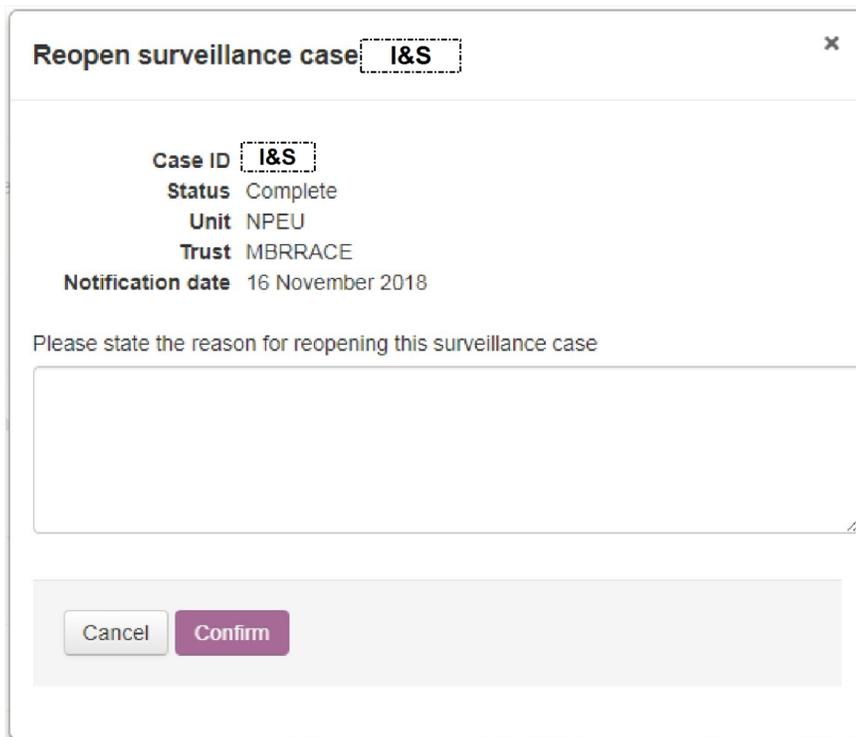
As well as allowing users to view and edit surveillance data, the list of case actions also allows users to:

- Reopen a case for editing
- Assign a case to a different Trust/Health Board to obtain additional information
- Cancel a surveillance case

2.8.1 Reopening a closed case

Occasionally you may wish to reopen a case which has previously been validated and closed by a member of the team at your Trust/Health Board. This may be because you have noticed an error in the data entry and wish to correct it; or you may have acquired additional information such as post mortem results. If the **Surveillance case status** is listed as *Surveillance complete* you will need to reopen the case before you can make any changes.

To reopen a case simply select **Reopen surveillance case** from the list of case actions. You will then be asked to give a reason for reopening the case.



Reopen surveillance case I&S

Case ID I&S
Status Complete
Unit NPEU
Trust MBRRACE
Notification date 16 November 2018

Please state the reason for reopening this surveillance case

Cancel Confirm

Once you have entered the reason into the text box provided click on the **Confirm** button to reopen the case and restore the editing function.

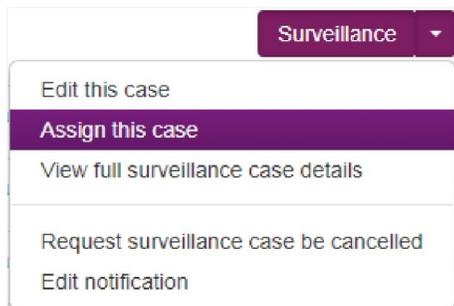
When you have completed adding or correcting data you can then finalise and close the form (see Section 2.6.3)

2.8.2 Assigning a case

We realise that you may need to report the deaths of babies born outside your hospital and you may therefore not have immediate access to all of the details about the mother, her booking and antenatal care, and the circumstances of the baby's delivery. In these circumstances there is a facility within the system to enable you to temporarily transfer responsibility for data entry to another Trust/Health Board. Whilst the responsibility for

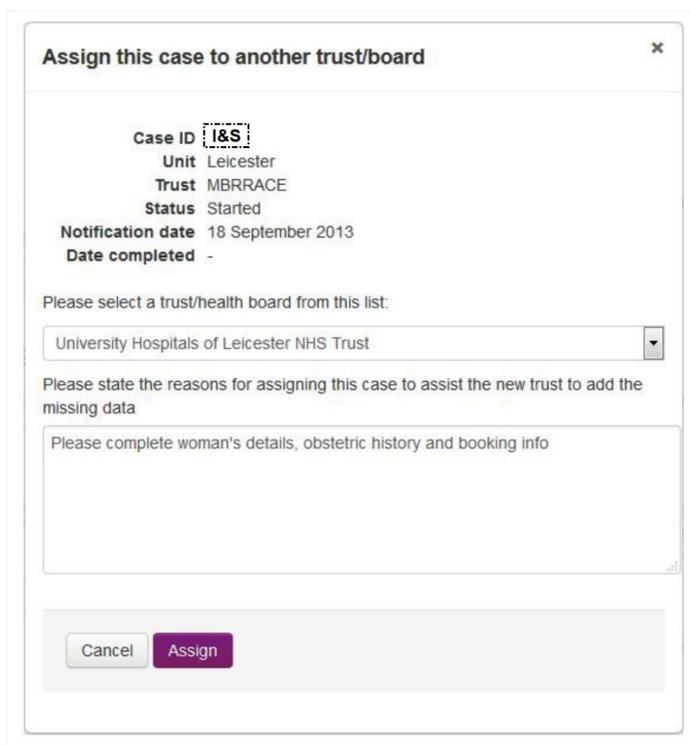
reporting the data still remains with the unit where the death occurred, the case assignment facility allows reporters from other Trusts/Health Boards to enter the relevant data.

In order to assign a case to another Trust/Health Board firstly locate the case using the case management screen. Once you have located the relevant case select **Assign this case** from the list of case actions



A screenshot of a web interface showing a dropdown menu under the heading 'Surveillance'. The menu contains five options: 'Edit this case', 'Assign this case' (which is highlighted with a purple background), 'View full surveillance case details', 'Request surveillance case be cancelled', and 'Edit notification'.

You will then be presented with a box like the example below.



A screenshot of a dialog box titled 'Assign this case to another trust/board'. The dialog contains the following information:

- Case ID**: I&S
- Unit**: Leicester
- Trust**: MBRRACE
- Status**: Started
- Notification date**: 18 September 2013
- Date completed**: -

Below this information, there is a prompt: 'Please select a trust/health board from this list:'. A dropdown menu is shown with 'University Hospitals of Leicester NHS Trust' selected.

Below the dropdown, there is a prompt: 'Please state the reasons for assigning this case to assist the new trust to add the missing data'. A text area contains the text: 'Please complete woman's details, obstetric history and booking info'.

At the bottom of the dialog, there are two buttons: 'Cancel' and 'Assign'.

From the drop-down menu choose the Trust/Health Board you wish to assign the case to. You can also describe what information you would like the team there to enter as well as provide any additional information about the case, if necessary.

Finally, click **Assign** to give the other Trust/Health Board temporary editing rights to the case. The lead reporters at the receiving Trust/Health Board will then receive an email notifying them that the case has been assigned to them. The case will also appear as an *Assigned case (requiring action)* in the organisation's traffic lights.

You will be unable to make any changes to the data while a case is assigned to another Trust/Health Board, but you can still view the details by selecting **View full surveillance case details** from the list of case actions.

You can also view details of the case assignment by selecting **Assignment summary** from the list of case actions.

Assignment Status	Receiving NHS Trust/Health Board	Assigning NHS Trust/Health Board	Date assigned	Assigned by	Date returned	Returned by
Assigned	Oxford University Hospitals NHS Trust	MBRRACE	30/01/2019	Ian Gallimore	Not set	

Request comment: Mother delivered with you - please complete booking/anetenatal care/delivery sections

2.8.3 Editing an assigned case

When a case has been assigned to your Trust/Health Board it will appear as an *Assigned case (requiring action)* within your organisation's traffic lights. The case assignment status will also appear in the **Surveillance case status**. Further details of the assignment, including what information is required, can be found by selecting **Assignment summary** from the list of case actions (see Section 2.8.2 above).

To add the missing data select **Edit this case** from the list of case actions.

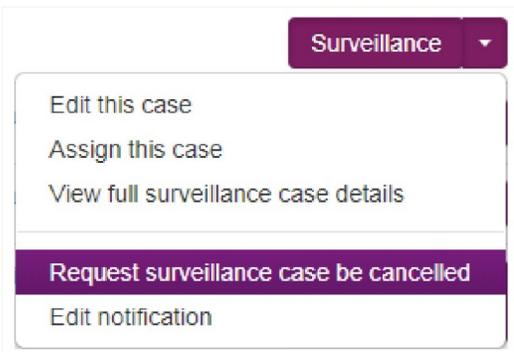
2.8.4 Returning an assigned case

Once you have completed the information required you should return the case to the assigning Trust/Health Board as soon as possible by selecting the **Return case** option from the list of case actions. This allows you to confirm that the missing data has been entered or provide an explanation as to why the data cannot be completed. You do not need to close the case before returning it. Until the case has been returned the assigning Trust will be unable to make any additional changes to the data.

Once the case is returned to the assigning Trust/Health Board you will continue to be able to view the full surveillance details but will no longer be able to edit the data. To view the case select **View full surveillance case details** from either the notification drop-down or the case actions dropdown.

