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Commissioning Data Set v6.2.1

Introduction of CDS Type 011 Emergency Care Data Set

Implementation Guidance

Document management

Revision History

Version	Date	Summary of Changes
0.1	28/09/2016	First draft for comment to include ECDS
0.2	03/11/2016	Initial review and comment
0.3	04/11/2016	NHS Digital branding
0.4	09/11/2016	Inclusion and update of ECDS data items
0.5	18/11/2016	Comments addressed following SCCI Review
0.6	21/11/2016	Removal of data items and inclusion of the reference to ECDS v5.0
0.7	09/12/2016	Inclusion of ISAS review comments from 6th Dec 2016
0.8	13/12/2016	Additional comments following ISAS review
0.9	16/01/2017	Further additional comments following ISAS review
0.10	26/01/2017	Further comments
0.11	02/02/2017	Amendments to SNOMED CT section and inclusion of ISTV and TARN
0.12	09/02/2017	Various updates
0.13	13/02/2017	Additional review
0.14	13/02/2017	Inclusion of Information Governance
0.15	14/02/2017	Internal review
0.16	14/02/2017	Final review
0.17	23/02/2017	Update following comments from SCCI Development (AH)
0.18	23/02/2017	Final update following comments from SCCI Development (SS)
0.19	03/04/2017	Final SCCI comments from ISAS Final Report
0.20	04/04/2017	Development Team review
0.21	05/04/2017	Final review
0.22	06/04/2017	Inclusion of data flow diagram
0.23	06/04/2017	Revision of diagnosis text
0.24	12/04/2017	Updated following comments from final SCCI review
1.0	19/04/2017	Publication copy

Reviewers

This document must be reviewed by the following people:

Reviewer name	Title / Responsibility	Date	Version
Aaron Haile	RCEM Project Manager	06/04/2017	0.23
Tom Hughes	ECDS Clinical Lead	06/04/2017	0.23
Peter Sherratt	NHS Digital Programme Manager	06/04/2017	0.23

Approved by

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SCCI Standardisation Committee for Care Information

The Department of Health has approved this information standard (SCCI0092-2062) for publication 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 Standardisation Committee for Care Information (SCCI), a sub-group of the National Information Board.

This information standard comprises the following documents:

- Requirements Specification
- Change Specification
- Implementation Guide
- Technical Output Specification.

An Information Standards Notice (SCCI0092-2062 Amd 17/2015) has been issued as a notification of use and implementation timescales. Please read this alongside the documents for the standard.

The controlled copies 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.

Date of publication: 19 April 2017

Glossary of Terms

Term	Abbreviation	Description
Accident and Emergency	**A&E**	Also referred to as Accident and Emergency Departments. These may be either major units, providing a 24 hour service seven days a week to which the great majority of emergency ambulance cases are taken, or small units commonly called casualty departments, in which services are often only available for limited hours and which may not deal with emergency ambulance cases
Accident and Emergency Department Type		**Type 1:** Emergency departments are a consultant led 24 hour service with full resuscitation facilities and designated accommodation for the reception of accident and emergency patients **Type 2:** Consultant led mono specialty accident and emergency service (e.g. ophthalmology, dental) with designated accommodation for the reception of patients **Type 3:** Other type of A&E/minor injury activity with designated accommodation for the reception of accident and emergency patients. The department may be doctor led or nurse led and treats at least minor injuries and illnesses and can be routinely accessed without appointment. A service mainly or entirely appointment based (for example a GP Practice or Out-Patient Clinic) is excluded even though it may treat a number of patients with minor illness or injury. Excludes NHS Walk-In Centres, but will include Urgent Care Centres **Type 4:** NHS Walk In Centres http://www.datadictionary.nhs.uk/data_dictionary/attributes/a/acc/accident_and_emergency_department_type_de.asp
Commissioning Data Sets	**CDS**	The Commissioning Data Set is the basic structure used for the submission of commissioning data to the Secondary Uses Service. It is currently designed to be capable of individually conveying many different Commissioning Data Set structures encompassing Accident and Emergency Attendances, Outpatient Attendances, Future Attendances, Admitted Patient Care and Elective Admission List data etc. CDS v6.2 includes CDS Type 010 A&E CDS v6.2.1 supports the introduction of CDS v6.2.1 Type 011 - ECDS, which will ultimately replace CDS Type 010
Electronic Data Transfer	**EDT**	Electronic Data Transfer (EDT) is used to transfer batch data securely to SUS.
Emergency Department Information System	**EDIS**	The electronic transfer method currently used to transfer batch data securely to Secondary Uses Service (SUS).
Hospital Episode Statistics	**HES**	National statistical data warehouse for England of the care provided by NHS hospitals and for NHS hospital patients treated elsewhere. HES is the data source for a wide range of healthcare analysis for the NHS, Government and many other organisations and individuals http://content.digital.nhs.uk/hes
Messaging Exchange for Social Care and Health	**MESH**	An upgraded message exchange service to transfer batch data securely to Secondary Uses Service (SUS) which will replace EDT.

National Tariff		A set of prices and rules to help providers of NHS care and commissioners provide best value to their patients. https://www.gov.uk/government/publications/nhs-national-tariff-payment-system-201617 https://improvement.nhs.uk/resources/national-tariff-1719-consultation/
Public Health England	**PHE**	An executive agency, sponsored by the Department of Health to protect and improve the nation's health and wellbeing, and reduce health inequalities
Role Based Access Control	**RBAC**	RBAC is the process through which a national set of job roles, activities and workgroups can be applied to grant users access to functionality and indirectly to data within NHS national (Spine) services. https://digital.nhs.uk/article/311/Registration-Authorities-and-Smartcards
Referral to Treatment	**RTT**	Waiting Times measurement policy for consultant led and Allied Health Professional activity, which monitors the waiting time between the referral of a patient to a service, to the time they receive first definitive treatment for their condition https://www.england.nhs.uk/resources/rtt/
Standardisation Committee for Care Information	**SCCI**	The Committee that oversees the development, assurance and approval of information standards, data collections and data extractions http://content.digital.nhs.uk/isce
Secondary Uses Service	**SUS**	Single source of comprehensive data to enable a range of reporting and analysis managed by NHS Digital. SUS supports the NHS and its partners in the areas of planning, commissioning, management, research, audit, public health and a number of national initiatives, such as National Tariff and the reimbursement mechanism for acute care. http://content.digital.nhs.uk/sus
Treatment Function Code	**TFC**	A division of clinical work based on Main Specialty, but incorporating approved sub-specialties and treatment interests used by lead care professionals including but not limited to Consultants
Extensible Markup Language	**XML**	XML is a markup language designed to carry data, not to display data. It is the CDS XML schemas which carry data in the Commissioning Data Set format between health care providers and the Secondary Uses Services (SUS).

Contents

1 Introduction

This document outlines the way in which changes to the Commissioning Data Sets (CDS) version 6.2 should be interpreted to support the implementation of CDS v6.2.1 Type 011 - ECDS.

