

DCB1513 Amd 10/2018

Maternity Services Data Set Version 2.0 Implementation Guidance

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Data Coordination Board

This information standard (DCB1513) has been approved for publication by the Department of Health and Social Care under [section 250 of the Health and Social Care Act 2012](#).

Assurance that this information standard meets the requirements of the Act and is appropriate for the use specified in the specification document has been provided by the Data Coordination Board (DCB), a sub-group of the Digital Delivery Board.

This information standard comprises the following documents:

- Change Specification
- Data Set Specification
- Implementation Guidance
- Requirements Specification.

An Information Standards Notice (DCB1513 Amd 10/2018) has been issued as a notification of use and implementation timescales. Please read this alongside the documents for the standard.

The controlled versions of these documents can be found on the [NHS Digital website](#). Any copies held outside of that area, in whatever format (e.g. paper, email attachment), are considered to have passed out of control and should be checked for currency and validity.

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Glossary of Terms

A full Glossary of Terms for the MSDS v2.0 Information Standard can be found within the MSDS v2.0 *Requirements Specification*.

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1 Introduction

1.1 Purpose of Document

The following guidance is intended to support the implementation of the Maternity Services Data Set (MSDS) v2.0 which is mandated for local collection from 1st April 2019 for all NHS-funded Maternity Services, i.e. existing submitters/users of MSDS v1.5 and any new submitters/users. Implementation completion dates are available in the MSDS v2.0 *Requirements Specification*.

The change from MSDS v1.5 to MSDS v2.0 is significant in terms of structure and content. As such, all users may be better placed to implement MSDS v2.0 from scratch rather than building on what is already in place for MSDS v1.5.

This document aims to ensure that all users are able to implement MSDS v2.0 in full by:

- providing guidance not available elsewhere, including a step-by-step guidance to key implementation activities found in section 3.5 for both new and existing users.
- signposting additional detailed guidance such as the enhanced Technical Output Specification and the User Guidance found on the NHS Digital [MSDS web pages](#) (see section 2.4 'Related Documents').
- signposting further sources of information that relate to the implementation of v2.0 of the MSDS (section 8 'Implementation support').

This document also includes information on a variety of topics that impact implementation of the data set such as information governance, training and ongoing maintenance. All aspects of this Implementation Guidance should be considered during initial set up (for new providers) and reviewed as a result of uplift to the MSDS to v2.0 (for existing MSDS submitters).

Users should make use of this document when preparing a high-level picture of how their organisation intends to tackle this implementation to meet the required timescales.

1.2 Scope of Document

This document provides guidance on how to implement the MSDS, either as a new user or a current user looking to make changes resulting from the release of the MSDS v2.0 Information Standards Notice (ISN). This document should be read in conjunction with the following documents:

- MSDS v2.0 Change Specification
- MSDS v2.0 Technical Output Specification
- MSDS v2.0 Data Model
- MSDS v2.0 Requirements Specification
- MSDS v2.0 User Guidance
- MSDS v2.0 Technical Guidance
- NHS Data Model and Dictionary MSDS v2.0 Change Request

1.3 Out of Scope of Implementation Guidance

The following areas are out of scope of this document:

- Detailed background and justification for the development of the Information Standard.
- Data submission framework (i.e. how data is submitted by data providers to the submission portal). Further information about this is available from the MSDS v2.0 *Technical Guidance*.
- Restating information already accessible from the MSDS v2.0 *Technical Output Specification*.
- Detailed submission guidance relating to new or amended data items to aid interpretation and implementation within submission extracts. This information is available in the MSDS v2.0 *User Guidance*.

2 Background

The MSDS is a patient-level, output based, secondary uses data set which seeks to deliver robust, comprehensive, nationally consistent and comparable person-centred information for each stage of the maternity care pathway including mother's demographics, booking appointments, admissions and re-admissions, labour and delivery along with baby's demographics, admissions, diagnoses and screening tests.

As a secondary uses data set it re-uses clinical and operational data for purposes other than direct patient care. It defines the data items, definitions and associated value sets extracted or derived from local information systems.

An ongoing requirement exists to update the Maternity Services Data Set (MSDS) to ensure the data set remains fit for purpose.

MSDS v2.0 is an update to the existing data set that introduces a new structure and content, including clinical terminology, to meet current clinical practice and incorporate new requirements. MSDS v2.0 also mandates the submission of all maternity records in scope of the data set, including records that are held on paper which must be submitted in the required electronic format.

This release of the MSDS (v2.0) represents a significant change to the existing structure of the MSDS (v1.5) and brings the MSDS into line with the core structures of other data sets maintained by NHS Digital, specifically the [Community Services Data Set \(CSDS\)](#) and the [Mental Health Services Data Set \(MHSDS\)](#).

The changes included in this release relate to new government policy initiatives, resolution of issues within the current data set, and inclusion of other key stakeholder requirements as set out in more detail in the MSDS v2.0 Change Specification. A summary of the changes is as follows:

- Structural changes to the data set
- Removal of paper-based records exemption
- Introduction of clinical classifications and terminology, including SNOMED CT

- Capture more detailed diagnoses (using clinical terminology)
- Updated payment requirements (using clinical terminology)
- Capture more detailed procedures, observations and findings (using clinical terminology)
- Changes to the capture of smoking status
- Capture scored assessments during maternity care pathway (using clinical terminology)
- Capture data about continuity of carer
- Enable linkage to neonatal data
- Capture data about personalised care plans
- Capture intended and actual place of birth
- Capture data from existing data sets and collections, i.e. the CDS 'maternity tail' data set and other collections, to enable future retirement of overlapping collections
- Conformance with additional NICE guidelines and quality standards
- Additional data items, such as 'overseas visitor status'
- Minor updates to the data set to remove redundant tables/items.

2.1 Legal Basis

The Health and Social Care Act 2012 (HSCA) makes two specific provisions with regard to the flow of data through NHS Digital.

1. Section 254 – In order to establish and operate a system for the collection or analysis of information, the Secretary of State, or devolved authority, must provide to NHS Digital a description of the requirement in the form of a Direction.
2. Section 259 – In order to require and request the provision of information from any health or social care body; or any person (other than a public body) who provides health services, or adult social care in England, NHS Digital must publish a procedure for notifying persons of requirements imposed, and requests made.