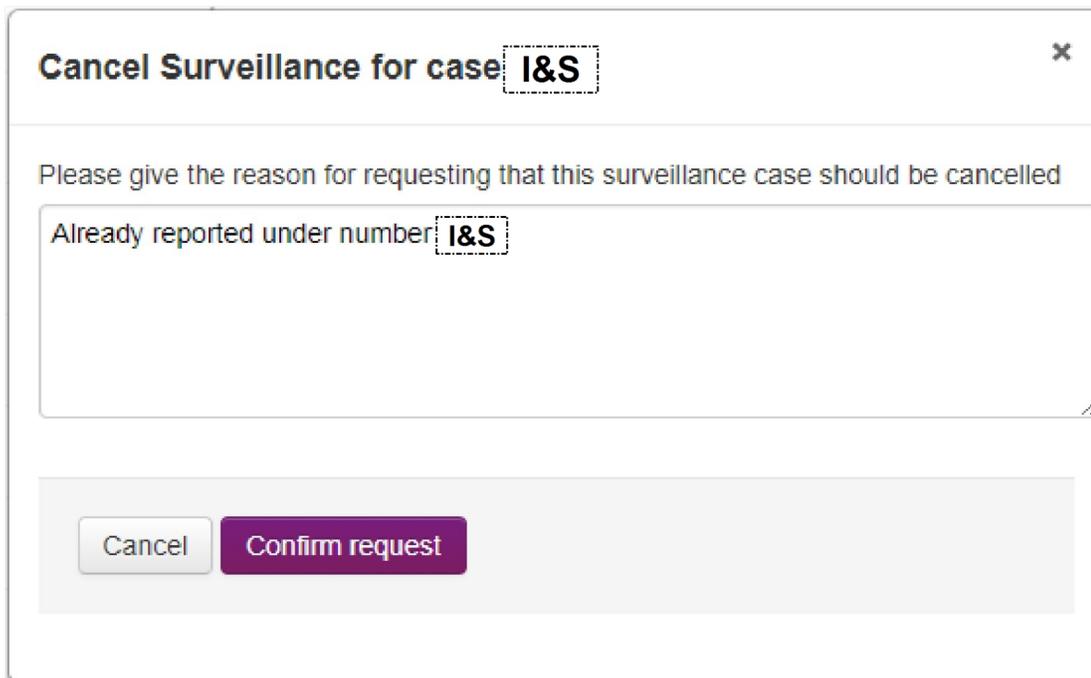
2.8.5 Cancelling a case

If you wish to cancel a surveillance case because, for example, it has already been reported under a different number, you can submit a request to MBRRACE-UK by selecting **Request surveillance case be cancelled** from the list of case actions.



You will be asked to give the reason you are requesting that this surveillance case should be cancelled before confirming your request. A member of the MBRRACE-UK team may contact you for further information if

necessary.



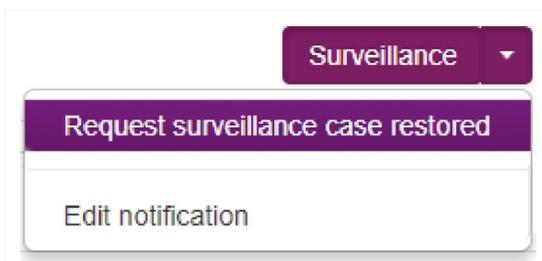
Cancel Surveillance for case I&S ✕

Please give the reason for requesting that this surveillance case should be cancelled

Already reported under number **I&S**

2.8.6 Restoring a cancelled case

You can also request that a cancelled case be restored by selecting **Request surveillance case be restored** from the list of case actions.



Surveillance ▾

- Request surveillance case restored
- Edit notification

You will be asked to give a reason for restoring the case before confirming your request. Once the case has been restored you will be informed by a member of the MBRRACE-UK team. You will then be reopen the case for editing, if required.

2.9 Data entry notes

2.9.1 Incorrect answers

When you click **Save and continue** at the end of each section the data will be validated and any issues highlighted.

4 This pregnancy

4.1 Booking

Date of first booking appointment

Final estimated date of delivery

Basis for final EDD Dating ultrasound scan Last Menstrual period

Intended place of birth

Type of care Obstetrician led Midwifery led Shared (Obstetric and midwifery co-care) Collaborative care Freebirthing Not known

Care provider

Chorionicity

Assisted conception

Height is expected to be between 140 and 190 cm
Woman's height in cm

Weight must be between 30 and 999 kg
Woman's first recorded weight in kg

Documented influenza vaccination in the last 12 months

Number of babies is expected to be between 1 and 4

When an appropriate value is added in the boxes, the text will show up in **green**.

Unusual or unlikely values (e.g. higher than expected height) will show up in **amber** to highlight the value.

When a value is added which is not permitted, the text will show up in **red** along with an explanation.

Save and continue

Data items highlighted in **amber** can be accepted by clicking **Save and continue** again. Data items highlighted in **red** are not permitted, and you will be unable to continue entering data until they are corrected.

2.9.2 Date-format questions

Some questions ask for a specific date (e.g. the woman's date of birth). When you click in the box, a calendar will appear and you can choose the specific date from here. Alternatively, you can enter the date manually using the format **DD/MM/YYYY** (e.g. **01/01/1979**).

Date of birth

A calendar will appear when you click in any box that requires a date

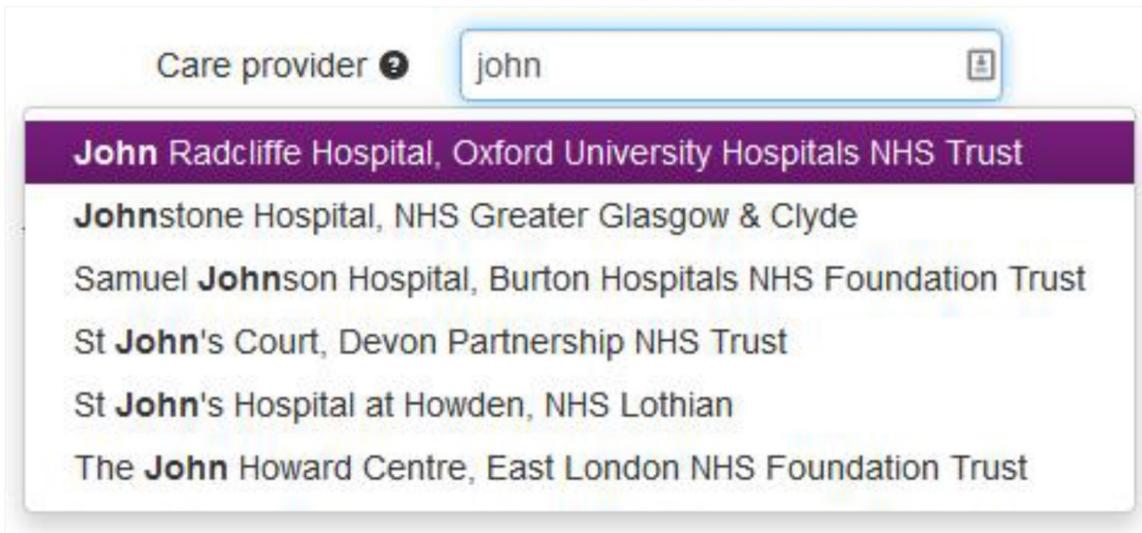
1980-1989

1979	1980	1981	1982
1983	1984	1985	1986
1987	1988	1989	1990

2.9.3 Entering specific places

When completing a case notification you will be asked to enter the care provider(s) at each point of the care pathway (normally a medical facility).

Where it asks for place of delivery, type in the first few letters of the place. Options will appear in the drop-down list below the box. Select the appropriate location, making sure you choose the correct Trust/Health Board as well as the unit, as there may be several hospitals with the same name (e.g. St Mary's).



Care provider ⓘ john

- John Radcliffe Hospital, Oxford University Hospitals NHS Trust**
- Johnstone Hospital, NHS Greater Glasgow & Clyde
- Samuel **Johnson** Hospital, Burton Hospitals NHS Foundation Trust
- St **John's** Court, Devon Partnership NHS Trust
- St **John's** Hospital at Howden, NHS Lothian
- The **John** Howard Centre, East London NHS Foundation Trust

2.9.4 Reporting the cause of death using CODAC

The MBRRACE-UK surveillance system records causes of death using the CODAC (Cause Of Death and Associated Conditions) system. CODAC is a three-level hierarchical system, with level 1 grouping causes of death into the following broad categories:

- 0 Infection
- 1 Neonatal
- 2 Intrapartum
- 3 Congenital Anomaly
- 4 Fetal
- 5 Cord
- 6 Placenta
- 7 Maternal
- 8 Unknown
- 9 Termination

Each of these categories is sub-divided at Level 2 and again at Level 3. A final code is then generated based on the selections made at each level.

Example: CODAC code for Necrotizing Enterocolitis

LEVEL 1 0 Infection 1 Neonatal 2 Intrapartum 3 Congenital anomaly 4 Fetal 5 Cord 6 Placenta 7 Maternal 8 Unknown 9 Termination	LEVEL II (Neonatal) 0 Unspecified or other 1 Extreme prematurity 2 Neurological 3 Cardio-respiratory 4 Gastrointestinal 5 Multi-organ failure 6 Trauma or suffocation 7 Inadequate care	LEVEL III (Gastrointestinal) 0 Unspecified 1 Necrotizing enterocolitis 2 Other
--	---	---

The CODAC code for Necrotizing Enterocolitis is therefore 141. **The surveillance system will automatically generate the correct code based on the user's selections at each level** (in this example, *Neonatal* > *Gastrointestinal* > *Necrotizing enterocolitis*).

To record the cause of death as Necrotizing Enterocolitis:

1. Navigate to "Baby/fetus primary cause of death" in Section 5.1C of the surveillance form and click **Add baby/fetus primary cause of death**.
2. Select the main category "Neonatal: Conditions, diseases and events specific to neonatal life" from the drop-down list.