This change focuses exclusively on the introduction of the new CDS Type 011 Emergency Care Data Set (ECDS) within the existing CDS v6.2 which will eventually replace the existing CDS Type 010 A&E. This document outlines the new data elements and how these will be used by clinical, administrative and informatics staff involved in secondary care which is NHS funded care, and/or provided by NHS Organisations.

The specific changes will introduce new data items to the existing A&E data set items, in addition to amended data items and the removal of others.

The Emergency Care Data set will be collected from all Type 3 and Type 4 Accident and Emergency Departments in addition to Type 1 and 2 Accident and Emergency Departments.

The mechanism to flow the data will remain as is currently for CDS Type 010 A&E, as outlined within the existing CDS v6.2.

This document should be read by the following audiences:

- Providers of NHS Funded Care (including Trusts and Independent Sector Providers)
- Suppliers of secondary care systems, including Patient Administration Systems (PAS), Clinical Care Records systems and other operational systems specifically related to Accident and Emergency.
- CDS XML/middleware suppliers
- Other organisations that use the CDS Information Standard

Please note that examples of how information may be captured contained throughout this document are for illustrative purposes only and may differ to the specific process within your organisation.

2 Background

The Commissioning Data Set (CDS v6.2) is the primary mechanism for the national reporting of secondary care activity which is either NHS funded, and/or provided by NHS Organisations.

Commissioning Data Sets are patient level data sets intended to deliver robust, comprehensive, nationally consistent and comparable person-based information on activity to support a variety of secondary use purposes (i.e. not for the direct care of the patient).

These include:

- Monitor and manage NHS service agreements
- Develop commissioning plans
- Support the Payment by Results processes
- Support NHS Comparators
- Monitor Health Improvement Programmes
- Underpin clinical governance
- Understand the health needs of the population

The Department of Health requires accurate data for the following types of patient activity:

- Accident and Emergency attendances (within CDS Type 010 A&E)
- Outpatient Appointments (including Did Not Attends)
- Admitted Patient Care (Hospital Admissions)
- Elective Admission Lists

This includes all secondary care activity of this nature undertaken by NHS Hospital Providers, including patients receiving private treatment, and NHS patients treated electively in the independent sector (including Any Qualified Provider) and overseas.

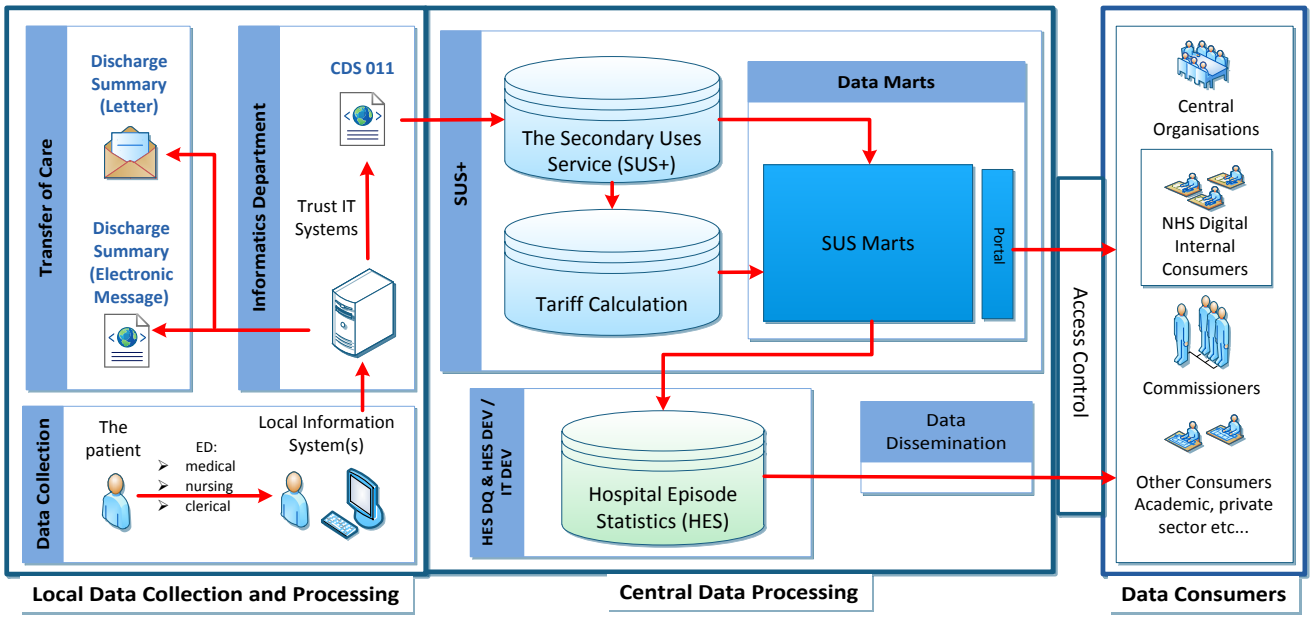
Commissioning Data Sets are securely submitted to the Secondary Uses Service (SUS) in XML format, and form the basis of the Hospital Episode Statistics (HES) data set.

The primary aim of CDS Type 010 was to support a variety of secondary use purposes. The Emergency Care Data Set (CDS v.6.2.1), which will replace the existing CDS Type 010 A&E, is closely aligned with the care and management of the patient, and the information collected will be dual-purpose, including; for the existing range of secondary uses and in some instances for the direct care of the individual (primary uses).

In ECDS (CDS v6.2.1) the developers have sought to align data collection for primary and secondary uses wherever possible as this ensures data quality that benefits patients, staff, commissioners, researchers and the wider NHS.

The ECDS does not intend to alter clinical practice, rather to streamline already existing practices and to introduce consistency.

The diagram below provides a high level view of the flow of ECDS data:



2.1 ECDS Impact Assessment

NHS Digital was commissioned by the ECDS Project Board to undertake an impact assessment of ECDS which took place from December 2015 and a final report produced in September 2016. The impact assessment undertook a range of activities in order to help determine the recommended approach to implement ECDS into the health and care system.

The scope of the report included a review of; the data collection options, data submission frequency, impacts on system changes, increase in the number of data items, barriers to successful implementation, implementation timescales, rollout approach, costs, benefits and alignment with national policies.

The focus of the assessment was across the following areas;

- on local data collection and processing (ED Types 1 – 4),
- to central data processing (NHS Digital systems),
- for consumers of data from central systems,

- on consumers of local data flows.

The ECDS Impact Assessment outlined the following findings;

- existing national A&E data collections do not clearly demonstrate accurately all of the activity undertaken within Emergency Departments
- the majority of the benefits are anticipated to be realised by local commissioners, who will use ECDS data to reconfigure services and direct resources to the most appropriate places for patients, however, quantifiable benefits are also anticipated

The ECDS Impact Assessment looked at the impact of changing the submission frequency of A&E data and found that a move to more frequent flows of data would be possible, but that this would need to be looked at in more detail to understand how this could be implemented and the impact that this would have on providers. Further work concluded that whilst a daily feed was the most desirable submission frequency, in order to deliver ECDS benefits this would need to be phased in with providers initially increasing the frequency of data submission to weekly then progressing to daily by April 2018.