In respect of section 254, NHS Digital has received [Direction](#) from NHS England to establish and operate a system for the collection and analysis of maternity services data. The full scope of the requirement can be found in the MSDS v2.0 Requirements Specification.

In respect of section 259, NHS Digital has produced a section 259 Notification (Data Provision Notice) which is published on the [NHS Digital Data Provision Notices webpages](#).

2.2 Information Standards Notice Process

All approved new information standards, and changes to existing standards, are communicated to the providers and system suppliers through the publication of an ISN. These notices are published and available to view on the [ISN webpages](#), and also communicated to health and social care bodies via the [MSDS specific webpage](#), the MSDS monthly [Statistics](#), MSDS monthly newsletter and other standard routes for communication such as events, user groups and various pertinent meetings.

In addition, this Information Standard amendment has been put through rigorous assurance prior to approval by the Data Coordination Board (DCB). The resulting Standard has been

assigned Release Number Amd 10/2018 and retains standard number DCB1513. The ISN formally requires care providers to pay regard to the standard, as per the HSCA.

The ISN does not directly place any requirement on system suppliers to accommodate the MSDS within their systems. It is the service providers who must ensure that they have a system or systems to deliver the requirements specified in the standard. The IT suppliers need to be aware of these requirements so that they can respond to the service providers they support. The contractual agreement between data providers and system suppliers will dictate whether system suppliers have to abide by the ISN and at what cost.

The Information Standard including latest amendments can be found on the [MSDS ISN webpage](#).

More information on the stages of information standard development is available on the [NHS Digital website](#).

2.3 Related Standards

Reference	Title
SCCI1069	Community Services Data Set (CSDS)
DCB0011	Mental Health Services Data Set (MHSDS)
ISB0149-02	NHS Number for Secondary Care
ISB0149	NHS Number
SCCI0034	SNOMED CT
SCCI0021	International Classification of Diseases
ISB0092	Commissioning Data Sets (CDS)
DCB0090	Health and Social Care Organisation Reference Data
ISB1553	Read Clinical Terms Version 2 (Deprecated)
ISB1552	Read Clinical Terms Version 3 (Deprecated)
SCCI0075	Neonatal Critical Care Minimum Dataset
ISB 1555	Birth Notifications
DCB3017	Overseas Visitor Charging Category
SCCI2112	FGM Risk Indication System (FGM RIS) - Local System Integration

2.4 Related Documents

A comprehensive set of documentation has been developed by the NHS Digital Data Set Development Service (DSDS) for the MSDS Information Standard. The documents are provided on either NHS Digital's [ISN](#) or [MSDS](#) webpages. A breakdown of the individual products can be found below:

Document/Product	Description	Publication Status
DCB Information Standard Documentation		
<i>Information Standards Notice</i>	Notification of publication of a new or amended standard.	Published on ISN webpage
<i>Change Specification</i>	Outlines a list of changes made to the MSDS Information Standard. For example, the addition of new data items or tables, the renaming of data items/tables to conform to NHS Data Model and Dictionary and the deletion of other items.	Published on ISN webpage
<i>Requirements Specification</i>	<p>Outlines the scope of the Information Standard and how it should be implemented.</p> <p>Gives an overview of the requirements for both care providers and system suppliers, and associated conformance criteria (the tests that can be measured to assess whether the standard is being used correctly).</p> <p>Includes key implementation and completion dates for both care providers and systems suppliers.</p>	Published on ISN webpage
<i>Data Set Specification</i>	Specification for the output data set required of providers which is part of the ISN and published on the DCB website.	Published on ISN webpage
<i>NHS Data Model and Dictionary Change Request</i>	Provides a detailed technical specification of all changes made to the NHS Data Model and Dictionary as a result of the changes to this information standard.	Published on ISN webpage
Technical Documentation		
<i>Technical Output Specification (TOS)</i>	<p>This is the specification for the output data set required of providers that fully defines each data item within the data set. This document splits the data set into a number of groups (tables), each containing data items and values.</p> <p>The TOS available on the MSDS webpage also includes validations and derivations that will be applied to submission files at the submission portal.</p> <p>The 'Change Control' tab within this document defines the individual changes made to tables and data items as part of the <i>Change Specification</i>. The TOS should be referred to alongside the Data Model.</p>	Published on MSDS webpage
<i>Data Model</i>	Provides a pictorial representation of the output data set. The Data Model clearly defines the referential integrity that will be enforced when the submission file is validated.	Published on MSDS webpage
<i>Technical Guidance</i>	<p>This document includes:</p> <ul style="list-style-type: none"> • Overview of the end-to-end data flow and processing • advice about populating the XML schema and (optional) conversion tool for submission purposes • further explanation of the data submission processes and the submission windows. 	Published on MSDS webpage

<i>User Guidance</i>	Guidance for care providers and system suppliers about the structure and content of the data set, including guidance about how to map/submit each individual data item.	Published on MSDS webpage
Organisational assessment and planning tools		
<i>Implementation Guidance (THIS DOCUMENT)</i>	A document containing guidance to support care providers and system suppliers with the implementation of the data set, including organisational guidance around data set users and information governance.	Published on ISN webpage
<i>Implementation Planning Template</i>	You can use this planning template to plan your organisation's activity for implementing the MSDS. The resulting plan should give a high-level picture of how your organisation intends to tackle this implementation within the anticipated timescales.	Published on MSDS webpage
<i>Readiness Assessment Tool</i>	You can use this readiness assessment tool to measure your organisation's MSDS implementation progress. This spans a baseline assessment, regular reviews and a final review to report successful implementation.	Published on MSDS webpage
<i>System Conformance Checklist</i>	This is a worksheet tool for service providers to assess how well their local IT systems 'map' to the data set specification.	Published on MSDS webpage

3 Organisational Guidance

The updated MSDS Information Standard is used across the range of service providers and organisations that provide NHS-funded maternity services, including:

- NHS Acute Trusts (foundation and non-foundation)
- Independent sector providers who provide NHS-funded care.

Health and care organisations and System Suppliers should be aware of the requirements and conformance criteria specified for the standard. These are outlined in the MSDS v2.0 *Requirements Specification* document.