Conditions search (Cause of death)

Info Select the main category of cause of death first. This will give a list of conditions in this category. Either select a condition from the list or refine the list further by using search term(s). Use the clear button to cancel the last search

Main category of cause of death: Select a main category

Specific cause of death:

- Select a main category
- Infection: Infectious causes of death
- Neonatal: Conditions, diseases and events specific to neonatal life**
- Intrapartum: Mechanics and events of parturition or its complications
- Congenital anomaly: Congenital anomalies, chromosomal anomalies and structural malformations
- Fetal: Fetal conditions, diseases and events
- Cord: Cord conditions, diseases and events
- Placenta: Conditions, diseases and events of the placenta and membranes
- Maternal: Maternal conditions, diseases and events
- Unknown: Unknown, unexplained and unclassifiable causes of death
- Termination: Terminations of pregnancy

3. Select "Neonatal, Gastrointestinal, Necrotizing enterocolitis" from the **Specific cause of death** drop-down list.

Conditions search (Cause of death) ×

Info Select the main category of cause of death first. This will give a list of conditions in this category. Either select a condition from the list or refine the list further by using search term(s). Use the clear button to cancel the last search ×

Main category of cause of death Neonatal: Conditions, diseases and e ▾

Specific cause of death Select a condition ▾

Enter search term(s) to refine condition list

Selected condition -

Neonatal, Cardio-respiratory, Unspecified

Neonatal, Cardio-respiratory, Chronic neonatal lung disease / Bronchopulmonary dysplasia

Neonatal, Cardio-respiratory, Hyaline membrane disease / Respiratory distress syndrome

Neonatal, Cardio-respiratory, Meconium aspiration syndrome

Neonatal, Cardio-respiratory, Primary persistent pulmonary hypertension

Neonatal, Cardio-respiratory, Other

Neonatal, Gastrointestinal, Unspecified

Neonatal, Gastrointestinal, Necrotizing enterocolitis

Neonatal, Gastrointestinal, Other

Neonatal, Multiorgan failure, Unspecified

Neonatal, Multiorgan failure, Other

Neonatal, Trauma or suffocation, Unspecified

Neonatal, Trauma or suffocation, Trauma - unspecified

Neonatal, Trauma or suffocation, Trauma - accidental

Neonatal, Trauma or suffocation, Trauma - inflicted / intentional

Neonatal, Trauma or suffocation, Suffocation - unspecified

Neonatal, Trauma or suffocation, Suffocation - accidental

Neonatal, Trauma or suffocation, Suffocation - inflicted / intentional

Neonatal, Trauma or suffocation, Surgical

Neonatal, Trauma or suffocation, Other iatrogenic

4. Alternatively, you can refine the list of conditions by entering a search term.

Specific cause of death Select a condition ▾

Enter search term(s) to refine condition list

Select a condition

Neonatal, Gastrointestinal, Necrotizing enterocolitis

Clear
necrotizing
Search

5. Once you have selected the appropriate cause of death click **Add condition**. The cause of death and corresponding CODAC code will then be added to the surveillance form.

Condition	Code
Neonatal, Gastrointestinal, Necrotizing enterocolitis	141

6. You can use the same procedure to add any associated conditions (just click **Add baby/fetus associated condition**). If there is no known associated condition you must select the corresponding tick box.

Conditions search (Associated conditions) ×

Info Select the main category of cause of death first. This will give a list of conditions in this category. Either select a condition from the list or refine the list further by using search term(s). Use the clear button to cancel the last search ×

Please tick if there is *no known* associated condition

Main category of cause of death

Specific cause of death

IMPORTANT: You cannot have more than one primary cause of death. Entering more than one primary cause of death will result in an error when you finalise the case. Additional causes should be added as associated conditions. You can have one or two additional causes.

If the final cause of death is pending you should record the initial cause of death based on clinical assessment and select the “No - awaiting results” option in Section 5.1C

Confirmation of cause of death

Is this the final agreed cause of death following results of any inquest and all requested investigations (e.g. Post-mortem; placental histology; Blood and genetic tests; Perinatal Mortality review)?

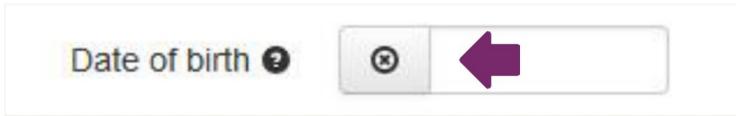
Yes

No - awaiting results

You can update the cause of death once the final cause has been agreed.

2.9.5 Unknown answers

Questions that have a drop down list may have an option to select 'Not known' if you do not know the answer. For certain questions, such as date of birth or hospital number, you can click the grey (X) on the left-hand side of the box if the answer is not known:



The screenshot shows a form field labeled 'Date of birth' with a question mark icon. To the right of the label is a grey button with a white 'X' icon. Further right is a purple arrow pointing left towards the input field.

It will then turn black with a check (✓):



The screenshot shows the same 'Date of birth' form field. The grey button with the 'X' is now black with a white checkmark icon.

You can click this box again if you obtain the information at a later date.

3 Managing your cases

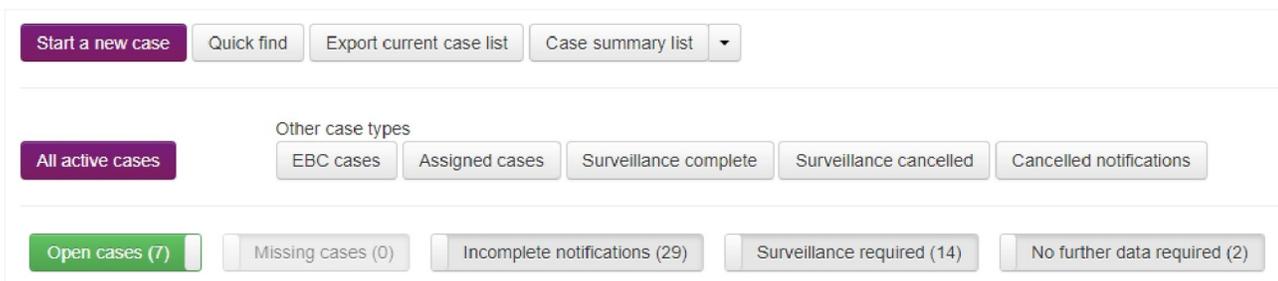
3.1 Introduction

As well as starting a new case or searching for an existing case the case management screen allows you easily view and filter a list of all of your reported perinatal deaths. To access the case management screen directly click on **Data entry > Manage cases**.

From the case management screen you can:

- Start a new perinatal case
- Search for an existing case and either view or edit the data
- Manage your perinatal cases, including:
 - Filtering cases to select different subsets
 - Viewing the current status of each case
 - Performing case actions such as assigning a case to another organisation or requesting a case be cancelled

3.2 Filtering your list of surveillance cases



The screenshot shows the case management interface. At the top, there are buttons for 'Start a new case', 'Quick find', 'Export current case list', and 'Case summary list' with a dropdown arrow. Below this, there is a section for 'Other case types' with buttons for 'All active cases', 'EBC cases', 'Assigned cases', 'Surveillance complete', 'Surveillance cancelled', and 'Cancelled notifications'. At the bottom, there are buttons showing case counts: 'Open cases (7)', 'Missing cases (0)', 'Incomplete notifications (29)', 'Surveillance required (14)', and 'No further data required (2)'.

- The default filters are set to display any open cases.
- Clicking on any of the toggle switches adds (green) or removes (grey) the selected group of cases from the display list.
- The available filters are:
 - **Open cases** – surveillance cases which have been started but are not complete and closed
 - **Missing cases** – deaths identified in routine data sources which MBRRACE-UK have been unable to match to an existing surveillance case
 - **Incomplete notifications** – deaths which have been notified to MBRRACE-UK where the notification is incomplete
 - **Surveillance required** – deaths which have been notified to MBRRACE-UK where the notification is complete but the surveillance case has not been started
 - **No further data required** – deaths which have been notified to MBRRACE-UK where the notification is complete and no surveillance data is required
- Additional subsets of cases can be selected by clicking on any of the buttons under **Other case types**. These are:
 - **Assigned cases** – cases assigned to you by another Trust/Health Board for completion of additional data, or cases assigned by you to another Trust/Health Board for completion of additional information
 - **Surveillance complete** – deaths which have been notified to MBRRACE-UK where the surveillance case has been finalised and closed
 - **Surveillance cancelled** – deaths which have been notified to MBRRACE-UK where the surveillance case has been cancelled
 - **Cancelled notifications** – deaths which have been notified to MBRRACE-UK where the notification has been cancelled

Example – Open cases and Incomplete notifications:

Perinatal surveillance case list [click heading to sort](#)

Case ID	Reporting hospital	Date case reported	Mother's family name	Mother's date of birth	Mother's NHS/CHI Number	Live birth	Date of birth	Surveillance case status	CASE ACTIONS
<input type="checkbox"/>	Leicester	10/01/2019		Not known (Mother's age)		not set	Not set	Notification is incomplete	Edit/complete notification
<input type="checkbox"/>	Leicester	10/01/2019		Not known (Mother's age 33)		No	<input type="checkbox"/> 01/2019	Surveillance started	Surveillance
<input checked="" type="checkbox"/>	NPEU	29/11/2018	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 09/1990	<input checked="" type="checkbox"/>	No	<input checked="" type="checkbox"/> 10/2018	Surveillance started	Surveillance
<input checked="" type="checkbox"/>	NPEU	30/10/2018	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 36/1999	<input checked="" type="checkbox"/>	Yes	<input checked="" type="checkbox"/> 10/2018	Surveillance started	Surveillance
<input type="checkbox"/>	NPEU	30/10/2018		Not known (Mother's age 33)		not set	Not set	Notification is incomplete	Edit/complete notification

3.3 Switching between surveillance and PMRT modes

The case management screen has two modes: surveillance and review/PMRT. Your account permissions will determine which modes are available to you. If your account allows access to both surveillance and the PMRT you can switch between the two modes via a single button.

Switch to review cases

Other case types

All active cases Review complete Review cancelled Cancelled notifications

The counts indicate the number of babies, not the number of cases

Reviewing (8) Writing report (3) Incomplete notifications (15) Ready to review (6) Reviews not supported (5)

4 Your data

4.1 Introduction

The MBRRACE-UK on-line reporting system allows you to access information relating to local cases via the **Your data** tab. Clicking on **Your data** allows you to access case lists and summaries as well as the MBRRACE-UK Real-Time Data Monitoring tool. You can also access custom versions of the annual perinatal surveillance reports, containing additional information specific to your Trust/Health Board. If you have access to the PMRT you can create perinatal mortality reviews summary reports and data extracts

4.2 Perinatal surveillance reports

4.2.1 Trust/Health Board reported cases

The **Trust/Health Board reported cases** list provides abbreviated details of all cases reported by your Trust/Health Board. A "sort" facility is available to enable you to find cases from a particular year, or from a particular hospital, or distinguish between cases of stillbirth or neonatal death. You can change the display order by clicking on any of the headings. Clicking on the same heading again changes the order to either ascending or descending.