It is acknowledged that implementing ECDS in October 2017 will be challenging for providers. However, the need for a new emergency care data set is clear and NHS England has stated that there should not be any further delay in realising the considerable benefits of this work. The timetable for implementation has been accelerated to ensure that the ECDS is in place as the service moves into winter 2017/18.

Adoption of the ECDS will be incentivised and implementation is supported by a staged approach with NHS England and NHS Digital taking an active role in the management of the implementation process as 2017 proceeds.

3 Scope

This document provides guidance for Healthcare Providers, system suppliers, XML/middleware suppliers and other users of the current CDS Type 010 A&E data from within the Commissioning Data Sets 6.2, in addition to guidance for those providers who do not currently flow CDS Type 010 A&E.

This document should be read in conjunction with the following documents:

- Information Standards Notice (ISN) SCCI0092-2062
- CDS 6.2 Type 011 - ECDS Technical Output Specification v1.0
- CDS 6.2 Type 011 - ECDS Change Specification
- CDS 6.2 Type 011 - ECDS Requirements Specification
- CDS 6.2.1 Type 011 - ECDS XML Schemas
- NHS Data Dictionary Change Paper CR1166
- NHS Data Dictionary Change Paper CR1306

These documents are available for download from the information standards website: http://content.digital.nhs.uk/isce/publication/SCCI0092-2062.

Details of the processing of this data following submission to Secondary Uses Service (SUS) is out of scope of this document.

4 Change Specification

The ECDS Change Specification outlines the changes from CDS 6.2, specifically CDS Type 010 A&E, which will be replaced by the introduction of CDS v6.2.1 Type 011 - ECDS and is available from: http://content.digital.nhs.uk/isce/publication/SCCI0092-2062

CDS 6.2 will continue to flow all CDS Types to Secondary Uses Service (SUS), including CDS Type 010 A&E until CDS Type 010 is withdrawn from 31st March 2019.

CDS v6.2.1 Type 011 - ECDS will be used to flow the data from providers to SUS, via the Messaging Exchange for Social Care and Health transport mechanism, replacing the need to continue to flow CDS Type 010.

A provider will only need to flow CDS Type 010 A&E or CDS v6.2.1 Type 011 - ECDS as part of CDS 6.2 submissions, with the data from the providers of either CDS Type being maintained by NHS Digital, until the withdrawal CDS Type 010 A&E, as outlined above from 31st March 2019.

For full details of all the data items included within CDS v6.2.1 Type 011 - ECDS which will replace CDS Type 010 A&E, please see the ECDS Technical Output Specification, available from http://content.digital.nhs.uk/isce/publication/SCCI0092-2062.

The ECDS Technical Output Specification will outline all data items, some of which will be new data items, some will the same and some will be amended items, in comparison to that of CDS Type 010 A&E.

5 Implementation Guidance

This section describes the implications to an organisation resulting from the approval of the implementation of CDS v6.2.1 Type 011 - ECDS. It provides guidance for those responsible for collating, ensuring data quality and submitting the data to the centre including informatics, performance and IT staff. It also provides guidance for those responsible for implementing changes to systems to facilitate the capture and extraction of information including system suppliers.

This document should be read in conjunction with the ECDS User Guidance which is available from: http://content.digital.nhs.uk/ECDS

5.1 CDS v6.2.1 Type 011 - ECDS Change Specification

The CDS 6.2 Type 011 - ECDS Change Specification incorporating the data items, definitions, formats and corresponding data values, is available from:
http://content.digital.nhs.uk/isce/publication/SCCI0092-2062

5.2 When should this information be collected?

This information should be captured locally during each Emergency Department attendance, in 'real time' by entry by clinicians and clerical staff working in the Emergency Department.

Information should be captured by clinicians and administrative staff at the relevant points within the Care Pathway. For Accident and Emergency this will initiate upon arrival at the emergency department.

5.3 Who is the subject of this change?

The following types of patient activity are within the scope of CDS v6.2.1 Type 011 - ECDS:

- Accident and Emergency attendances

This includes all secondary care activity of this nature undertaken by NHS Hospital Providers, including patients receiving private treatment, and NHS patients treated electively in the independent sector (including Any Qualified Provider) and overseas visitors.

5.4 Who should capture the information?

Healthcare Professionals: will be responsible for capturing information as part of the ongoing care of the patient i.e. for primary use purposes as they do currently.

Clerical Staff: will be responsible for capturing information such as demographics.

Clinical Coders: If the trusts use clinical coders to support the recording of clinical information from Emergency Departments, coders must ensure that they collect information which is either specified in the ECDS Technical Output Specification or that arrangements are put in place to map what they collect to the required CDS v6.2.1 Type 011 - ECDS subsets.

XML/Middleware Suppliers: will continue to support CDS v6.2 and will develop tools and/ or services to capture and process submissions in conformant XML, for submission to SUS, specifically for CDS Type 011 – ECDS via MESH.

Suppliers of Patient Administration (PAS) and Emergency Department Information Systems: will develop systems ensuring that ECDS data items can be captured electronically and output or derived to nationally agreed standards and change existing extraction routines to produce CDS 6.2 Type 011 ECDS submissions.

Trust Informatics Staff: will be responsible for the capture and collation of ECDS information and the submission of this to SUS via XML Middleware Suppliers or in-house products licensed from XML/Middleware Suppliers. This will include ensuring completeness and addressing any data quality issues identified with the information within the data set.

5.5 How often should this information be updated?

The information should be updated on an ad hoc basis following activity, events or changes in status as well as at other key points within the care pathway.

This information should be submitted nationally, initially on a weekly basis at least and ultimately on a daily basis. It is recommended that the daily submissions become an automated process. Further details on the submission frequency can be found within the ECDS Submission section within this document.

5.6 Potential Safety / Confidentiality / Risk Considerations

Commissioning Data Sets (CDS) utilise information already routinely collected in a variety of Trust systems and collated in a non-clinical setting for secondary uses. There are minimal patient safety, clinical risk implications or potential adverse effects for patients in the application of these changes to implement CDS 6.2.1 Type 011 - ECDS within this existing standard, however particular note should be taken of the section which addresses the diagnosis and associated qualifier.

A clinical safety report was produced following a hazard assessment workshop and the consensus was that there were minimal clinical safety risks associated with the implementation of the ECDS if the necessary mitigating actions are followed. In support of this standard the ECDS Clinical Safety Report has been approved by the NHS Digital Clinical Safety Group.

Any risks identified have been mitigated and this information can be accessed from the ECDS Hazard Log within Appendix A.

5.7 Commercial Issues

These changes have been developed by Royal College of Emergency Medicine, Department of Health, NHS England and NHS Digital. There are consequently no known commercial licensing or Intellectual Property Rights issues relating to the use of this standard within the NHS.

5.8 Changes to Working Practices/ Business Processes

In some cases changes introduced in CDS v6.2.1 Type 011 - ECDS may require new, or changes to existing, business processes and/ or working practices, e.g. who by and when new data is to be captured.