3.1 Resources/Costs

Providers of maternity services will have a requirement to collect data for primary purposes, such as for clinical reasons and patient administration. NHS Digital is separately working with the Professional Record Standards Body (PRSB) and the Royal College of Physicians to develop [a primary data standard for maternity records](#), to ensure that key information about pregnancy can be shared digitally between care providers.

The MSDS is designed to build on this requirement by gathering this information and using it for a number of secondary purposes, including national reporting and dissemination to commissioners. As such, funding is not available for sites to:

- procure or install data collection systems
- train staff in order to facilitate data collection
- undertake additional activities required to facilitate data extract submission.

It is not within the scope of this document to provide advice with regard to the procurement of systems. However, staff at NHS Digital are available to help where a requirement exists and can be contacted via the enquiries@nhsdigital.nhs.uk email address.

Providers should however expect some resource to be required in order to uplift data collection to enable extraction of the required data items. This is likely to be the case whether the provider is new to the data set or making amendments following publication of the ISN and should be provided for as part of the contract between commissioner and provider.

3.2 Information Governance

All data providers should be aware of their legal and professional obligations with regard to information governance as it applies to the mandated MSDS standard, including with respect to the Data Protection Act 2018 and the General Data Protection Regulation (GDPR). The NHS and government publish a significant amount of guidance that can assist data providers to comply with their obligations. Some of this information is signposted below. Please also see the NHS Digital [Data Security and Information Governance](#) web page for an overview of guidance published by NHS Digital.

- Confidentiality: NHS Code of Practice (2003)

“This document is a guide to required practice for those who work within or under contract to NHS organisations concerning confidentiality and patients’ consent to the use of their health records.”

- [Report of the Review of Patient Identifiable Information¹](#) (1997) (Caldicott Report)

“A review commissioned in 1997 by the Chief Medical Officer of England which highlighted six key principles and made 16 specific recommendations regarding the transfer of patient-identifiable information from NHS organisations to other NHS and non-NHS organisations.”

- [The Information Governance Review](#) (2013) (Second Caldicott review):

“The guidance in this report is intended to help health and social care professionals and staff in sharing information appropriately in their day-to-day activities. There will however, always be exceptional and difficult circumstances where solutions are not obvious. In these situations, professionals and staff should seek advice from Caldicott Guardians or their professional bodies and use their judgement to act in the best interests of their patients and clients.”

- NHS Digital has also published [A Guide to Confidentiality in Health and Social Care](#) (2013) which provides good practice advice and guidance for healthcare staff.

All data providers must ensure compliance with the transparency / fair processing requirement of the Data Protection Act 2018 and the General Data Protection Regulation (EU) 2016/679 (GDPR). To meet these requirements, data providers must make available information and guidance to patients and/or their legal guardians to inform them that their data (or their child’s data where applicable) will be used for secondary uses purposes (such as service development analysis and national statistical research).

Information must be provided in a concise, transparent and easily accessible form and should include details such as an understanding of the data in question, what it will be used for and the patient’s rights.

Further details can be found in the [IGA GDPR: implementation checklist](#) under 7) Comply with more stringent transparency requirements.

As a result of new data being included in the MSDS for the first time, existing data providers should review their transparency / fair processing practices as part of a wider Data Protection Impact Assessment.

NHS Digital has provided a [MSDS Information Governance and Fair Processing Guidance](#) document which contains useful information about the MSDS which data providers may choose to include within their local patient information material.

NHS Digital is also required to provide fair processing information. This information can currently be found on the corporate [‘How we look after your health and care information’](#) web page.

3.2.1 Consent and Opt-Out

NHS Digital is exempt from [section 251 support](#) when mandated to collect data via Directions from NHS England or the Department of Health and Social Care (DHSC) and when acting as data controller. This is set out in sections 254 and 255 of the Health and Social Care Act 2012. As a result, explicit consent is not required; however, providers are required to inform patients using NHS-funded maternity services that their information will be used to support secondary uses, and to act on any objections raised in line with their local policy.

Acting fairly and transparently ensures compliance with the common law duty of confidentiality, the NHS Constitution and legislation e.g. the Data Protection Act 2018 and the General Data Protection Regulation (GDPR). Ensuring fairness is the responsibility of the

care provider from which the data will be collected, though NHS Digital has provided some suggested wording.

Patients must also be given the opportunity to object to their data being used for purposes beyond their own direct care and treatment (e.g. for research and planning purposes). This complies with the Department of Health and Social Care's Directions, issued to NHS Digital in 2015, 2016 and 2018 on the processing of patient objections.

Patients using these services have the right to change their minds about a disclosure decision at any time before the disclosure is made and can do so afterwards to prevent further disclosures. Objections will not apply if the submission of patient information to NHS Digital is being used directly for payment of service, except when instructed by the local Caldicott Guardian.

Providers are legally required to submit full returns of MSDS data, as the DPN issued under section 259 (10) of the Health and Social Care Act 2012 sets aside the common law duty of confidence in respect of this data. However, providers may themselves exclude records where they are subject to any other restriction on disclosure e.g. by other laws.

Where an objection is received from a patient (or their parent or guardian in the case of a child), NHS Digital will exclude the relevant records from any onward dissemination of the data.

Further information can be found on the NHS Digital webpages – [How we look after your health and care information](#). In particular, further information about patient opt-outs is available on the [Your choices on information we hold about you](#) webpage.

Information about the application of patient opt-outs during the data dissemination process can be found on the [Opting out of sharing your confidential patient information](#) webpage.

Organisations should maintain awareness of developments in legislation around opting out, as this may impact the required approach to opt-outs during the lifetime of the MSDS information standard.

3.2.2 Compliance Against Statutory Requirements

The specification and guidance for implementing this data set has been designed to support organisations in adhering to their statutory responsibilities relating to Information Governance, Data Protection Act 2018, the GDPR and the Freedom of Information Act 2000. It is the responsibility of the providing organisation to ensure that these statutory responsibilities are adhered to.