Trust/Health Board overview

Case ID	Hospital	Date started	Date completed	Woman's name	Woman's NHS/CHI number	Woman's postcode	Case type	Gestation (weeks)	Baby's NHS/CHI number	Date of deliver	Date of death	Birthweight	Sex	Fetus count
20000	Liverpool	20/02/2015	04/03/2015	Maria Jones	111111111	L20 2BP	Early neonatal death	36.0	1111111	10/03/2015	10/03/2015	1000g	Female	1
20001	Liverpool	21/02/2015	05/03/2015	John Doe	2222222	L21 3DP	Stillbirth	37.0	22222	11/03/2015	11/03/2015	900g	Male	1
20002	Liverpool	22/02/2015	06/03/2015	Paula Smith	3333333	L22 4EP	Stillbirth	38.0	33333	12/03/2015	12/03/2015	800g	Female	1
20003	Liverpool	23/02/2015	07/03/2015	Paula Jones	4444444	L23 5FP	Stillbirth	39.0	44444	13/03/2015	13/03/2015	700g	Male	1
20004	Liverpool	24/02/2015	08/03/2015	Lucy Thomas	5555555	L24 6GP	Early neonatal death	35.0	55555	14/03/2015	15/03/2015	600g	Female	2

4.2.2 Trust/Health Board Summary

The **Trust/Health Board summary** provides an annual and monthly summary number of cases by case-type and unit.

MBRRACE-UK Perinatal Death Summary Report for MBRRACE: report date 7/02/2019

Trust or Health Board/unit	Period	Late fetal loss	Stillbirth	Early neonatal deaths	Late neonatal deaths	Post neonatal deaths	All deaths
MBRRACE summary by year	2017 reported deaths	0	1	0	0	0	1
	2018 reported deaths	0	4	1	0	0	5
	2019 reported deaths	0	2	0	0	0	2

MBRRACE-UK Perinatal Death Summary Report for MBRRACE: report date 7/02/2019

Trust or Health Board/unit	Period	Late fetal loss	Stillbirth	Early neonatal deaths	Late neonatal deaths	Post neonatal deaths	All deaths
MBRRACE monthly summary for 2018	Jan-18	0	1	0	0	0	1
	Feb-18	0	0	0	0	0	0
	Mar-18	0	0	0	0	0	0
	Apr-18	0	0	0	0	0	0
	May-18	0	0	0	0	0	0
	Jun-18	0	0	0	0	0	0
	Jul-18	0	0	0	0	0	0
	Aug-18	0	0	0	0	0	0
	Sep-18	0	1	0	0	0	1
	Oct-18	0	2	1	0	0	3
	Nov-18	0	0	0	0	0	0
	Dec-18	0	0	0	0	0	0

4.2.3 Downloading reports

Reports can be downloaded in .csv format for use in Excel by clicking on the appropriate link at the top of the page.

Trust/Health Board reports cases/summary for downloading

- [Trust/health board reported cases](#)
- [Trust/Health Board summary](#)

4.2.4 Trust/Health Board-specific surveillance reports

In addition to the annual UK-wide perinatal mortality surveillance reports, MBRRACE-UK also produce supplementary reports exclusively about stillbirths and neonatal deaths of babies born within each Trust/Health Board. They contain information in addition to that which appears in the national reports, specific to individual Trusts/Health Boards, and are only available to registered users of the MBRRACE-UK surveillance system.

To download the report for your Trust/Health Board in .pdf format click on the appropriate year.

MBRRACE-UK perinatal mortality trust/health board report for:

2013 births

2014 births

2015 births

2016 births

4.3 Perinatal mortality reviews summary report and data extracts

You can now produce a report that provides a summary of reviews completed using the PMRT.

This report can be generated for specific date ranges which you are able to define, and includes information about all perinatal deaths during that period where a review has been completed and the review report published.

Included in the report is a summary of:

- The deaths reviewed, by gestational age and type of death
- The grading of care, by gestational age and type of death
- The causes of death entered in the review of babies during this period
- The issues raised by reviews during this period
- The number of staff involved in reviews, and their specialities (from June 2018)
- The top contributory factors identified as relevant to the deaths reviewed

The report is generated from the information entered by your Trust/Health Board into the PMRT during the review of each death. This means some parts of the report may be more useful if more detail is provided during the review process.

4.3.1 Generating a PMRT summary report

To generate a PMRT summary report click on **Your data > Generate a Summary Report**.

Generate a Summary Report

Select the appropriate date range, and then click **Generate Reviews Summary Report**.

Generate report for deaths which occurred from: 1/1/2018 to: 29/5/2019

Perinatal Mortality Reviews Summary Report: Generate Reviews Summary Report

Data extracts:

Extract Factors

Extract Actions

Extract Gradings of Care

4.3.2 Extracting factors, actions and gradings of care

Alternatively, you can create data extracts showing contributory factors, actions or gradings of care for the selected period by clicking on the appropriate button. Each extract contains the following information:

Factors

- Perinatal case ID
- Issue text
- Outcome contribution
- Contributory factor
- Comments

Actions

- Perinatal case ID
- Issue text
- Outcome contribution
- Contributory factor
- Issue comments
- Action plan text
- Implementation text
- Person responsible for the action
- Target completion date

Gradings of care

- Perinatal case ID
- Grading of care of the mother and baby up to the point that the baby was confirmed as having died (stillbirths and late fetal losses only)
- Grading of care of the mother following confirmation of the death of her baby (stillbirths and late fetal losses only)
- Grading of care of the mother and baby up to the point of the birth of the baby
- Grading of care of the baby from birth up to the death of the baby (neonatal deaths only)
- Grading of care of the mother following the death of her baby (neonatal deaths only)

4.3.3 Downloading your summary report and data extracts

All reports can be downloaded as a .csv file for use in Excel by clicking on the **Download!** Button.

5 Real-time data monitoring

The MBRRACE-UK real-time data monitoring tool (RTDM) lets you explore the perinatal deaths reported to MBRRACE-UK by your trust/health board.

5.1 What's new

We've updated RTDM with new data and features:

- the ability to plot a **histogram**, **run chart** and **control chart**. This feature can be found on the **Days between deaths** chart as monitoring tools.
- a new **trend chart** that plots the number of deaths, by selected variable, over time. This feature can be found on the **Trends** tab.
 - the ability to plot a **second variable on the totals charts** (formerly bar charts) through several new chart types, including clustered and stacked bars. These charts are found on the **Totals** tab.
 - functionality to configure **chart features**, such as grid lines and point labels. These options are found below each chart.
 - **new variables** for location (hospital) of birth/death, CODAC associated conditions, baby's ethnicity, and time resident in UK. These are available in the filters and to plot on the totals and trend charts.
 - a **tabular** view of data, along with functionality to download a CSV file. This can be found on the **Tabular data** tab. the ability to customise **category boundaries** for numerical variables, and change how variables are grouped in the charts and tabular data. This feature is found on the **Settings** tab in the **Category boundaries** section.
 - the ability to select date ranges by **financial year**, as well as by calendar year. This feature can be found in the date range selectors.
 - moved date range selectors into own section at the top of the page and organised charts into separate **tabs**. a **Show advanced settings** button, which toggles the visibility of less common settings.

As a result of the update, some features have been removed:

- the **Switch to** button. Instead, use the filters (Trust/health board of birth, Trust/health board of death) to change the view (cohort).
- snapshot functionality from the default view. Users must now select **Show advanced settings** to reveal the **Add snapshot** button. This follows the introduction of enhanced totals charts (secondary variable) and the new trend chart, which have made the snapshot functionality largely redundant.
- the navigator (mini line series) below the days between deaths chart (formerly line chart)

5.2 Introduction

RTDM uses live surveillance data from the MBRRACE-UK system. If the surveillance data hasn't been entered for a death, or the reported death has only reached the initial notification stage, or the death has not yet been reported to MBRRACE-UK, the death won't appear in the tool. Therefore, to make full use of RTDM, it is essential that surveillance data is entered as soon as possible after a death.

The main content is organised into five tabs: **Days between deaths**, **Totals**, **Trends**, **Tabular data**, and **Settings**. The charts and tabular data show the deaths of babies who died within the date range displayed at the top of the page, and who match the categories selected in the **Filters** sidebar.

Cases are selected and ordered by date of death. For stillbirths and late fetal losses, this is deemed to be the date of delivery. The days-between-deaths chart shows the number of days between consecutive deaths, and features new monitoring tools to help you identify unusual patterns in your data. The totals charts plot the total number of deaths according to various characteristics, while the trend chart shows the number of deaths over time.

5.3 Overview

The screenshot shows the RTDM interface with several key elements highlighted by callouts:

- Filters sidebar showing two applied filters:** A sidebar on the left with a 'Filters' section containing 'Died within your trust/health board' and 'Stillbirth'.
- Tabs - click a tab's label to select different content:** A row of tabs at the top: 'Days between deaths', 'Totals', 'Trends', 'Tabular data', and 'Settings'.
- Days between deaths chart showing case summary tooltip:** A line chart showing 'Days since previous death' over time. A tooltip is visible for a data point on Jan 27, 2024, showing details like 'Report ID: 10715', 'Status: Open', 'Type of death: Stillbirth', 'Timing of death: Intrapartum stillbirth', 'Gest: 38w', 'Date of birth: 26 Jan 2024', and 'COD: Placenta'.
- Page title showing filtered indicator:** The main heading 'Deaths of babies who died within your trust/health board' followed by a 'Filtered' indicator.
- Date range selectors, including date inputs:** A date range selector showing '23 deaths between 13/08/2023 and 12/08/2024' with a dropdown for 'YTD'.
- Advanced settings toggle:** A 'Show advanced settings' button.
- Chart configuration controls:** A 'Monitoring tools' section with options for 'Off', 'Histogram', 'Run chart', and 'Control chart'.

RTDM comprises the following elements:

- the **page title** summarises the current view and indicates whether there are any filters applied; below the heading are
- **date range selectors**, the current date range and the number of deaths in the range
- the **filters sidebar** contains items and categories on which to filter the data, and shows the currently **applied filters**, if applicable
- data visualisations, organised into **tabs**, that show days between deaths, totals by category, totals over time (trends), and tabular data for the cases that match the selected date range and applied filters. To select a different visualisation, click the tab's label. By default, RTDM shows **Days between deaths** - a line chart that plots the number of days between successive deaths; hover over a point to display the **case summary tooltip**. Use the **chart configuration controls** to customise the chart
- **Advanced settings** button - toggles between showing or hiding additional settings

5.4 Changing the date range

Important! Cases must have a date of death in order to be included in the visualisation. Please note that the tool excludes all terminations of pregnancy and cases born before 1 Jan 2016.