This may include new, or changes to existing, local guidance and data recording forms, and may require some degree of training for users.

5.9 Information Governance

5.9.1 Legal Basis

A Direction will support the legal flow of the CDS 6.2.1 Type 011 - ECDS. The Direction will not cover the entire CDS v6.2 as this will remain subject to the section 251 approval.

Explicit patient consent to share this data will not be required, but please see section 5.9.2 below with regards to Fair Processing of data.

If consent is sought and not given then this information must not be shared and other legal routes for sharing are available.

Guidance for data and information sharing at both operational and secondary uses levels exists nationally. For further information on the Codes of Practice for Handling Information in Health and Care, this can all be found at: https://digital.nhs.uk/codes-of-practice-handling-information and includes guidance on:

- Records Management Code of Practice for Health and Social Care 2016
- Detailed Retention Schedules
- Codes of Practice on Confidential Information

- HSCIC Guide to Confidentiality
- Confidentiality: NHS Code of Practice
- Information Security Management NHS Code of Practice
- NHS Information Governance – Guidance on Legal and Professional Obligations

NHS Digital no longer needs to apply for Section 251 support where mandated to collect data via directions from NHS England or the Department of Health, and when acting as data controller. This is set out in sections 254 and 255 of the Health and Social Care Act 2012[1]

5.9.2 Fair Processing

Transparency to public and patients about how we collect, handle and process information is key to maintaining trust, enabling them to exercise their choices and holding data controllers to account. The duty to provide fair processing information (also known as a privacy notice) is strongest when the information is likely to be used in an unexpected, objectionable or controversial way, or when the information is particularly sensitive. The level of information to be provided by NHS Digital (NHSD) will be considered according to the role NHSD is undertaking.

With specific reference to the ECDS, a direction is currently being produced and will be published before central data submissions begin.

5.9.3 Small Numbers and Dissemination of Data

With dissemination of information where there are small numbers (for example where there is a potential risk of patient identification in the absence of normal personal identifiers around injury, assault and rare syndromes) disclosure control methods should be used to manage the risks. A combination of methods such as aggregation, suppression and statistical rounding may be required.

The NHS Anonymisation Standard specifies broad disclosure control plans according to the assessed risk of extra information being used to try to reveal identity, and the population size each cell relates to.

The NHS Digital Disclosure Control Procedures outline the process to agree small numbers thresholds for each statistical release and will carry out a thorough risk assessment of the material to be published will be carried out in accordance with the published legislation, standard, and guidance; that suitable disclosure control methods have been implemented and that any decisions made by the Disclosure Control Panel have been acted upon.

Further to the above, the Independent Group Advising on the Release of Data (IGARD) considers applications through the Data Access Request Service (DARS).

5.9.4 Objection Handling

NHS Digital collects information from a range of places where people receive care, such as hospitals and community services. If a patient does not want their personal confidential information to be shared outside of NHS Digital, for purposes other than direct care then the patient can register a type 2 opt-out with their GP practice.

A direction from the Secretary of State sets out the Department of Health policy as to how type 2 opt-outs must be applied and instructs NHS Digital to apply type 2 opt-outs.

However, Type 2 opt-outs do **not** apply in the following circumstance, where information is made available in anonymised form (so that individuals are not identified in the data). For example the data are either aggregate such as counts of information or it complies with the ICO's Anonymisation: managing data protection risk code of practice

[1] http://www.legislation.gov.uk/ukpga/2012/7/contents/enacted

Where a patient objects, the NHS has the option to flow the data without patient identifiers such as the NHS Number or not flow the data at all, as directed by the local Caldicott Guardian. This remains the same as currently applies to CDS Type 010 A&E.

5.9 Service Management

All queries should go to: enquiries@nhsdigital.nhs.uk

If it is a SUS related query the SUS Team will respond.

If it is an specific ECDS ISN question the ECDS team will respond.

Guidance in relation to SUS will be available from http://content.digital.nhs.uk/susguidance.

5.10 CQUIN Approach

The Commissioning for Quality and Innovation (CQUIN) Indicator Specification Information on CQUIN 2017/18 - 2018/19 Supporting Proactive and Safe Discharge, outlines the framework to support improvements in the quality of services and the creation of new, improved patterns of care, specifically with regards for providers implementing ECDS.

Details of the associated CQUIN requirements and payments related to implementation of the ECDS can be found under Indicator 8a (Supporting proactive and safe discharge) of the CQUIN guidance and this is available to view from: https://www.england.nhs.uk/wp-content/uploads/2016/11/cquin-indicator-spec-04-11-16.docx

Detailed recommendations and guidance for commissioners and providers on implementing the CQUIN scheme can be found in the ECDS Technical User Guidance from: http://content.digital.nhs.uk/ECDS

5.11 ECDS Submission

5.11.1 Overview

CDS required submission frequency for A&E will increase from monthly to weekly from October 2017, and then to daily from April 2018 at the latest.

- Daily feed submissions are incentivised from 1st April 2018 (Q1 submissions will be measured at end of Q1 2018/19 – end of June 2018).
- ECDS will be the first detailed national data set to go daily, which is in support of the national strategy for data feeds to become daily as a general principle.

5.11.2 Key Principles

Outlined below are the key principles supporting the submission frequency of ECDS.

1. Overview
   - The daily and weekly feed method will be no different from a lower-frequency feed, e.g. monthly.
   - The daily and weekly feed will go into SUS+ from an XML file via MESH.
   - Providers can start with weekly submissions, moving to a daily feed as their business processes and systems can support, although a daily submission is encouraged.

2. Frequency and Timeliness
   - Daily and weekly (i.e. regular) in the context of ECDS also means timely, as there is less value in sending data that is not recent data too.
   - The daily feed shall, as a minimum, comprise all records from the preceding day, i.e. 00:00:01 to 23:59:59 the previous day. It may contain more data than this, including more recent data, subject to file size and other processing limitations.
   - The weekly feed shall, as a minimum, comprise all records from the preceding calendar week and be submitted before midnight on the Wednesday of the following calendar week.The daily

feed should be sent to NHS Digital in order that it completes transmission by 1200 GMT. This is to allow for processing and onward transmission to key consumers such as Public Health England (PHE).

3. Data Quality
   - NHS England has confirmed that very recent data should not be used by commissioners for performance management or payment purposes unless otherwise agreed between commissioner and provider.
   - It is acceptable for very recent data not to be “perfect” but that for any data over a week old needs to be of much higher quality.
   - Providers may submit data multiple times to allow for it to improve as time goes on and corrections to be made to historical episodes if necessary.
   - Providers may use a range of methods to increase data quality, for example using the NET and BULK protocols as required.

4. Use of NET and BULK protocol
   - Providers may use a mixture of NET and BULK to achieve their objective of keeping SUS+ in synch with local activity.
   - Providers that use the BULK Protocol must not send in excessively large files to protect SUS+ as this will monopolise bandwidth for other users. Further detail will be provided by SUS+ during operation of the service and in the ECDS Technical User Guidance.
   - Providers that use the NET Protocol are not restricted in terms of file size and frequency other than the normal SUS+ / MESH limits.