3.2.3 Potential Safety/Confidentiality/Risk Considerations

The primary purpose of the proposed changes to DCB1513 – Maternity Services Data Set (MSDS) v2.0 is for secondary uses only. The standard will therefore have no direct impact on Clinical Safety and as such is not in scope of [DCB0129 - Clinical Risk Management: its Application in the Manufacture of Health IT Systems](#). Consequently, a Clinical Safety Case Report is not required to support MSDS.

However, changes made to the new standard in comparison with the current MSDS v1.5 standard may require modification to the health IT system from which the collection/extraction is made. The safety implications of any such modifications must be considered by the manufacturer and all other parties involved under [DCB0129 - Clinical Risk Management: its Application in the Manufacture of Health IT Systems](#) and the deploying

Organisation under **DCB0160** - *Clinical Risk Management: its Application in the Deployment and Use of Health IT Systems*.

As with all secondary use data sets there is a small underlying risk that the capture of additional information may be time consuming, thus potentially impacting upon patient care. To mitigate this risk every effort has been taken to ensure that all changes to the MSDS reflect data that is already routinely captured for primary use purposes. A burden assessment has also been completed to independently assess this risk.

Stakeholders including the NHS (NHS England, care providers, commissioners) and the Department of Health and Social Care (DHSC) are actively encouraged to raise any potential safety risks or adverse incidents during definitional testing and consultation exercises throughout the development of each release of this standard. To date no significant issues relating to safety or potential adverse incidents have been identified.

Any concerns, potential safety risks identified or adverse incidents resulting from the implementation of these changes to MSDS should be reported immediately to the user's local service desk. This will then be escalated through the correct process.

3.3 Data Quality

As an output data set, the MSDS does not mandate design of local systems or specific local data quality measures. However, highlighted below are areas the data set developers recommend should be considered by data providers within their local governance arrangements to ensure good data quality in respect of the extracted submission.

3.3.1 Corporate Data Quality Framework

Each organisation will have its own corporate framework for managing data quality in respect to data collection, submission and publication. Such a framework is likely to involve a number of components such as leadership and direction from a senior officer, organisational and departmental data quality objectives, data quality audits and a performance management framework. It is recommended that appropriate components of the corporate data quality framework include the MSDS, so that data quality relating to the data set is at the heart of the organisation's data quality framework.

3.3.2 Data Quality Risks

At organisational, departmental and individual levels, risks related to data quality should be identified and mitigated. Examples of risks, which could be considered, are:

- Organisational - does the organisation have corporate policy and objectives for managing data? Is there a senior officer with overall responsibility for data quality?
- Team - are all relevant staff aware of the purpose and importance of collecting data for the national data set? Are there sufficient resources available to continue data collection during staff absences?
- Individuals - do staff have sufficient time within their work routine to collect the data? Is there a need for additional training so staff can possess appropriate skills to collect the data (especially where systems are upgraded)?

3.3.3 Organisational and Departmental Objectives

In any organisation, resources will be deployed towards organisational and departmental objectives. The organisation's performance management framework will identify the extent to which objectives are met, and, where necessary, revised.

Where the data set is used to monitor progress towards objectives, there will be greater emphasis on collecting good quality data. It may be necessary to embed the data set subject area into the organisation's performance management framework (and therefore set local objectives) to ensure data is collected in a reliable and timely manner.

Some organisations will have well developed processes and systems that, with minimum effort, will accommodate the data set. Other organisations, where processes and systems are underdeveloped or in their infancy, or which are new to submitting MSDS, may require significant changes. In such instances, organisations may choose to plan the implementation of this Information Standard as a priority to ensure sufficient resources are deployed for conformance.

The implementation of a new or re-engineered process may be more successful where organisations use peer organisations to identify and replicate areas of good practice.

3.3.4 Timeliness

The data should be entered in local systems and submitted in a timely manner according to the prescribed submission window deadlines. This will ensure that the data set can deliver meaningful, relevant and timely reports for stakeholders. This should be followed by a review of data quality feedback provided from the NHS Digital submission portal at the point of submission to implement improvement actions.

In particular, providers should reference the validation and inclusion rules detailed within the MSDS v2.0 *Technical Output Specification* to understand the requirements of when each data item must be reported according to the relevant reporting period. These inclusion rules also intentionally restrict the opportunity to correct errors in certain data items after the original reporting period, as necessary for national reporting purposes.

Any delays in data submissions may have adverse impact on data quality if insufficient time is allowed to make improvements following the production of the data quality report provided after each submission to the submission portal.

3.3.5 Utilisation of Data Quality Feedback

The validations applied to data submission files at the submission portal, which are described in the full version of the MSDS v2.0 *Technical Output Specification*, are designed to report errors and inconsistencies within a single submission. The MSDS v2.0 *Requirements Specification* includes a requirement to utilise these reports as early as possible within the submission window deadlines.

Additional data quality feedback is provided post-submission through individual Data Quality Notices which include further consistency checks across submissions. Nationally, data quality is reported on through the published Data Quality Reports which accompany each MSDS publication.

Such data quality feedback is not designed to replace local data validation but is designed to assist with this activity.

3.3.6 Local Data Validation

The validations, which are described in the MSDS v2.0 *Technical Output Specification*, only relate to the structure and validity of the submitted data. At the submission portal it will not necessarily be possible to identify whether data is accurate and complete. Local data quality measures must be implemented in order to account for this.

3.4 Skill Mix Changes and Training

Care provider and system supplier organisations will benefit from developing a local implementation strategy that covers MSDS. The strategy should ensure the identification of skills gaps which might impact on the implementation and maintenance of the MSDS extract within the organisation. Staff affected will include clinicians, administrative personnel, informatics personnel and IT services.

The data set is an output-based specification for data submission. Consequently, 'in scope' services will normally collect information locally using an electronic system, whether this is a commercial or a bespoke system. To ensure systems are used in the correct manner, system suppliers and/or care providers will need to provide guidance for staff on how to use the local system.

Training that might need to be considered includes:

Technical/specialist skills:

- Data input training.
- Using new technologies such as hand-held devices.
- Using new applications.
- Uploading data from remote devices to provider network/system.
- Collation of data from clinical system(s).
- Validation of extract.
- Rectification of poor data quality.
- Compilation of the submission in an XML file for submission, including use of the (optional) XML conversion tool.
- Usage of the submission portal, including uploading and accessing extracts and data quality reports.
- Analysis of data quality reports provided by the submission portal.
- Information governance.
- Familiarisation with clinical terminology, including SNOMED CT.