The date range determines which cases are shown in the charts and are available for selection in the filters sidebar. By default, the tool shows deaths in the past 1 year.

Deaths of babies who died within your trust/health board Filtered

34 deaths between 13/08/2023 and 12/08/2024

2019 2020 2021 2022 2023 YTD

1m 3m 6m 1y 2y 3y 4y 5y 366 days (~ a year)

Calendar years
Financial years

To change the date range, do one of the following:

- edit the dates in the date input boxes in the range selector
- click a year or duration in the date range selectors; the duration buttons (**6m**, **1y**, **2y** etc) set the date range *relative* to the date shown in the **to date** input
- on the Days between deaths chart, click and drag the plot area to select a subset of the current range

Whenever you change the date range, RTDM will immediately refresh all the charts, and the totals shown at the top of the page and alongside each of the categories in the filters sidebar.

By default, the date range selectors show calendar years (1 January to 31 December). You can configure the selectors to use financial years (1 April to 31 March) using the dropdown list.

5.5 Changing the cohort

On start up, RTDM shows deaths of babies who died within your trust/health board (including babies who were born elsewhere). To change the cohort, select the required categories for **trust/health board of birth** and **trust/health board of death** in the filters sidebar. For instance, to show deaths of babies who were born and died within your trust/health board, select **Born within your trust/HB** and **Died within your trust/HB**.

Filters Clear all filters (2)

Born within your trust/HB ✕

Died within your trust/HB ✕

↕ Expand all ↕ Collapse all

Trust/health board of birth ^

Born within your trust/HB (30) Clear

Born outside your trust/HB (4) Invert

Trust/health board of death ^

Died within your trust/HB (30) Clear

Died outside your trust/HB (4) Invert

5.6 Filters

You can filter the deaths on any of the categories shown in the **filters sidebar**. We've arranged the filters into collapsible sections. If the filter you want to apply is in its collapsed state, click its title to expand the section. Select (tick or check) a category to apply a filter. Click **Clear** to deselect all categories for a filter. Click **Invert** to toggle the checked state for each of the filter's categories. For filters based on a numerical variable, click **Edit** to customise the category boundaries.

*To expand (or collapse) every filter, click **Expand all** (or **Collapse all**) at the top of the filters sidebar.*

Whenever you refine a filter, RTDM will immediately recalculate the number of days between each (filtered) death, refresh all the charts, and update the totals shown in the page title and next to each filter category.

For each filter category, the figure in brackets represents the number of deaths that match that category and also the selected categories for all other filters. Categories that do not match the filtered data are hidden from view.

5.6.1 Clearing filters

To clear a specific category, deselect its checkbox or click the category button in the applied filters. To clear all categories for a filter, click the filter's **Clear** button. To clear all filters, click **Clear all filters**.

5.7 Days between deaths chart

The days between deaths chart shows the number of days between deaths that occurred during the selected date range for cases that match the categories in the filters, if applied. For each case, we plot the date of death (x-axis) against the number of days since the previous death (y-axis).

This type of chart helps you to identify unusual patterns in your data – especially when using our new monitoring tools.

5.7.1 Case summary tooltip

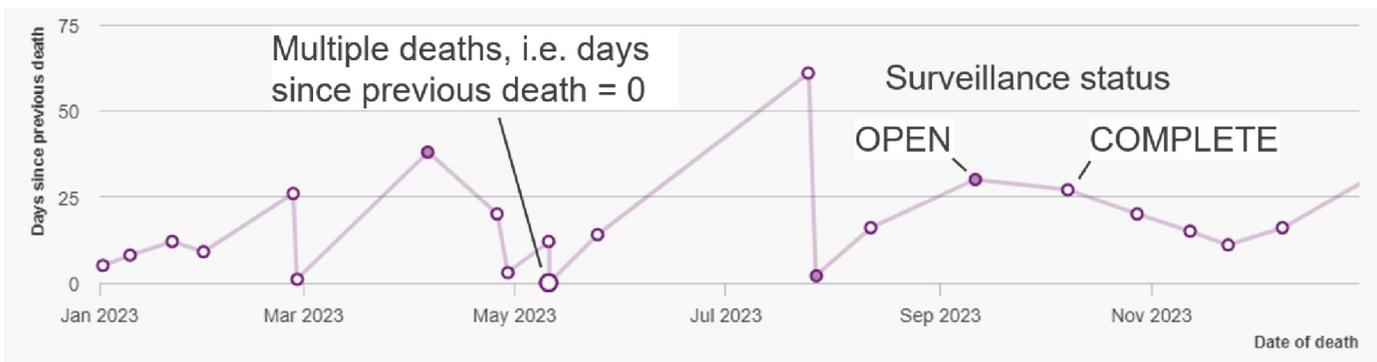
Hover over a point to display the **Case summary tooltip**, which shows a summary of the death (or deaths) represented by that point on the chart. Click a report ID to open the case in the MBRRACE-UK system.

To change the items that are displayed in the case summary tooltip, on the Settings tab select Case summary tooltip, and then select the items you want to see in the tooltip.

When using monitoring tools, RTDM displays a compact tooltip instead of the full case summary tooltip. When **Advanced settings** is enabled, you can change this behaviour via the **Tooltip** setting on the days between deaths chart.

5.7.2 Point markers

We use special markers to convey information about the points on the line chart. A shaded marker indicates the case's surveillance status is open; a hollow marker represents a complete case. When three or more deaths occur on the same day, the multiple deaths plotted at the same point (where $y=0$) will be shown on the chart as a larger single point marker (along with a "multiple deaths" indicator in the tooltip).



5.8 Monitoring tools

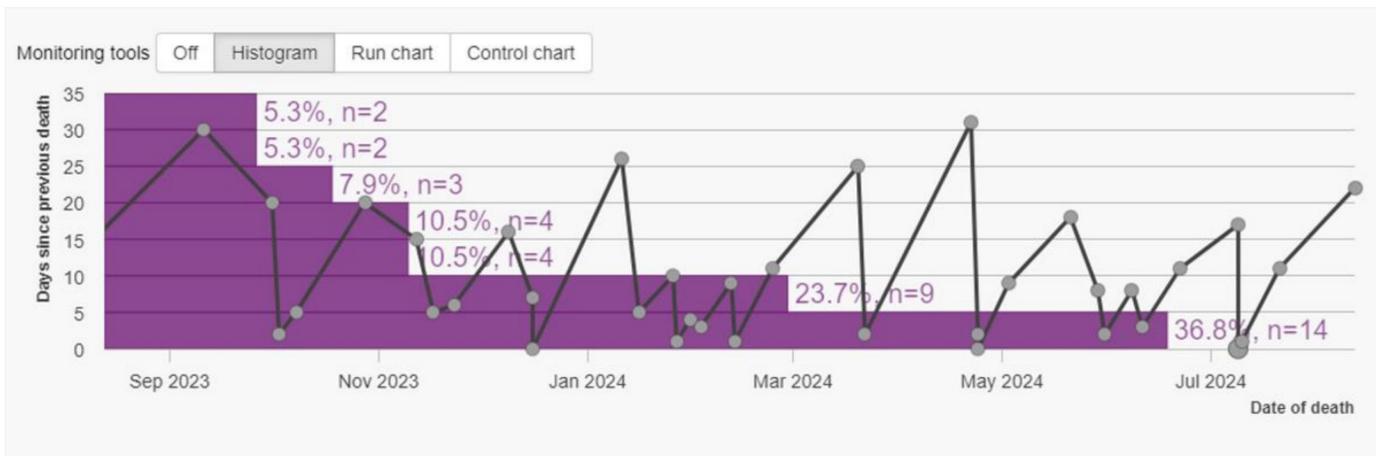
(Some of the information in this section is taken from [Statistical process control methods in public health intelligence](#) by Julian Flowers, Association of Public Health Observatories (APHO))

All systems within which institutions operate, no matter how stable, will produce variable outcomes. The questions we need to answer include: "Is the observed variation more or less than we would normally expect?", "Are there genuine outliers?", "Are there exceptionally good performers?"; "What reasons might there be for excess variation"

Our data monitoring tools can help you answer the above questions using well-established statistical methods: histogram, run chart, and control chart. These tools are available in the **Monitoring tools** setting on the Days between deaths chart. You can switch between tools at any time; any configuration changes you make, such as defining intervention periods, will be stored in your browser.

5.8.1 Histogram

Select **Histogram** to overlay a histogram over the line chart. A histogram is a type of bar chart that gives basic information about the properties of the data in the selected date range. The shape of the bar or curve shows the distribution of data. It can help you understand where problems are and where to focus improvement efforts.



A histogram can give you a before and after picture of a process under review, but cannot show you how things are changing over time. For that, you need to use a run chart or control chart.

5.8.2 Run chart and control chart

In any process or system, variation is to be expected. By use of simple statistical techniques we can define the limits of variation beyond which data points are deemed worthy of investigation. These limits are known as control limits. Variation within these limits is called common cause variation; variation outside these limits is called special cause variation. Common cause variation is that which can be expected to occur in a stable process or system - one which is "under control". Special cause variation may derive from systematic or unexpected deviation from the norm and may highlight an area or an observation which is worthy of further investigation.

This section describes the run chart and control chart monitoring tools, the most popular statistical process control (SPC) techniques in use today.

Run charts, the most basic of the two, feature a centre line, derived from the middle value (median) of a baseline data series, and use a small set of rules for detecting special cause variation according to whether data points are above or below the centre line.

Like the run chart, a control chart also has an average centre line, but additionally features pairs of control limit lines, above and below the centre line, and a larger set of rules, which allow for more statistical interpretation. For instance, the inclusion of upper and lower control limits allows control charts to detect outliers. (Note that owing to the nature of MBRRACE-UK data, RTDM uses median, not mean, to derive the centre line for the control chart.)