5. Automation:
   - Daily feeds should become fully automated from Providers, with the expectation that there is no or minimal requirement for human interaction.
   - Trusts should work with their XML supplier to identify and implement an automated daily, rolling ECDS submission to be received at the Secondary Uses Service as specified above.

6. Validation
   - There will be one validation routine that applies equally to all files (doesn’t matter if daily or weekly).
   - Conformance with the CDS v6.2.1 Type 011 - ECDS, will be enforced through the CDS 6.2.1 XML schema.
   - Validation upon landing within Secondary Uses Service (SUS) will ensure the correct use of associated SNOMED CT code sets and other validation rules.

Upon translation any interchanges containing records that do not conform to the XML schema or other necessary validation rules may be rejected. In these cases a validation extract / report will be available to assist the sender in the identification and resolution of issues.

5.12 Use of SNOMED CT in the ECDS

5.12.1 SNOMED CT and ECDS – background

Providers of health and care are required to be paperless at the point of care before April 2020: such systems must incorporate SNOMED CT as the clinical terminology to provide the content for structured data within scope of the terminology.

SNOMED CT is an international clinical terminology that provides the vocabulary for systems to support the direct management of the health and care of an individual. The vocabulary consists of machine-readable codes for clinical concepts along with human-readable descriptions. It is provided via a set of data files that need to be incorporated in electronic applications.

SNOMED CT provides the content for health and care related data items in software applications to enable representation of clinically relevant information consistently and reliably in a way that is processable by the computer system. This enables applications to exchange processable data across the health and care environment, provide clinical decision support tools and undertake enhanced analytics to support effective delivery of high quality healthcare to individual people and populations.

The ECDS uses specific SNOMED CT subsets in association with specified data items from the data set. There are 25 data items / ECDS subsets which utilise SNOMED CT. SNOMED CT is managed and maintained internationally by SNOMED International[2] and in the UK by the UK Terminology Centre (UKTC)[3].

SNOMED CT is specified as the single terminology to be used across the health system in 'Personalised Health and Care 2020: A Framework for Action'.

The SNOMED CT standard was approved by the Information Standards Board in 2011; providers implementing electronic health and care related systems must ensure those systems are SNOMED CT enabled at the point of implementation.

The following is a summary of conformance dates for appropriate implementation of SNOMED CT that all providers and standards developers must be aware of when planning new, or making changes to, existing IT systems or relevant operational information standards:

- Systems used by, or communicating coded clinical data to, General Practice service providers must use SNOMED CT as the clinical terminology within the system before 1 April 2018. SNOMED CT must be utilised in place of Read codes before 1 April 2018.
- Systems used within Secondary Care, Acute Care, Mental Health Services, Community Services, Dentistry and Optometry - for the direct management of care of an individual - must use SNOMED CT as the clinical terminology standard within all electronic patient level recording and communications before 1 April 2020.
- Systems used by all other providers of health related services where the flow of information for the direct management of patient care comes into the NHS must use SNOMED CT by 1 April 2020.

Further details in relation to the SNOMED CT Standard is available from:
http://content.digital.nhs.uk/media/22807/0034352016req-spec/pdf/0034352016req-spec.pdf

ECDS mandates the use of SNOMED CT, which in addition to supporting earlier adoption of SNOMED CT, will properly capture and represent the full extent and granularity of Emergency Department activity, and therefore:

[2] www.snomed.org

[3] https://isd.hscic.gov.uk/trud3/user/guest/group/2/home

- enable an accurate understanding of the cost and value of emergency care
- facilitate improved healthcare commissioning
- improve the quality of patient care in England's Emergency Departments
- provide more effective delivery of healthcare strategy and policy

5.12.2 Capturing Diagnosis

CDS Type 011 – ECDS introduces the recording of diagnosis paired with a qualifier. The diagnosis and associated qualifier require some special consideration due to their importance in relation to clinical safety. For additional information please refer to the ECDS Hazard Log found in Appendix A

The submission of diagnosis via the ECDS is done via the following three data items:

1. EMERGENCY CARE DIAGNOSIS (SNOMED CT)
2. CODED CLINICAL ENTRY SEQUENCE NUMBER
3. EMERGENCY CARE DIAGNOSIS QUALIFIER (SNOMED CT)

CDS Type 011 – ECDS introduces a subset of SNOMED CT terms to capture diagnosis which has been developed and refined by emergency departments across England and tested in the ECDS pilot site.

The range of SNOMED terms in the ECDS diagnostic code set have been intentionally restricted to approximately 760 values at the time of release (April 2017) rather than giving the user the full range of SNOMED CT terms.

5.12.3 Submission of Diagnosis Codes

Each diagnosis will be recorded by the treating clinician. It is recognised that no diagnosis list could capture **every** condition that might present to the Emergency Department, as in two use cases:

- very rare conditions could occur e.g. pseudopseudohypoparathyroidism or
- new diagnostic entities may evolve e.g. Zika virus.

The diagnosis should be submitted according to the following protocol:

1. The clinician should search for the most appropriate diagnosis as represented in the approved CDS Type 011 – ECDS diagnosis code set.
2. In 99.9% of patients, a diagnosis from the ECDS diagnosis subset will be the only diagnosis that a clinician will need to record.
3. The diagnosis that is submitted to SUS+ via CDS Type 011 – ECDS **must** always be one from the ECDS diagnostic code set.
4. If a more detailed diagnosis is required and ***is not*** in the approved CDS Type 011 – ECDS diagnostic code set, the clinician should select a diagnosis that is the closest match (e.g. Endocrine condition (disorder) in the case of pseudopseudohypoparathyroidism) to that required **and** record the more detailed diagnosis in the patient local health record.
5. If a clinician makes a more detailed diagnosis that is **not** contained in the approved CDS Type 011 – ECDS diagnostic code set then this diagnosis **must** be communicated in the transfer of care documentation e.g. in the GP discharge letter.
6. If for any reason a diagnosis has been selected **outside** of the CDS Type 011 – ECDS approved diagnosis code set and submitted as part of CDS Type 011, the diagnosis will not be visible in the SUS+ platform except to the submitter and will not be made available to secondary users of the data (such as commissioners or researchers). Any data quality (DQ) reports provided by NHS Digital will report this as a DQ error and the provider will be notified that the data item is not in CDS Type 011 – ECDS range. In this case, the clinician **must** inform NHS Digital that the diagnosis is missing from the CDS Type 011 – ECDS diagnostic

code set by emailing ecds@nhs.net. This will help in maintaining the code set to keep it in line with current practice.

7. In the event of new diagnosis categories that are needed before the SNOMED subset can be updated e.g. in a pandemic, then guidance may be issued to use the 'research' field (DISEASE OUTBREAK NOTIFICATION) to record relevant information.

5.12.4 Diagnosis Qualifier

The diagnosis qualifier is an integral element of ECDS that enables clinicians to capture the 'uncertainty' of diagnosis. In CDS Type 011 – ECDS the qualifiers in use are 'Working' and 'Confirmed Present'.