Soft skills:

- Interpersonal and communication skills in asking sensitive questions regarding health.
- Collaboration between clinical and informatics staff to identify and resolve errors in data entry and address systemic data quality issues.

Clinicians: A local implementation strategy may require additional skills and training for clinicians in using new functions and modules within an existing or new IT system.

Administration Personnel: A local implementation strategy may require additional skills and training for administration personnel in using new functions and modules within an existing or new IT system. Additionally, administration personnel may be responsible for transcribing data into a new IT system.

Informatics and IT Support Services: From an IT or Information Management Service perspective, skills may be required in:

- Configuring local systems to capture information using SNOMED CT as required.
- Developing and maintaining a local data warehouse.
- Creating a submission file from a spectrum of local IT systems.
- Creating uni- or bi-directional interfaces between electronic systems.

Information Governance: The MSDS facilitates the flow of patient confidential data. All organisations involved in the collection and dissemination of data that will ultimately form part of the MSDS must ensure that staff involved in data handling in any respect are fully conversant with the organisational information governance responsibilities.

For further information regarding the information governance responsibilities of care provider organisations with respect to patient confidential data, please see section 3.2 'Information Governance'.

NHS Digital does not offer explicit training in any of these areas; however, we are able to help users through:

- leading regular events to help familiarise users with the data set.
- responding to queries submitted to the NHS Digital Contact Centre (enquiries@nhsdigital.nhs.uk).
- written guidance referenced elsewhere in this document and other documents.
- one to one meetings to discuss specific issues.
- other means appropriate to the organisations and issues involved.

3.5 Step-by-Step Implementation Guide

3.5.1 New Users – Implementing the MSDS

The method of implementing the MSDS may differ between users of the existing data sets and new users.

While at the time of writing all NHS Trusts that provide NHS-funded Maternity Services and one independent provider are already submitting data to the existing version of the MSDS, it is possible that new or different organisations (including further independent sector healthcare providers who provide NHS-funded Maternity Services) may be in scope and may therefore have to implement MSDS v2.0 from scratch.

The table below provides a high-level summary of essential steps for implementing the MSDS within your organisation if your organisation is a new submitter. Please also see the MSDS v2.0 *Implementation Planning Template* tool which contains more detailed planning guidance and a template to monitor progress.

Step	Description
Understand the background to the project, and the scope of the MSDS Information Standard	Review this MSDS v2.0 <i>Implementation Guidance</i> along with the MSDS v2.0 <i>Requirements Specification</i> to fully understand the background, objectives and scope to this Information Standard.
Identify and engage with key stakeholders	<p>Identify the key stakeholders for your MSDS implementation and ensure they are aware of the requirement. In particular:</p> <p>Read section '3.4 Skills Mix Changes and Training' to fully understand what local support may be required for different stakeholder groups.</p> <p>Inform local commissioners of progress with implementation and discuss plans for utilising the commissioner extracts made available post-submission.</p> <p>Ensure relevant system suppliers and involved stakeholders are aware of the requirements for maternity systems as per the <i>Requirements Specification</i>.</p>
Understand how the data is grouped within the data set	Review the MSDS v2.0 <i>Data Model and Technical Output Specification</i> to understand at a higher level how the data items are grouped, and how those groups relate to each other.
Decide whether and how data items will be collected – Data Mapping.	<p>Look more closely at each individual data item in the MSDS v2.0 <i>Technical Output Specification</i> and check whether local systems record the data in a way that means it can be submitted within the MSDS, either directly or with local transformation.</p> <p>Read the MSDS v2.0 <i>User Guidance</i> for further guidance on interpretation and data mapping.</p> <p>The MSDS v2.0 <i>System Conformance Checklist</i> can be used to mark off each data item and record progress towards mapping each data item.</p>
Ensure the organisation complies with Information Governance requirements.	<p>The MSDS v2.0 <i>Implementation Guidance</i> signposts additional information relating to Information Governance (IG) issues surrounding the use of health service data. Caldicott Guardians and the maternity services lead(s) MUST:</p> <ul style="list-style-type: none"> • Review the Information Governance Guidelines signposted within the MSDS v2.0 <i>Implementation Guidance</i> to understand the issues around data submission, storage and reporting processes when handling identifiable and sensitive data items. • Review management of the consent issues and put in place local processes, including making information available to patients to ensure compliance with fair processing guidance. <p>The MSDS v2.0 <i>User Guidance</i> may also contain data item level guidance in relation to specific local information Governance aspects, where appropriate.</p>
Understand submission process	Review the MSDS v2.0 <i>Technical Guidance</i> to fully understand the data submission process.
Ensure compliance with technical requirements to enable data submission	Look more closely at the MSDS v2.0 technical requirements for obtaining login credentials for the submission portal to ensure

	<p>necessary registrations and access are in place, allowing sufficient time to act where required.</p> <p>Detailed guidance and links for each step are available in the MSDS v2.0 <i>Technical Guidance</i>.</p>
Obtain submission portal login credentials	<p>Undertake the authorisation process to enable members of staff to be authorised to access the submission portal to upload files.</p> <p>Detailed instructions are available in the MSDS v2.0 <i>Technical Guidance</i>.</p>
Construct data submission file	<p>Use local processes and technologies, the XML Schema and (optionally) the XML conversion tool to generate the XML submission file, before uploading to the submission portal.</p> <p>The Information Standard does not stipulate any particular local processes that should be used to generate the required output file. It may be that some data providers will construct a temporary local data warehouse to enable them to aggregate data from several different sources.</p> <p>The MSDS v2.0 <i>Technical Guidance</i> provides further support regarding the submission process and the XML Schema which defines the exact structure and content of the submission file.</p>
Fully understand the validation reporting provided by the submission portal	<p>The MSDS v2.0 <i>Technical Output Specification</i> defines the reports that will be returned to data providers by the submission portal and lists all the error and warning messages that may be produced. The specification also defines diagnostic (data quality) reporting that will be returned.</p> <p>Review the specification to ensure a thorough understanding of the errors and warnings that may be produced and how they can be fixed for later submissions.</p>
Fully understand the post-deadline extracts that will be available to data providers and commissioners	<p>The MSDS v2.0 <i>Technical Output Specification</i> defines the content of the extract files for providers and commissioners and all the derived data items that will be generated by the post-deadline processing.</p> <p>Data providers and commissioners will need to consider how they may use the extract files. Data providers therefore should remain in contact with local commissioners to explain any changes to data submitted or identified data quality issues.</p>
Keep up to date with news and updates	<p>Subscribe to the Maternity Services Data Set (MSDS) information update by emailing the NHS Digital Contact Centre to be added to the MSDS mailing list, and to receive information about stakeholders' events which may have relevance to your organisation.</p>