For comprehensive guidance on how to use SPC techniques to present and use data more effectively, see [Making data count](#) on NHS Learning Hub.

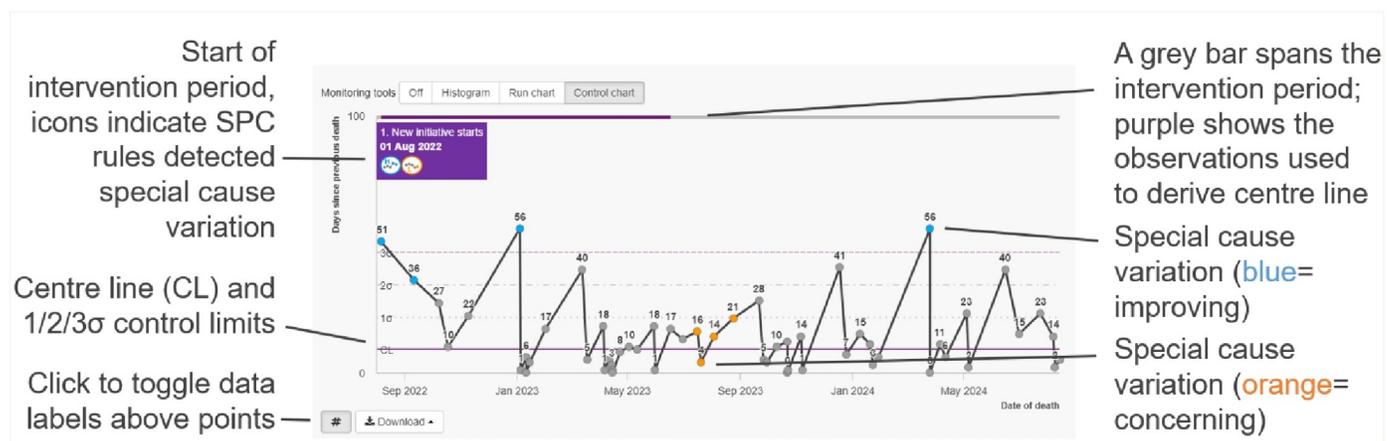
Select **Run chart** (or **Control chart**) to configure the days between deaths chart as a run chart (or control chart). NHS Making data count guidance recommends using a run chart when you have fewer than twenty data points.

*In the context of RTDM, we use the term **intervention** to represent a set of data points in a period of time with a defined start date. This could be a change of process or pathway, or simply a decision to establish a baseline to begin monitoring.*

To get started, click **Add intervention**. The tool assigns a start date automatically, based on the number of deaths (observations) that match the current filters, and defines a new baseline period. Enter a **label** (comment) for the intervention and adjust the **start date** as required.

Note that interventions are independent from the chart's selected date range; RTDM will adjust the date range automatically to reflect the new intervention period. You can also do this by clicking **Zoom**. To adjust the chart's date range to show the time around the start of an intervention, click **Scroll**.

The baseline period is used to calculate the centre line (representing the average observation value) and, for control charts, the control limits (representing one, two and three sigma deviations from the average). To identify unusual patterns in the data (special cause variation), the tool evaluates a set of conditions, or rules, that compare observations against the centre line and control limits.



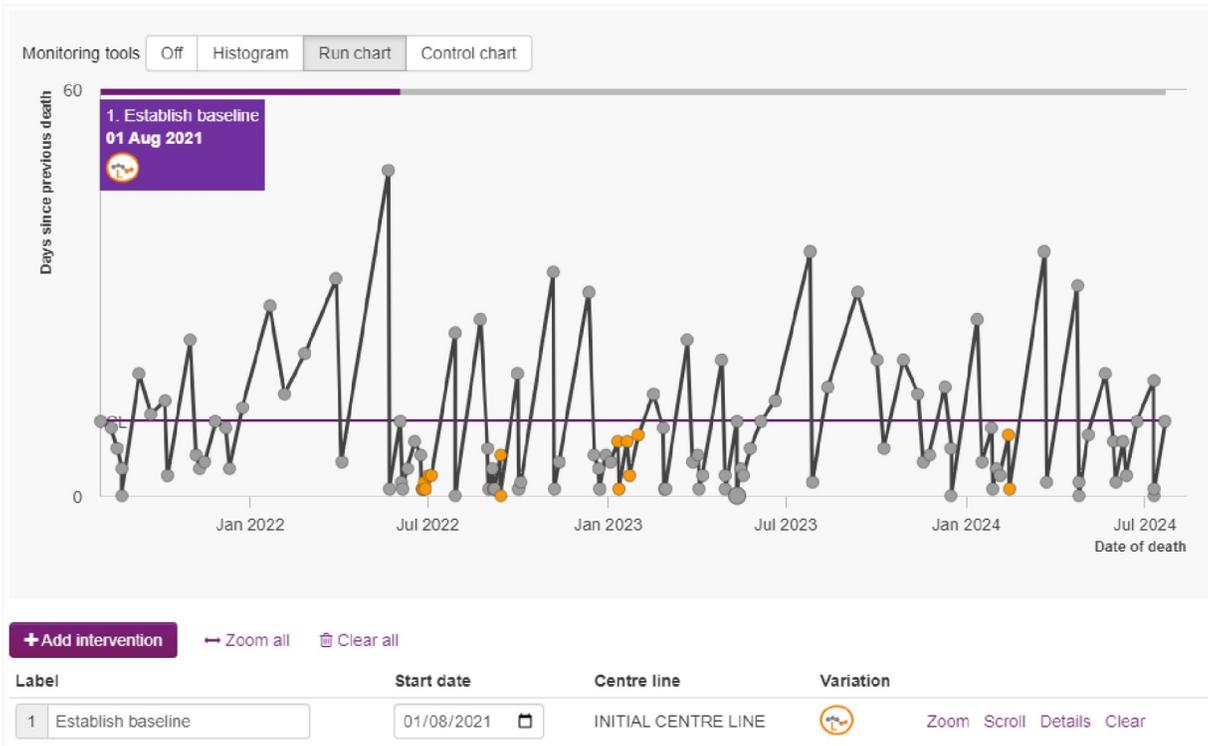
On the chart, look for highlighted data points (areas of special cause variation: blue marker for improving, orange marker for concerning) which are signals for possible underlying issues. A signal does not necessarily mean that something is wrong, but should be used as a trigger for further investigation. If a process shows only common cause variation (grey marker), then an appropriate improvement strategy is to change the underlying process.

You can define further intervention periods by clicking **Add intervention**. When evaluating rules for an intervention, by default the tool uses the centre line (and control limits) from the preceding intervention period. This is known as freezing the centre line.

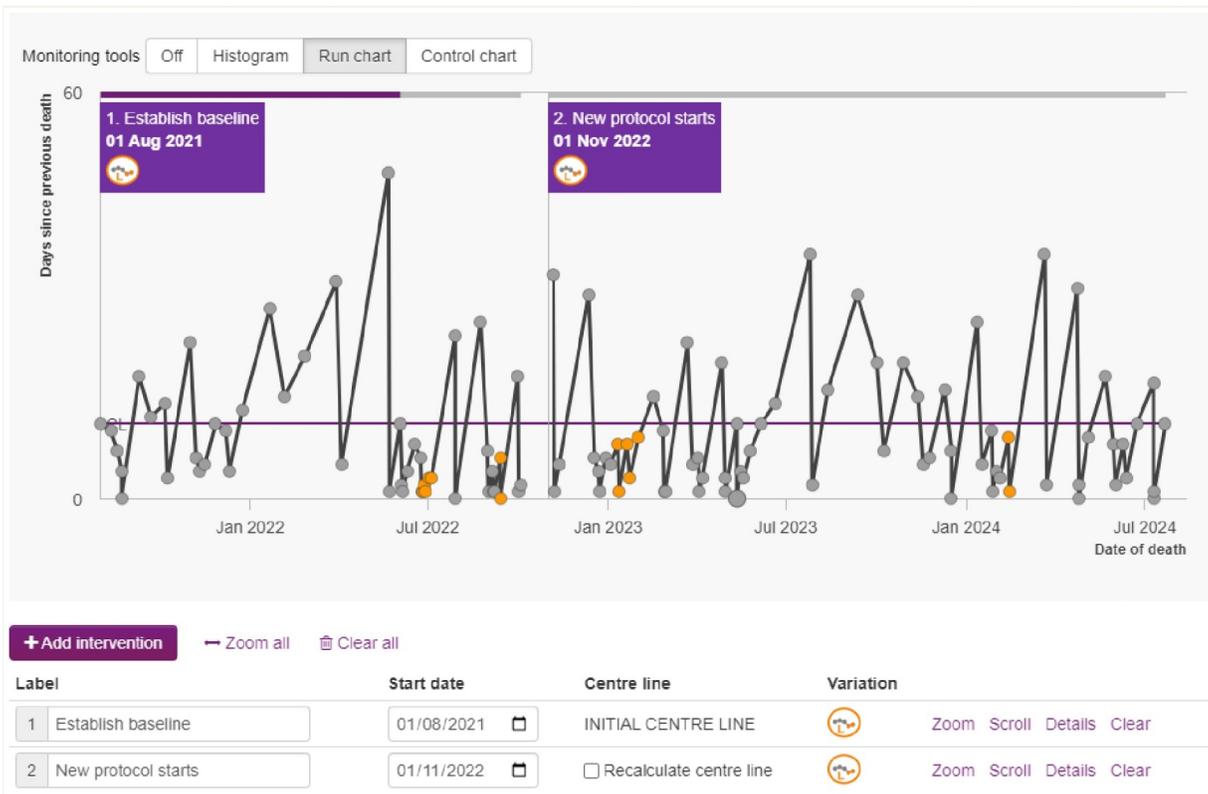
You can test a process change by selecting **Recalculate centre line**. This will plot a new centre line (and control limits) using observations from the start of the intervention.

