Data Provision Notice

Maternity Outcomes Signal System (MOSS)

Information Asset Owner: Stephen Anderson

Version: 1.0

Publication date: 16 July 2026

Contents

Background

The Health and Social Care Act 2012 (the Act) gives NHS England statutory powers, under section 259(1)(a), to require data from health or social care bodies, or organisations that provide publicly funded health or adult social care in England, where it has been directed to establish an information system by the Secretary of State for Health and Social Care.

The data, as specified by NHS England in this published Data Provision Notice, is required to support a direction from the Secretary of State for Health and Social Care to NHS England. Therefore, organisations that are in scope of the notice are legally required, under section 259(5) of the Act, to provide the data in the form and manner specified below.

Purpose

The Maternity Outcomes Signal System (MOSS) has been developed by NHS England to address the first recommendation in the Reading the Signals report on East Kent maternity service (referred to as the East Kent report) which called for the identification of "valid maternity and neonatal outcome measures capable of differentiating signals among noise to display significant trends and outliers".

MOSS raises signals about potential safety issues in maternity intrapartum care. Signals prompt a rapid critical safety check, undertaken by the maternity service, to determine any underlying safety issues and whether any further action is required to improve clinical and operational safety and ultimately outcomes for women and babies.

MOSS is intended to be used as part of routine safety monitoring within the Perinatal Quality Oversight Model. Safety information should be shared by maternity services in line with the appropriate governance set out in the MOSS standard operating procedures, which are aligned to the model. The model requires Integrated Care Board, regional and national oversight depending on the escalation of a concern. ***MOSS should not be used as a performance management tool and a signal does not necessarily mean that a service is unsafe – it is the critical safety check and governance review of the trust's response that should determine this.***

MOSS uses 3 outcome measures at trust site level (based on delivering NHS Trust) to generate signals:

- Term stillbirths;
- Term neonatal deaths up to 28 days and;
- Term Hypoxic Ischaemic Encephalopathy (HIE) at grade 2 and 3

These outcomes were chosen as they have a high potential of causation from care and service delivery issues (duty of candour, avoidable harm, sub-optimal care), they have a low index of causation from known clinical conditions, and they are defined and recorded in a consistent and standardised way in clinical information systems.

MOSS supports the overarching ambitions of the Maternity and Neonatal Programme to reduce stillbirths, neonatal and maternal deaths and serious brain injuries and is mentioned in NHS England's 10 Year Health Plan for England.

Benefits

Data from NHS Trusts, sourced via the Submit a Perinatal Event Notification tool (SPEN) will provide the Maternity Outcomes Signal System (MOSS) with near-real time information required to generate signals. The data will allow MOSS to:

- be sensitive and specific to services that deliver intrapartum care by using term outcome measures (term stillbirths and term neonatal deaths up to 28 days) that have a high potential of causation from care and service delivery issues and a low index of causation from known clinical conditions
- identify unusual near-real time changes in outcome trends that may indicate declining intrapartum safety
- prompt a critical safety check led by the local perinatal leadership team to assess the safety of operational processes on the labour ward, review priorities, and plan early interventions
- support rapid escalation through trust, ICB, regional, and national PQOM structures if safety issues are identified
- support a positive safety culture
- improve outcomes

Legal basis for collection, analysis and dissemination

Collection and Analysis

NHS England has been directed by the Secretary of State for Health and Social Care under section 254 of the Health and Social Care Act 2012; to establish and operate a system for the collection and analysis of the information specified for this service. The direction and accompanying requirements specification are published on the NHS England website:

https://digital.nhs.uk/about-nhs-digital/corporate-information-and-documents/directions-and-data-provision-notices/secretary-of-state-directions/outcomes-and-registries-directions-2024

This information is required by NHS England under section 259(1)(a) of the Health and Social Care Act 2012.

In line with section 259(5) of the Act, all organisations in scope, in England, must comply with the requirement and provide information to NHS England in the form, manner and period specified in this Data Provision Notice.

This Notice is issued in accordance with the procedure published as part of an NHS England duty under section 259(8).