These SNOMED CT terms provide a solution to pathological uncertainty.

In the context of the ECDS 'uncertainty' is defined as:

- **Pathologic uncertainty** – i.e. "this person who attended today has suspected gout" and;
- **Pathologic certainty** – i.e. "this person who attended today has confirmed gout",

BUT NOT;

- **Diagnostic uncertainty** – i.e. "this person's confirmed gout is the suspected reason they attended".

Guidance regarding the onward transmission of the diagnosis and qualifier as part of the ED to GP Discharge Summary has been developed in partnership with the RCGP (Royal College of General Practitioners) and the PRSB (Professional Record Standards Body), please see below:

a) Where there is no 'confirmed present' diagnosis then:

   - The chief complaint (a symptom) is used to populate the diagnosis entry 'diagnosis' data item, e.g. 'Shortness of breath'.
   - The 'suspected' diagnosis is converted into a text entry and this is used to populate the diagnosis entry 'comment' data item. e.g. 'Suspected diagnosis: pulmonary embolus'.

   This format allows the information about any 'suspected' diagnosis to be clearly and unambiguously presented to the receiving GP user. Furthermore, the combination of symptom plus text comment may then be easily incorporated into the GP record. As a result, the example provided above would appear as 'Shortness of breath', coupled with the extra information from the diagnosis comment box: 'Suspected diagnosis: pulmonary embolus'. This requirement is safe and workable and:

   - Complies with the Professional Records Standards Body (PRSB) / Academy of Medical Royal Colleges (AoMRC) standards[4] for capturing diagnoses in the clinical record.
   - Requires no alteration to the arrangements already agreed and trialled for ECDS handling of diagnosis.

   This requirement requires robust measures to ensure that every diagnosis is accompanied by the correct qualifier and processing to ensure that the ED to GP discharge summary message is populated as described.

b) This guidance must also be followed for any other kinds of transfer of care communication when the diagnosis qualifier SNOMED CT concept cannot be guaranteed to be transmitted, received and presented to the user accurately.

[4] http://theprsb.org/publications/bible-sets-out-the-latest-agreed-standards

c) When the data has crossed the boundary from primary (direct care of the patient) uses to secondary uses then it must not pass back again to be used for primary uses.

5.12.5 Maintenance of ECDS SNOMED CT Subsets

From time to time the ECDS SNOMED CT subsets may be required to change to reflect the needs of the data set, clinical practice and for other reasons.

- The ECDS data items can be found within the ECDS Technical Output Specification available from: http://content.digital.nhs.uk/isce/publication/SCCI0092-2062
- The ECDS SNOMED CT Subsets are downloadable with the SNOMED CT release files from TRUD https://isd.hscic.gov.uk/trud3/user/guest/group/0/pack/26
  - Subset metadata is hosted on the Data Dictionary for Care (DD4C) site[5]. There you can select subset metadata in the search options and enter the subset name, relevant terms or subset id. Each subset has a page with information such as the use, description, and an external links to browsers where you can view the SNOMED CT codes that make up the subset membership.
- Implementation of the data items can be found within the ECDS User Guidance, available from: http://content.digital.nhs.uk/ECDS
- If a clinician finds a clinical situation that requires a new SNOMED CT code, please send a description to ecds@nhs.net
- Any new additions / updates or removals to the ECDS SNOMED CT Subsets will be available via the existing SNOMED CT maintenance and release schedules and must be implemented in line with published schedules.

5.12.6 Further Resources for SNOMED CT

More information about SNOMED CT can be found on the UKTC website[6], including information about:

- **Licensing:** Whilst the principle is to issue royalty-free licences for the use of SNOMED CT throughout IHTSDO Member Territories, there are commercial licensing issues in respect of SNOMED CT. Users of SNOMED CT need to obtain licences for its use.

  Please Note: a new licence for SNOMED CT came into effect on 1 April 2015.
- **Training:** The UKTC offers a range of ways for individuals to learn more about SNOMED CT and its uses. For those who feel they need more understanding of SNOMED CT, NHS Digital provide a number of training and education resources[7]. For an overview of SNOMED CT, the two live webinars provide a good introduction; you will also find case studies, brochures and technical guidance detailed on this web page. For system suppliers, you may also be interested in the more technical guidance provided through our recorded webinar on the release files[8].

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5 https://dd4c.hscic.gov.uk/dd4c/publishedmetadatas;jsessionid=741DA82F46F4B07ABEA795FF1C902886?find=ByInternalStatus&contentStatus=0&CMName=accessible&subsetoriginal=&refsetid

6 https://isd.hscic.gov.uk/trud3/user/guest/group/2/home

7 https://hscic.kahootz.com/connect.ti/t_c_home/view?objectId=297907&exp=e1

8 https://hscic.kahootz.com/connect.ti/t_c_home/view?objectId=301139

5.13 CDS v6.2.1 Type 011 - ECDS Data Elements

Full details of all CDS Type 011 Data Elements are available within the ECDS Technical Output Specification available from: http://content.digital.nhs.uk/isce/publication/SCCI0092-2062, and the CDS 6.2.1 XML schema including all headers and trailers is available from: https://isd.hscic.gov.uk/trud3/user/guest/group/0/hom.

The ECDS Technical Output Specification outlines all the data items for inclusion within CDS v6.2.1 Type 011 - ECDS, and includes:

- New A&E data items not currently collected within CDS Type 010 A&E
- Data items which originate from CDS Type 010 A&E and are already collected by providers that submit CDS Type 010 A&E

5.14 Grouping Codes and Sorting – Usability

In order that data supplied to user bodies such as NHS England and Department of Health (DH) is reliable and useful, data must be collected accurately. This requires a good quality Emergency Department Information System (EDIS) to be available to the clinical and non-clinical staff that are required to enter this data.

To support suppliers to develop systems which are logical and simple to use, CDS 6.2 Type 011 - ECDS has been developed with usability in mind. The code sets have been ordered to reflect the most common/ most used terms, and have also been grouped to enable the development of linked drop down lists where possible.