3.5.2 Existing MSDS Users – Implementing v2.0 changes

The table below provides a high-level summary of essential steps for implementing the MSDS within your organisation. Please also see the MSDS v2.0 *Implementation Planning Template* tool which contains more detailed planning guidance and a template to monitor progress.

Step	Description
Understand the background of the changes to the MSDS Information Standard	Review this <i>Implementation Guidance</i> along with the MSDS v2.0 <i>Requirements Specification</i> and <i>Change Specification</i> to fully understand the background, objectives and scope of the amended Information Standard.
Identify and engage with key stakeholders	<p>Identify the key stakeholders for your MSDS implementation of the MSDS changes and ensure they are aware of the requirement. In particular:</p> <p>Read section '3.4 Skills Mix Changes and Training' to fully understand what local support may be required for different stakeholder groups.</p> <p>Inform local commissioners of progress with change implementation and review plans for utilising the commissioner extracts made available post-submission.</p> <p>Ensure relevant systems suppliers and involved stakeholders are aware of the requirements for maternity systems as per the <i>Requirements Specification</i>.</p>
Understand how the new or amended data is grouped within the data set	<p>Review the MSDS v2.0 <i>Change Specification</i>, <i>Data Model</i> and <i>Technical Output Specification</i> to understand how the new or amended data items are grouped, and how those groups relate to each other.</p> <p>The MSDS v2.0 <i>Technical Output Specification</i> contains detailed information about each data group and data item.</p> <p>Note that the change from MSDS v1.5 to MSDS v2.0 is significant in terms of structure and content. As such, users may be better placed to implement MSDS v2.0 from scratch rather than building on what is already in place for MSDS v1.5.</p>
Decide whether and how new or amended data items will be collected – Data Mapping.	<p>Look more closely at each individual change to the MSDS v2.0 <i>Technical Output Specification</i> and check whether local systems record the data in a way that means it can be submitted within v2.0 of the MSDS.</p> <p>Read the MSDS v2.0 <i>User Guidance</i> for further guidance on interpretation and data mapping for the changes.</p> <p>The <i>System Conformance Checklist</i> can be used to mark off each data item and record progress towards mapping each data item.</p>
Ensure the organisation continues to comply with Information Governance requirements.	<p>The MSDS v2.0 <i>Implementation Guidance</i> signposts additional information relating to Information Governance (IG) issues surrounding the use of health service data. Provider and system supplier organisations should be aware of the patient-level nature of this data set and review local information governance requirements accordingly when any change to the MSDS standard is mandated.</p> <p>The MSDS v2.0 <i>User Guidance</i> may also contain data item level guidance in relation to specific local information Governance aspects, where appropriate.</p>
Understand changes to the submission process	Review the MSDS v2.0 <i>Technical Guidance</i> to fully understand changes to the data submission process.
Obtain submission portal login credentials	Undertake the authorisation process to enable members of staff to be authorised to access the submission portal to upload files.

	Detailed instructions are available in the MSDS v2.0 <i>Technical Guidance</i> .
Construct data submission file	<p>Use local processes and technologies, the XML Schema and (optionally) the XML conversion tool to generate the XML submission file, before uploading to the submission portal.</p> <p>The Information Standard does not stipulate any particular local processes that should be used to generate the required output file. It may be that some data providers will construct a temporary local data warehouse to enable them to aggregate data from several different sources.</p> <p>The MSDS v2.0 <i>Technical Guidance</i> provides further support regarding the submission process and the XML Schema which defines the exact structure and content of the submission file.</p>
Fully understand the validation reporting provided by the submission portal	<p>The MSDS v2.0 <i>Technical Output Specification</i> defines the reports that will be returned to data providers by the submission portal and lists all the error and warning messages that may be produced. The specification also defines diagnostic (data quality) reporting that will be returned.</p> <p>Review this specification to ensure a thorough understanding of the errors and warnings that may be produced for the new or amended data items and how any issues can be fixed for later submissions.</p>
Fully understand the amended post-deadline extracts that will be available to data providers and commissioners	<p>The MSDS v2.0 <i>Technical Output Specification</i> defines the content of the extract files for providers and commissioners and all the derived data items that will be generated by the post-deadline processing.</p> <p>Data providers and commissioners will need to consider how they may use the amended extract files. Data providers should remain in contact with local commissioners such as to explain any changes to data submitted or with respect to identified data quality issues.</p>
Keep up to date with news and updates	<p>Subscribe to the Maternity Services Data Set (MSDS) information update by emailing the NHS Digital Contact Centre to be added to the MSDS mailing list, and to receive information about stakeholders' events which may have relevance to your organisation.</p>

3.5.3 Impact of v2.0 changes on existing users

The impact of the MSDS v2.0 changes will vary depending on the relevance of each change to individual providers.

3.5.3.1 Backward Compatibility

Due to the structural changes introduced in MSDS v2.0, this version will not be 'backward compatible' with previous versions of the MSDS. Providers will not be able to submit any of MSDS v1.5 data to the v2.0 portal "as is" using the MSDS v1.5 XML Schema.

For example, details of complicating medical diagnoses identified at the booking appointment were submitted in MSDS v1.5 as a value from a drop-down list under the Maternity Complicating Medical Diagnosis Type (Mother at Booking) item included in the 'MAT102 Complicating Medical Diagnosis at Booking' table. The information now flows as a SNOMED CT code in the new MSD106 Diagnosis (Pregnancy) table.