Dissemination

Event data in the MOSS visualisation tool will be presented at NHS site level, based on the site where the delivery occurred. The data will be viewable at these levels:

- NHS Trusts will be able to view their own visualised data for outcomes where deliveries occurred in their trust
- ICBs will be able to view trusts' visualised data in their footprint
- Regional maternity and neonatal colleagues in NHS England will be able to view trusts' visualised data in their footprint
- The national Maternity and Neonatal Programme team in NHS England will be able to view all data

Persons consulted

Following receipt of a direction to establish a system to collect MOSS NHS England has, as required under section 258 of the Health and Social Care Act 2012, consulted with the following persons:

- Department of Health and Social Care, as directing organisation

The development of MOSS has been guided by the Maternity and Neonatal Outcomes Group which contains clinical, statistician and service user expertise. Progress is reported into the Maternity and Neonatal Programme Board and updates have also been delivered to the NHS England Executive Quality Board.

The Maternity and Neonatal Outcomes Group contains representation from the following bodies/organisations:

- Service users
- Royal College of Obstetricians and Gynaecologists
- Royal College of Midwifery
- Royal College of Anaesthetists
- British Association of Perinatal Medicine
- National Neonatal Audit Programme
- University of Bristol (host of the National Child Mortality Database)
- University of Cambridge (Statistics Department)
- MBRRACE-UK
- NHS Resolution
- Department of Health and Social Care
- Mid-Yorkshire Hospital Trust
- Somerset Integrated Care Board
- East of England Neonatal Operational Delivery Network
- Great Ormond Street Hospital NHS FT
- Author of the East Kent report
- Care Quality Commission
- Neonatal Data Analysis Unit, Imperial College London

Scope of the collection

Under section 259(1)(a) of the Health and Social Care Act 2012, this Notice is served in accordance with the procedure published as part of the NHS England duty under section 259(8) on the following persons:

- NHS Trusts and Foundation Trusts who have maternity and/or neonatal units.

Under section 259(5) of the Health and Social Care Act 2012 the organisation types specified above must comply with the Form, Manner and Period requirements below.

Form of the collection

The data fields to be collected are listed in the MOSS technical data specification https://digital.nhs.uk/binaries/content/assets/website-assets/corporate-information/directions-and-data-provision-notices/data-provision-notices/maternity-outcomes-signal-system-moss/moss-data-set-specification-v1.0.xlsx

Data to be collected is from NHS Trusts and Foundation Trusts who have maternity and/or neonatal units submitting notifications of stillbirths, neonatal deaths, severe brain injuries and maternal deaths.

Manner of the collection

NHS Trusts and Foundation Trusts who have maternity and/or neonatal units submit notifications of stillbirths, neonatal deaths, severe brain injuries and maternal deaths to the Submit a Perinatal Event Notification (SPEN) service for their reporting purposes. NHS England hosts this system as a processor for NHS Trusts and Foundation Trusts.

The personal data fields specified will be extracted by NHS England from the SPEN system, which is hosted on the NHSE Strategic Tenancy via an Application Programming Interface (API) into an NHSE secure data environment for further processing to produce the MOSS visualisation tool.

Period of the collection

This will be an ongoing collection. Data is collected via SPEN and can be submitted by NHS Trusts throughout the 24-hour daily period, 365 days a year. The specified data fields will be extracted for analysis and updating of the MOSS visualisation tool by NHSE on a daily basis.

Data quality

The SPEN portal includes a number of validation rules in the data it collects to prevent incorrect data entry. These include validation rules on date of birth/death, dynamic validation of babies' birthweight against gestational age, and an NHS number checker.

Additional data validation is carried out by the organisations receiving the data via the portal (MBRRACE, MNSI and NHS R). The user may receive an "accepted with errors" status from an organisation, whereby corrections are made in the subsequent case management system. If there is an error that needs correcting within the portal, the service desk can change the data in the backend, and flag that its changed (for auditing purposes).

Burden of the collection

Steps taken by NHS England to minimise the burden of collection

NHS England has a statutory duty under section 253(2) of the Act to seek to minimise the burden it imposes on others. In seeking to meet these obligations in relation to this collection, NHS England has:

- sought to minimise the burden on Trusts by using existing data extract technology, rather than requesting information in another format which may be more burdensome to process
- SPEN is a separate service necessary for provider trusts to report serious events to regulatory organisations. By using data extracted from this existing service burden is minimised.