Further guidance regarding how to express the CDS 6.2 Type 011 - ECDS code sets can be found within the ECDS User Guidance, available from http://content.digital.nhs.uk/ECDS

5.15 Mapping to CDS Type 011 - ECDS

Some data items will require providers to map/ align information used locally, e.g. staff grades and roles to ECDS code sets. The table below outlines the main areas for consideration locally, with details of the mapping being available from the ECDS User Guidance, available from: http://content.digital.nhs.uk/ECDS

ECDS Data Group	Data item	Mapping Required To	Change
AMBULANCE DETAILS	ORGANISATION CODE (CONVEYING AMBULANCE TRUST)	Ambulance Organisation Data Service (ODS) codes	No change to current practice, although needs to reflect new Organisation code guidelines
ATTENDANCE OCCURRENCE ACTIVITY CHARACTERISTICS	ORGANISATION SITE IDENTIFIER (EMERGENCY CARE ATTENDANCE SOURCE)	ODS codes of organisations a patient may have been transferred from for ED care	New item
ATTENDANCE OCCURRENCE ACTIVITY CHARACTERISTICS	EMERGENCY CARE ACUITY (SNOMED CT)	Triage score in use locally (or other assessment measure) needs mapping to 5 or 3 way acuity score	New item
ATTENDANCE OCCURRENCE ACTIVITY CHARACTERISTICS	EMERGENCY CARE CHIEF COMPLAINT (SNOMED CT)	May need mapping to ICD-10 or other depending on how plan to implement SNOMED CT	New item
SERVICE AGREEMENT DETAILS	ORGANISATION IDENTIFIER (CODE OF	Provider ODS codes	No change to current practice, although

	PROVIDER)		needs to reflect new Organisation code guidelines
SERVICE AGREEMENT DETAILS	ORGANISATION IDENTIFIER (CODE OF COMMISSIONER)	Commissioner ODS codes	No change to current practice, although needs to reflect new Organisation code guidelines
CARE PROFESSIONALS (EMERGENCY CARE)	PROFESSIONAL REGISTRATION ISSUER CODE	Professional Registration information in clinician records e.g. GMC[9], NMC[10], HCPC[11]	No change to current practice
CARE PROFESSIONALS (EMERGENCY CARE)	CARE PROFESSIONAL TIER (EMERGENCY CARE)	Need mapping to clinician records.	New item
EMERGENCY CARE DIAGNOSIS (SNOMED CT)	EMERGENCY CARE DIAGNOSIS QUALIFIER (SNOMED CT)	May need mapping to ICD-10 or other depending on how plan to implement SNOMED CT	Amended item
DISCHARGE FROM EMERGENCY CARE	ORGANISATION SITE IDENTIFIER (DISCHARGE FROM EMERGENCY CARE)	ODS codes of services patients may be discharged to.	New item

5.16 Investigations and Treatments

Amongst other changes, CDS 011 - ECDS contains new versions of the Investigation and Treatment code sets (based on SNOMED CT) to replace the code sets that are in use as part of CDS 010 A&E. The investigation and treatment codes - via Healthcare Resource Groups (HRGs) - are typically the principal drivers of payments for Emergency Departments.

Changes to the code sets have been discussed and agreed by the Casemix National Expert Working Group, which has been working closely with the Royal College of Emergency Medicine's Informatics Committee. The changes are requested in order to retire clinically obsolete, irrelevant or confusing codes and better represent emergency department activity.

With the introduction of these changes, a specific risk has been identified, relating to the possibility of changes in the number and casemix of activity-derived A&E HRGs, which could cause destabilisation to the Tariff and payment system for A&E related activity, if left unmitigated. These risks pertain to both providers and clinical commissioning groups (CCGs) in the form of potential significant changes in income for providers or expenditure for CCGs.

NHS Digital completed an assessment of the impact of the proposed changes and a range of mitigating activities has been agreed.

The recommended approach for commissioners and providers to manage the transitional period from the use of CDS Type 010 A&E and CDS v6.2.1 Type 011 - ECDS is:

- To mitigate any impact via improved coding practices, particularly important for those sites with poor coding at present.

[9] http://www.gmc-uk.org/

[10] https://www.nmc.org.uk/

[11] http://www.hcpc-uk.co.uk/

- To provide a contractual back-stop in terms of the "counting and coding" section of the NHS Standard Contract. This provides protection for both providers and commissioners from a large decrease or increase in income or expenditure due to the implementation of the ECDS, as a result of:
    - Temporary gaps in data.
    - Changes to activity coding that result in shifts in HRG generation and hence Tariff reimbursement.
    - Other factors influencing data quality and completeness.

Commissioners are advised to have patience with providers while they make the necessary changes to implement the ECDS. Further detailed guidance is available within the ECDS User Guidance: http://content.digital.nhs.uk/ECDS

5.17 Impact of ECDS on other Trust Data Systems

Providers should investigate whether changes to code sets used in their Emergency Departments are likely to impact on other data collections or data sharing arrangements within their trust and agree what action should be taken to mitigate against any negative impact on these systems as a result of implementing the ECDS code sets.

5.18 Impact of ECDS on other Collections

5.18.1 Local Data Flows

Providers will need to ensure that any other local flows of data should continue, although some local processes may need to be updated to accommodate information collected following the introduction of the new CDS v6.2.1 Type 011 - ECDS. This will include any local data sharing agreements that providers may have with their Commissioners, Commissioning Support Units (CSU's) and/ or Data Services for Commissioning Offices.

5.18.2 Other CDS Submission

There should not be any impact on information submitted as part of other CDS submissions. All of the changes to current data items found in CDS Type 010 are only applicable to the A&E CDS.

5.18.3 EDSSS

The Emergency Department Syndromic Surveillance System (EDSSS) monitors daily attendance information from a network of ED's across England and Northern Ireland and publishes a weekly report providing the number of attendances for specific conditions. EDSSS plays a valuable part in providing intelligence on infectious diseases (including seasonal respiratory illness), investigation of vaccine effectiveness (including influenza and rotavirus) and a wide range of incidents (including non-infectious events).

Currently Public Health England (PHE) receives a daily feed of Emergency Department data from approximately 35 departments across England and Northern Ireland. This information is shared via local data sharing agreements with PHE.

During implementation of ECDS providers should be aware that if they currently share data with PHE for EDSSS there should be no change to arrangements already in place. PHE are already aware of the ECDS and expect to see different information.

NHS Digital is working with PHE to eventually flow data for EDSSS directly to PHE from NHS Digital, with the expectation that this will eventually remove the need for local data sharing agreements to support EDSSS. However, the current position is that this is not yet possible and that local data sharing agreements with PHE to share the data required for EDSSS should remain.

If you have any queries regarding EDSSS then please contact: syndromic.surveillance@phe.gov.uk.

5.18.4 ISTV

The Information Sharing to Tackle Violence (ISTV) Information Standard comprises a small de-identified data set collected by Accident and Emergency (A&E) departments and shared with local Community Safety Partnerships (CSP) on a monthly basis.

The data covers all A&E attendances resulting from violent incidents, including:

- Time and date of the incident
- Time and date of arrival in A&E
- Specific location of the incident
- Primary means of assault (i.e. weapon or body part used)

The ISTV standard is mandatory for Type 1 Emergency Departments in England and optional for all other Emergency Department types.

The standard (ISB 1594 Amd 30/2012) was approved and published by the Information Standards Board (ISB) in September 2014 and further information can be accessed at: http://webarchive.nationalarchives.gov.uk/+/http://www.isb.nhs.uk/documents/isb-1594/amd-31-2012/index_html

The ECDS introduces a number of new data items to enable the consistent collection of information relating to Emergency Department attendances as a result of an injury. These data items have been designed to capture information relating to all types of injury including violent assault.