3.5.3.2 Change to XML Schema

The changes included in this release require amendments to the MSDS XML Schema. This means that all existing providers will be required to submit an XML file that is compliant with a new MSDS v2.0 XML Schema in line with the data submission timetable. Submissions made using the MSDS v1.5 XML Schema will be rejected.

For further details about obtaining and using the MSDS v2.0 XML Schema, please see the MSDS v2.0 *Technical Guidance*.

3.5.4 Further Guidance

Detailed submission guidance to support the major changes included in MSDS v2.0 can be found in the MSDS v2.0 *User Guidance*. Where wider guidance exists (such as where applicable across multiple data items), this will usually be contained in a standalone section within the User Guidance.

4 Human Behavioural Guidance

The following section describes how the changes to the data set should be used by clinical and operational staff and providers. Providers should meet the compliance requirements for their IT system or systems to implement the MSDS v2.0 changes. This section also explains where data, in relation to the data set, can be found in the care pathway.

- **Clinical staff:** will be responsible for capturing information as part of the on-going care of the patient i.e. for primary use purposes.
- **Administrative Staff:** will be responsible for capturing information such as demographics and details of contacts/activities.
- **Informatics Staff:** will be responsible for the collation of information, which may come from a range of disparate systems, into a single data extract which can be loaded into the MSDS XML Schema and subsequently submitted to the submission portal. This will include ensuring completeness and data quality of the information within the data set.
- **MSDS systems:** should be implemented by providers ensuring that data items can be captured electronically, and output produced or derived to nationally agreed standards to allow extraction and/or derivation to produce the MSDS.

4.1 Data Users

4.1.1 Primary Users

The MSDS is not intended for primary data use. The MSDS is not a specification for the standardisation of a patient care record, but it is based on clinical and operational information. Service Providers have the flexibility to adopt any local data collection process or system as long as the local data collection frameworks can output a suitable data extract as per the data set specification, for submission via the online submission portal.

Providers should therefore look to re-use their clinical and operational systems to extract MSDS data.

4.1.2 Secondary Users

As a secondary uses data set the MSDS will be made up of existing data extracted from Patient Administrative Systems (PAS), maternity information systems, and potentially other clinical systems.

Information generated by this Information Standard through individual record-level data extracts or published aggregate reports is likely to be used by the following organisations:

At a local level:

- Providers of maternity services including NHS Trusts and Independent Sector
- Commissioners including CCGs and Specialist Commissioners
- Commissioning Support Units (CSUs)
- Researchers
- Public Health
- Local Authorities.

At a national level:

- NHS England (NHSE)
- Department of Health and Social Care (DHSC)
- Public Health England (PHE)
- National Institute for Health and Care Excellence (NICE)
- Care Quality Commission (CQC)
- NHS Improvement
- NHS Resolution
- NHS Digital
- Royal Colleges, including the Royal College of Obstetricians and Gynaecologists (RCOG) who produce the National Maternity and Perinatal Audit (NMPA)
- Universities
- Voluntary Sector/Charities.

When approved as an Information Standard the following groups of people are likely to analyse information captured through the amended MSDS:

- Managers
- Clinical staff
- Performance analysts
- Finance staff
- Commissioners
- Service and workforce planners
- Researchers.

Analysis carried out by NHS Digital can be found on [the MSDS webpages](#).

5 Technical Guidance

5.1 Information Standards Notice Process

All approved new data standards, and changes to existing standards, are communicated to the providers and system suppliers through the publication of an ISN. These notices are published and available to view on the [DCB webpages](#).

The key aim of the ISN and supporting documents is to provide clear and unambiguous instruction to all stakeholders on the action required of them relating to the information standard and the associated timescales. The ISN will provide the stakeholders with sufficient detail to enable them to plan for and implement the information standard.

More information on the stages of information standard development is available on the NHS Digital website.

The ISN also imposes a legal requirement on care providers to have regard to the standard. The service provider must ensure that they have a system or systems to deliver the requirements specified in the standard. The contractual agreement between data providers and system suppliers will dictate whether system suppliers have to abide by the ISN and at what cost.

Technical guidance in support of the MSDS can be found in a number of supporting documents described at the beginning of this document, section 2.4 'Related Documents', and will not be repeated here. Key documents include:

- MSDS v2.0 Technical Output Specification
- MSDS v2.0 User Guidance
- MSDS v2.0 Technical Guidance

Users should also review:

- [NHS Data Model and Dictionary](#), to gain an understanding of where data items may be shared with other data sets, potentially assisting with mapping local systems
- [SNOMED CT web pages](#), to gain further information about the use and implementation of SNOMED CT in local systems and how to submit these within MSDS v2.0.

5.2 Conformance Criteria

The roles of both users and suppliers in terms of business rules, the submission of data, technical architecture and the flow of information, are outlined separately within the *MSDS v2.0 Requirements Specification* document.

Further information about the flow of data is also shown by the data flow diagram in Appendix A.

5.3 Users

The majority of the information defined within MSDS will already be captured routinely by clinicians and administrative staff as part of their existing work practices for the on-going care of patients.

The MSDS v2.0 *Technical Output Specification* describes the data items included within the data set and fully defines the linkage and mandation rules of each item. An accompanying Data Model is also available. It is the local clinicians and informatics staff responsibility to review this document to assess their conformance with the data item requirements outlined for this standard.

A step-by-step guide to submitting a Data Submission File is available from the MSDS v2.0 *Technical Guidance* document.

5.4 Systems

The MSDS v2.0 *Technical Output Specification* describes the configuration of the output data set required for onward submission to NHS Digital. Local systems should be configured in a way that allows the requirements of the output data set to be met. It is the responsibility of care providers to ensure that their IT systems conform to this standard by:

- Updating their systems in order to capture the data items and making extracts available for national use.
- Understanding the data validation rules that will be applied at the submission portal to all incoming Data Submission Files. Any validation rules not adhered to will result in a warning message or the entire Data Submission File being rejected.

New users may need to procure an appropriate Maternity Information System. Further details regarding guidance in this respect can be found in Section 3.1 'Resources/Costs'.

Updates to MSDS-related extracts must be deployed in accordance with the timetable detailed within the ISN and supporting documents.