5.8.2.1 Run chart example

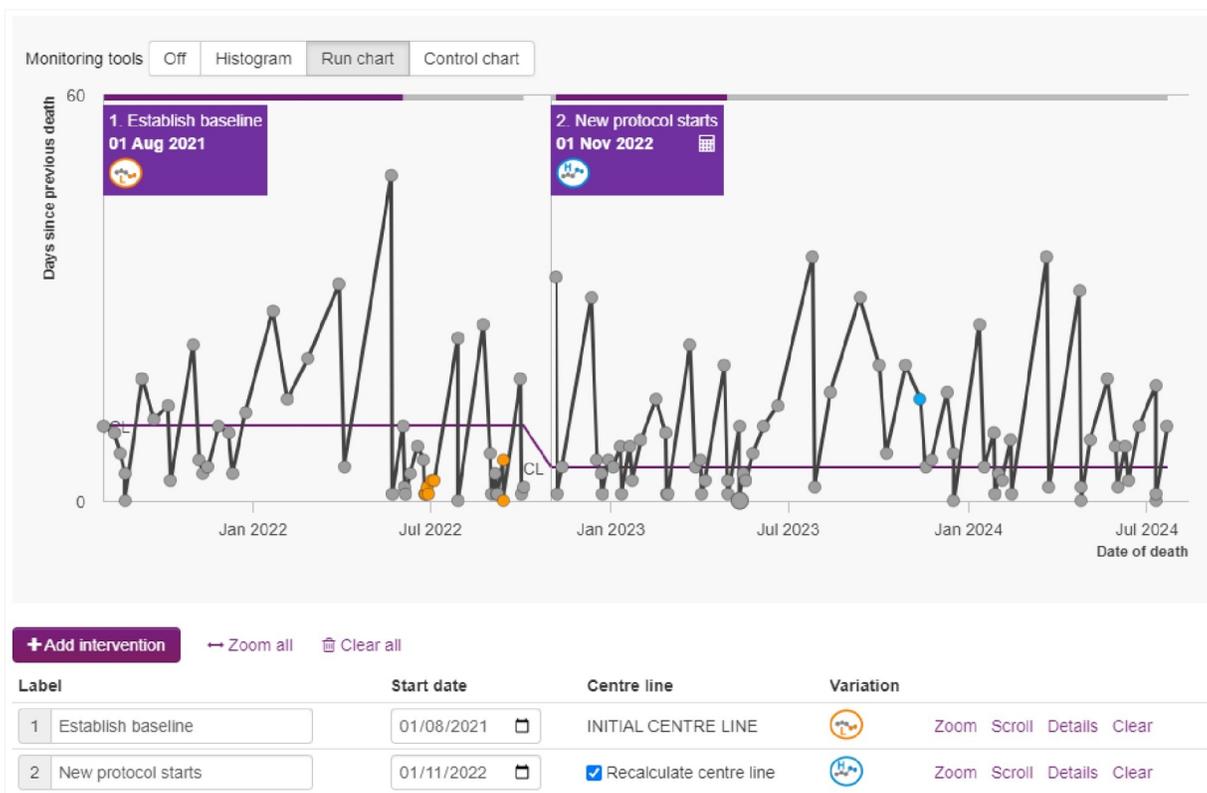
1) Run chart showing special cause variation of concerning nature



2) New intervention period defined, using frozen centre line from previous period



3) Recalculated centre line reveals special cause variation of improving nature



5.8.2.2 Intervention details

To see information about an intervention, including the data points, centre line, control limits and rules, click **Details**. Use the **Previous** and **Next** buttons to navigate between interventions without having to close the modal.

2. New protocol starts - 01 Nov 2022

71 deaths between 06 Nov 2022 and 22 Jul 2024

Days since previous death (X)

#	Date of death	X
1	06 Nov 2022	33
2	07 Nov 2022	1
3	12 Nov 2022	5
4	12 Dec 2022	30
5	18 Dec 2022	6
6	22 Dec 2022	4
7	23 Dec 2022	1
8	29 Dec 2022	6
9	03 Jan 2023	5
10	11 Jan 2023	8

Recalculated centre line

Median of 25 observations from 06 Nov 2022 up to 30 Apr 2023

Line	Value
Three sigma upper	23.87
Two sigma upper	17.58
One sigma upper	11.29
Centre line	5.00
One sigma lower	-1.29
Two sigma lower	-7.58
Three sigma lower	-13.87

Control chart rules

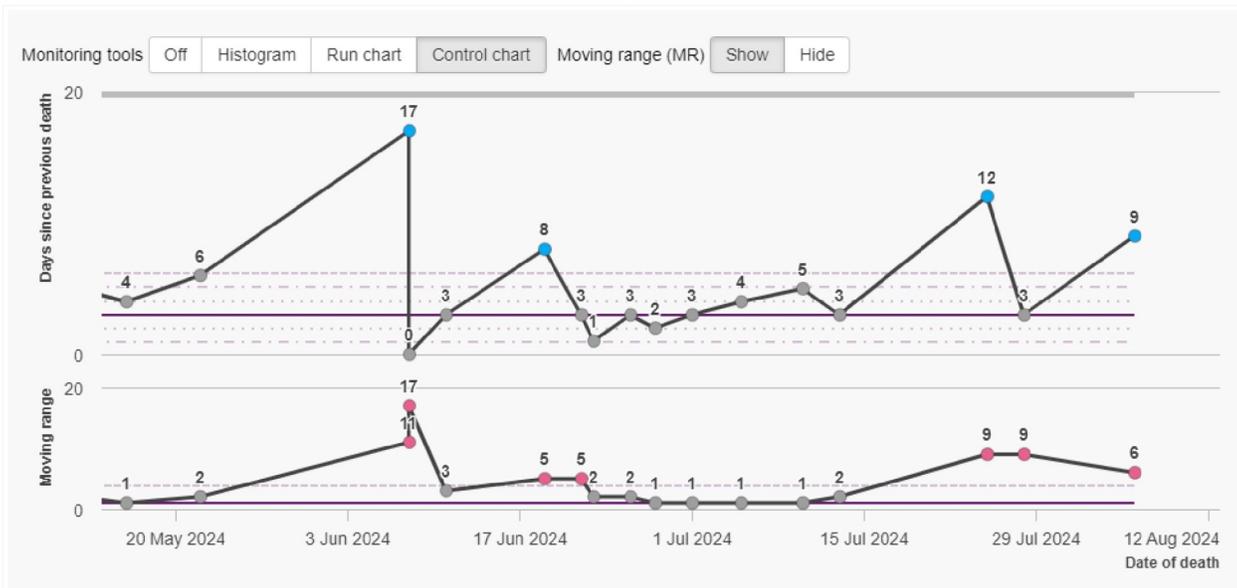
Rules identified **Special cause variation of improving nature due to higher values**

Rule	Points
Outlier – point exceeds the upper or lower control limit	7 + 0
Shift – eight or more consecutive points above or below the centre line	0 + 0
Trend – 6 consecutively increasing or decreasing points	0 + 0
Outer one-third – two out of three consecutive points outside the two sigma limit	2 + 0
Inner one-third – 15 consecutive points inside one sigma limits	0 + 0

Previous Next Close

5.8.2.3 Moving range

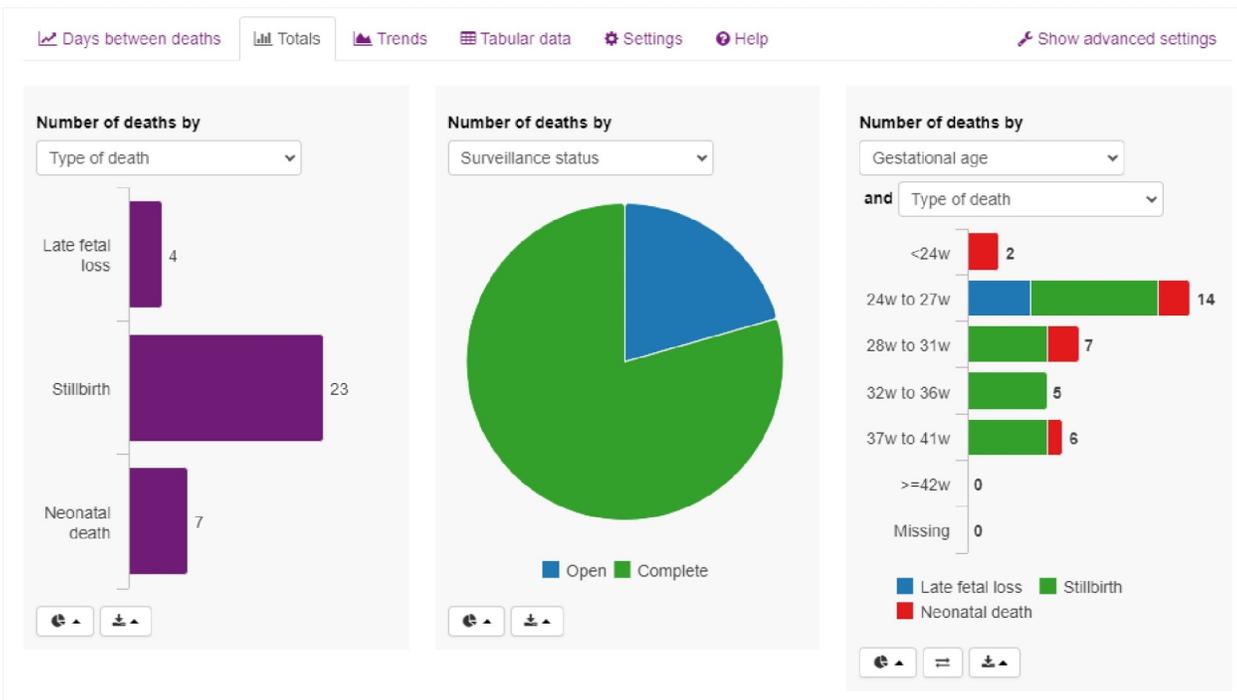
If **Advanced settings** is enabled, you can plot a **moving range (MR)** on the control chart. Moving range measures how variation changes over time, but is outside the scope of this guidance.



5.9 Totals charts

The **totals charts** show the number of deaths by selected variables for the current date range and applied filters.

The categories and values in the charts correspond with the categories and values shown in the filters sidebar. You can click on a category in a chart to apply a filter to the data. For example, clicking on stillbirth in the number of deaths by type of death chart will filter the data on stillbirths.



5.9.1 Configuring the charts

You can configure each chart independently, including its variable, type (e.g. line, stacked bar) and features (e.g. grid lines, point labels). To plot a second variable, change the chart type to one of clustered bar, stacked bar, or 100% stacked bar.