6 Maintenance

6.1 Implementation Strategy

NHS Digital has agreed an implementation strategy with the Maternity Transformation Programme Board. The intention is that MSDS v2.0 will be followed by further updated standards on a regular and potentially annual basis. This is assuming that new requirements are received and is also dependant on care provider and system supplier readiness.

Relevant policy, practice and classifications, including NHS Data Model and Dictionary Change Notices and Information Standards Notices (ISNs), are continually monitored by the Data Set Development Service. Where changes are identified, the risk and benefits in relation to timescales will be assessed to prioritise the requirement into a planned annual release.

This regular update strategy will aid local planning and development by providing a consistent fixed implementation window in order to make implementation deadlines more achievable.

6.2 Data Set Maintenance

The MSDS Information Standard will be formally maintained by NHS Digital in accordance with NHS Digital's maintenance procedures.

As this data set has been approved as a full operational standard, it is subject to on-going maintenance to ensure it remains 'fit for purpose'.

MSDS users are integral to the maintenance strategy for MSDS.

The content of the data set is determined from consultation with various stakeholder groups. Stakeholders include various sections of Department of Health and Social Care policy, NHS England, NHS Improvement, Public Health England, Care Quality Commission, clinical groups (such as Royal Colleges), service providers (including informatics staff and clinicians), clinical system suppliers and commissioners. Other changes arise from service providers identifying issues in the current requirements which do not align with current practice, such as the need for amendments to permissible values. Commissioners may also raise issues around the availability of data which will allow them to undertake their duties.

Changes identified are likely to require the inclusion of new data items, amendment of existing items or removal of no longer required items which in turn will require a change to provider extracts.

The scope of the maintenance process covers:

- Management of change requests from users and stakeholders. Changes currently under consideration can be found in the MSDS v2.0 *Change Requests* document (see section 6.4).
- Specification of changes to the data set in response to changes in policy, practice, coding and classifications.
- The process for authorisation and approval of changes to data set items, including obtaining DCB standard change approval.

- Undertaking periodic reviews of the data set including data items, definitions and data values.
- Amendments to the MSDS v2.0 Implementation Guidance document and associated documentation produced by the development team required to keep documentation up to date in respect of policy and practice; clarify or improve pre-existing guidance; and amend identified errors. This documentation includes, but is not limited to, the MSDS v2.0 User Guidance, MSDS v2.0 Technical Guidance and the MSDS V2.0 Technical Output Specification (provided this does not change the approved standard).

6.3 Data Set Requirements

Requirements for future versions of the data set can be submitted to NHS Digital by the sponsor, stakeholders and users.

Requests can be submitted, describing any proposed changes to the MSDS v2.0, to NHS Digital via enquiries@nhsdigital.nhs.uk (please include 'FAO Data Set Development Service - MSDS v2.0' in the subject line).

Each request should be supported by a valid business requirement i.e. what change is needed, justification (i.e. why is it needed) and also any associated timescales.

Any requirement requests will be considered and agreed by the Sponsor and the MSDS Expert Reference Group prior to submission to the DCB for formal assurance and the publication of an ISN. The ISN will inform the NHS and systems suppliers of the changes and timescales.

6.4 High-Level Data Set Change Requests Summary

The Data Set Development Service (DSDS) provides a high-level summary of the requested changes currently in development or under consideration for the MSDS v2.0. This MSDS v2.0 *Change Requests* document is refreshed on a regular basis and can be found on the [MSDS webpage](#).

6.5 Data Coordination Board (DCB)

Further approval of an Information Standard change submission by DCB will be required prior to publication and implementation of any data set change.

6.6 Information Standards Notice (ISN)

Any changes to this Information Standard will be communicated to the relevant providers of services affected, and their associated system suppliers, via the publication of an ISN. This will outline any new or changed requirements and associated timescales for implementation.

7 Risk/Issues

The DSDS currently holds a list of known risks and issues which are assured by DCB. In the event that a technical risk or issue needs to be raised by a supplier or service provider, this should be communicated to NHS Digital by email to enquiries@nhsdigital.nhs.uk. To help us redirect your questions to the most appropriate team and to speed up our response times, please include 'MSDS v2.0 Development' in your subject line.

8 Implementation Support

8.1 Support

For specific enquiries relating to the MSDS Information Standard including scope, data items, definitions and data values, future requirements and changes, submission deadlines, analysis and reporting of MSDS data please contact the NHS Digital Contact Centre:

Telephone: 0300 303 5678

Email: enquiries@nhsdigital.nhs.uk (please include FAO MSDS v2.0 in subject line)

For enquiries relating to products including the MSDS v2.0 XML Schema and conversion tool, please contact information.standards@nhs.net.

8.2 MSDS news and information updates

NHS Digital publishes monthly MSDS updates, which cover the following areas:

- Maintenance of Data Set Standards and new developments
- Submission and data quality
- Publication news
- Events

8.3 Additional Sources of Information

NHS Data Model and Dictionary

Full details of changes to data items, including definitions and associated value lists are available on the NHS Data Model and Dictionary website:

www.datadictionary.nhs.uk

Technology Reference data Update Distribution (TRUD)

Hosts the MSDS v2.0 XML schema and conversion tool.

<https://isd.digital.nhs.uk>

Terminology and Classifications

<https://digital.nhs.uk/services/terminology-and-classifications>

Data Coordination Board (DCB)

DCB oversees the development, assurance and approval of information standards, data collections, and data extractions.

<https://digital.nhs.uk/data-and-information/information-standards/information-standards-and-data-collections-including-extractions>

NHS Occupation Code Manual

<https://digital.nhs.uk/data-and-information/areas-of-interest/workforce/nhs-occupation-codes>

Coding Guidance

<https://digital.nhs.uk/article/196/Systems-and-services>

National Tariff Payment System

<https://www.england.nhs.uk/resources/pay-syst/>

8.4 Disclaimer

This document is intended to provide guidance for users in relation to the capture and submission of information for the Maternity Services Data Set (MSDS). It is not intended to represent official policy or legislative guidance.

If you are concerned that any aspect of this guidance does not accurately reflect the intended purpose and/or official policy, legislative or best practice guidance; please send details to NHS Digital at enquiries@nhsdigital.nhs.uk (including 'FAO MSDS' within the subject line).

Appendix A: MSDS Data Flow Diagram