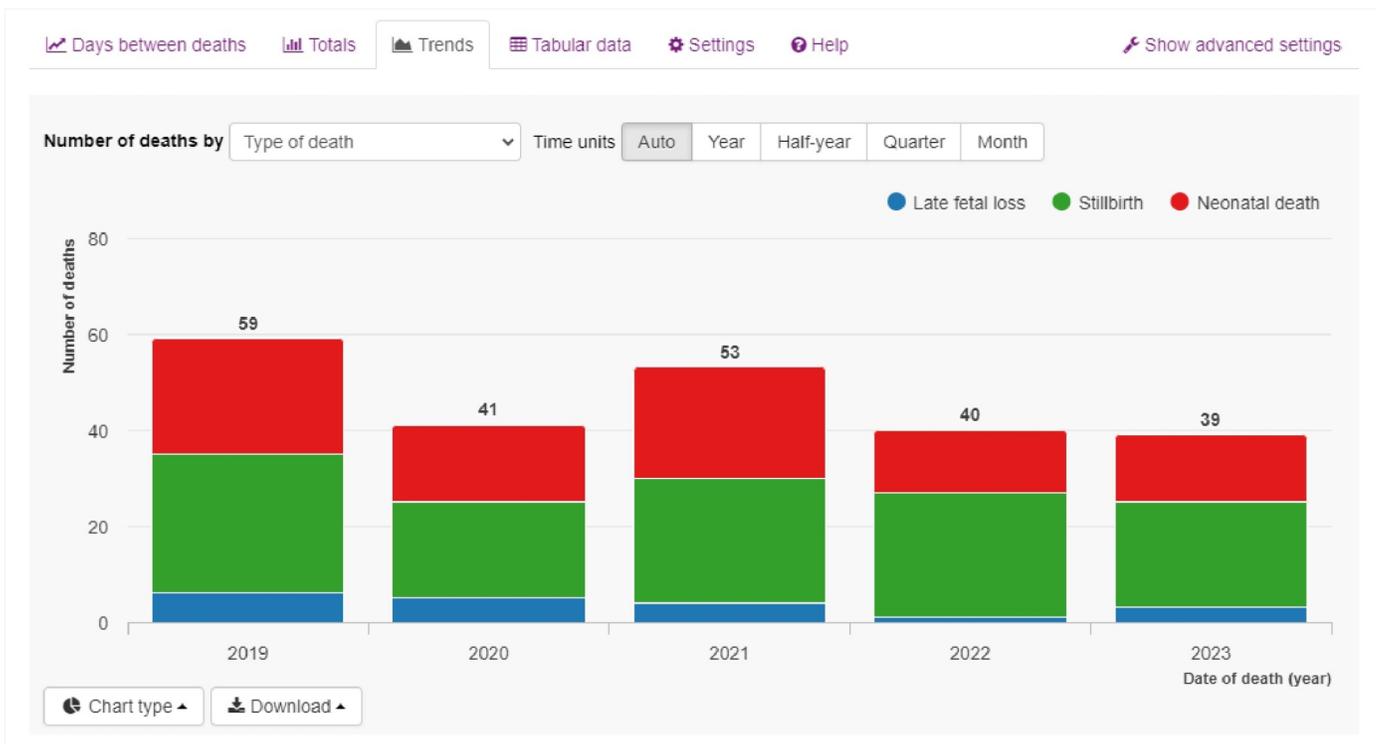
Some configuration settings are chart specific. Some chart features are only configurable when **Advanced settings** are enabled.

For a cleaner appearance, you can hide the chart configuration controls until the pointer hovers over a chart (see the Appearance section on the Settings tab).

Tip: You can also change a chart's variable using drag-and-drop; drag an item from the filters sidebar and drop it onto a chart.

5.10 Trend chart

The **trend chart** plots the number of deaths, by selected variable, by selected **time unit**: month, quarter, half-year or year. By default, RTDM chooses the time unit automatically based on the selected date range. Click **Chart type** change how the data is presented. If **Advanced settings** is enabled, you can toggle chart features such as grid lines and data labels.



5.11 Settings

The **Settings** tab allows you to fine tune aspects of appearance and functionality.

5.11.1 Case summary tooltip

The case summary tooltip always shows report ID and date of death. This section lists the other variables that you can include in the tooltip. Check an item to display it in the tooltip.

When using monitoring tools, RTDM displays a compact tooltip instead of the full case summary tooltip. You can change this behaviour via the **Tooltip** advanced setting on the days between deaths chart.

5.11.2 Category boundaries

For scalar (numeric) variables such as gestational age, birth weight, and mother's age at delivery, you can customise the category boundaries to change how the item is grouped and reported.

Category boundaries

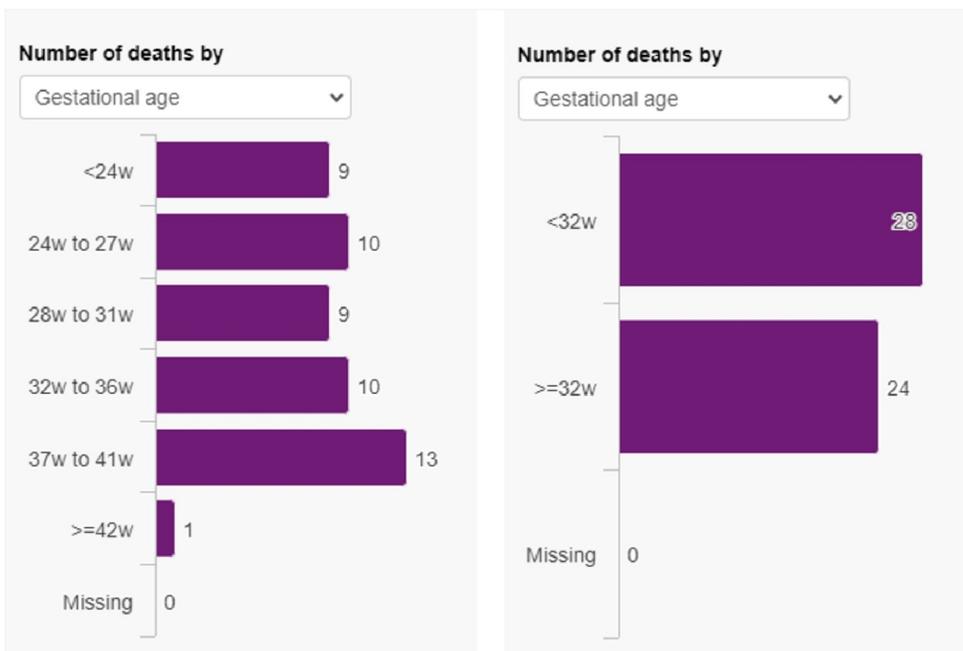
Customise the category boundaries for the selected numerical variable. Define your own category boundaries or choose from our presets.

Variable
Gestational age

Category boundaries
24w ✕ 28w ✕ 32w ✕ 37w ✕ 42w ✕ Clear all

Gestational age Add Presets

For instance, gestational age is, by default, grouped into six categories using five boundaries: **24** (i.e. 24 weeks and over), **28**, **32**, **37**, and **42**. Instead, defining a single boundary of **32** will report gestational age as two categories: under 32 weeks, 32 weeks and over.



5.11.3 Appearance

The **Show chart configuration options** setting lets you choose when to display the chart controls that appear at the bottom of each chart card. By default, the controls are always visible. For a cleaner look, e.g. when taking screenshots, select **On hover** to hide the controls until the pointer hovers over a chart.

5.11.4 Reset

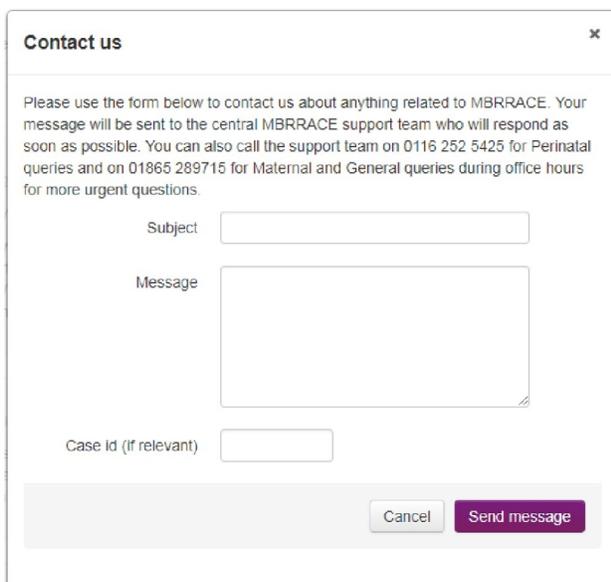
Use this section to restore selected settings to their original (default) values.

To start afresh, and clear all settings, including case summary tooltip, chart configurations, category boundaries, and any run chart/control chart interventions, click **Reset all**.

6 Contacting MBRRACE-UK

If you need further assistance or wish to discuss a reporting matter you can contact the MBRRACE-UK team in several ways:

The easiest way to get in touch is via the **Contact us** facility built into both the surveillance system and the PMRT. Simply click the link at the top of any page to open the contact form. A member of the MBRRACE-UK team will respond to your message via email or telephone as soon as possible.



1. Alternatively, you can email us directly at mbrrace-uk@npeu.ox.ac.uk
2. For urgent queries or advice during office hours you can also contact the MBRRACE-UK perinatal team in Leicester on **0116 252 5425**.

Version	Details of changes	Release date
1.0	First release	18/02/2019
1.1	Revised PMRT criteria	21/02/2019
1.2	Reopening of notification added.	28/02/2019
1.3	Revised PMRT criteria for babies <500g and unknown gestation, revised reporting criteria for multiple pregnancies and babies <400g, new Your Data section added.	01/06/2019
1.4	Updated minimum browser specification	17/02/2020
1.5	Revised criteria for notification of multiple pregnancies	01/02/2023
1.6	Revised criteria for review of multiple pregnancies	15/03/2023
1.7	Revised criteria for notification of terminations of pregnancy	06/06/2024
2.0	New section 5 (Real-time data monitoring)	05/09/2024