Implementing the ECDS should not change any agreements or processes which may have been established locally to support the ISTV standard and the sharing of violent assault related information from Emergency Departments with Community Safety Partnership's (CSP's) or others local organisations. Due to the greater detail of the injury information that ECDS introduces, particularly in relation to Injury location/place type and Injury mechanism, CSP's may see a change in the data flowing to them. We will be working with ISTV colleagues and Violence Reduction Nurses to communicate these changes prior to implementation of the ECDS and where necessary will provide guidance to support implementation of the ECDS specifically in relation to the collection of injury data. Please see the ECDS User Guidance available from: http://content.digital.nhs.uk/ECDS for more information relating to these changes.

We anticipate that the collection of information regarding all injury related Emergency Department attendances will provide greater information to support the aims of the ISTV standard, increasing the granularity and detail of the available information at local level.

Providers should work with their system suppliers and local partners to ensure that the ECDS injury information can be captured locally and that relevant information can be included in local flows to CSP's (in line with the ISTV guidance) and also to NHS Digital as part of CDS Type 011 – ECDS submission.

5.18.5 TARN

The Trauma Audit and Research Network (TARN) is an established national clinical audit for trauma care across England, Wales and the Republic of Ireland and has been supporting trauma receiving trusts for over twenty years by providing each hospital with case mix adjusted outcome analysis, performance of key process measures and comparisons of trauma care.

The TARN Information Standard ISB 1606 was published in September 2014. Further information regarding the TARN Standard Data Set Specification is also available, and also via the Trauma Audit and Research Network website at: https://www.tarn.ac.uk/Home.aspx

The TARN standard collects very detailed patient level clinical and process data for the audit of major trauma. The data collected represents small numbers of high acuity, high complexity patients and is largely collected retrospectively from multiple sources e.g. radiology, autopsy and operation reports.

The ECDS has been developed wherever possible to collect data items in a format that corresponds to the TARN data points. For the process data points (time of arrival in ED, time of exit from ED)

these follow the data modelling and dictionary standards, so will be consistent in CDS Type 011 – ECDS.

It is not anticipated that implementation of CDS Type 011 will impact on the collection of the TARN standard. However, where SNOMED CT is proposed, specifically for the collection of diagnosis, providers should look at whether this impacts on the collection of the required TARN information.

The ECDS will support the following elements of TARN:

- Better data completeness: TARN Emergency Department data is often incomplete because current IT does not routinely support capture of staffing level (e.g. time of consultant attendance) and intervention times.
- The research field in ECDS is a particularly exciting innovation for large scale major trauma research e.g. CRASH3 study[12] where many patients will be recruited. ECDS will have the ability to flag recruitment and will help Investigators manage large trials.
- The injury data collection will have particular benefit for the large cohort of older patients who are injured who have a Injury Severity Score (ISS)[13] of 9-15 as good quality data about the cause of these injuries is rarely available later, and so collection at time of initial attendance and when witnesses are present will be a significant benefit in that we may be better able to prevent these injuries.

Whilst there should be minimal impact on TARN during and following implementation of the ECDS those involved in the TARN data collection should be made aware of the implementation of CDS Type 011 – ECDS.

5.18.6 Emergency Department to GP Discharge Summary

The Professional Record Standards Body (PRSB) has been commissioned by NHS Digital to develop standards for electronic Emergency Care (EC) discharge summaries. The Emergency Care Discharge Summary project objectives were to improve patient safety and continuity of care by developing information models to support the transfer of vital and accurate information to General Practice (GP) systems following an attendance at an Emergency Department.

The EC Discharge summary information models will apply to all Emergency Department types as defined by the NHS Data Dictionary.[14]

The information models developed by the PRSB will be used by NHS Digital to develop technical specifications which will then be made available to system suppliers to implement appropriate electronic solutions.

The Emergency Care Discharge Summary headings have been developed alongside the ECDS. Key clinical information required to be submitted as part of the CDS v6.2.1 Type 011 - ECDS is represented in the Emergency Care Discharge Summary model where appropriate. It is expected that information systems who have successfully implemented the ECDS will be able to generate the required data to populate Emergency Care discharge summaries according to the PRSB information models.

Providers should work with their system suppliers to implement the headings outlined in the Emergency Care Discharge Summary information models in line with the specified implementation timeframes.

Further information regarding the Emergency Department to GP Discharge Summary project can be found at: http://theprsb.org/projects/emergency-department-discharge-summary-standard

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[12] http://crash3.lshtm.ac.uk/

[13] https://www.tarn.ac.uk/Content.aspx?c=3117

[14] NHS Digital, 2017. Accident and Emergency Department Type. Available at http://www.datadictionary.nhs.uk/data_dictionary/attributes/a/acc/accident_and_emergency_department_type_de.asp

5.18.7 Community Services Data Set

The Community Services Data Set is due to go live from September 2017 and providers should consider any impact this may have on ECDS implementation.

5.18.8 Child Protection Information Sharing Project

ECDS deliberately excludes CP-IS information as there is a national standard: http://content.digital.nhs.uk/isce/publication/SCCI1609, supporting a national strategy to collect and share this information.

5.18.9 Female Genital Mutilation Risk Indication System

ECDS deliberately excludes FGM-RIS information as there is national standard: http://content.digital.nhs.uk/isce/publication/SCCI2112, supporting a national strategy to collect and share this information.

6 Technical Guidance

6.1 Providers who currently submit CDS 6.2

Providers currently submitting CDS 6.2 must continue to submit CDS 6.2 for all CDS Types, **except CDS Type 010 – A&E,** using current mechanisms (EDT, at time of writing).

A new schema is available for CDS v6.2.1 Type 011 - ECDS (CDS 6.2.1.), which must be used to submit the new Emergency Care Data Set.

When an Emergency Department implements the ECDS it will no longer submit a CDS Type 010 – A&E, it will submit CDS v6.2.1 Type 011 - ECDS, instead.

CDS Type 011 will be submitted via the Messaging Exchange for Social Care and Health (MESH) service – see 'Using the MESH Service'. This is the primary messaging service used across the NHS. MESH is used to transfer electronic messages, directly and securely from one application to another.

Note that if a Healthcare Provider has more than one Emergency Department then it will be allowable to upgrade units at different times, and send CDS 011 to SUS for one unit and CDS 010 to SUS for the other(s) if necessary for local deployment reasons. If this is the case, remember that CDS 011 must be sent via MESH and CDS 010 must be sent via EDT.

6.1.1 Data Validation CDS v6.2.1 Type 011 - ECDS

The EDT service carries out a range of XML data validation processes on files, giving automated feedback to the submitter on the quality of data before it is transmitted onwards to SUS.

The MESH service does not carry out this sophisticated range of data validation processes, but a validation client that can be used locally, before submission to MESH, is possible.

Full data validation is carried out on receipt of the XML file at NHS Digital. Automated feedback is generated, in a similar way as with the EDT service, and made available to the user.

In this way, the migration from using EDT to using MESH closely replicates the services familiar to the historic CDS 6.2 submitter whilst adding additional features useful to the submitter that are built into the MESH service.

6.2 Providers who currently do not submit CDS 6.2

Providers who do not currently flow CDS 6.2 will need to ensure they can submit the CDS Type 011 XML schema to the Messaging Exchange for Social Care and Health (MESH) service – see below.

6.3 Using the MESH service

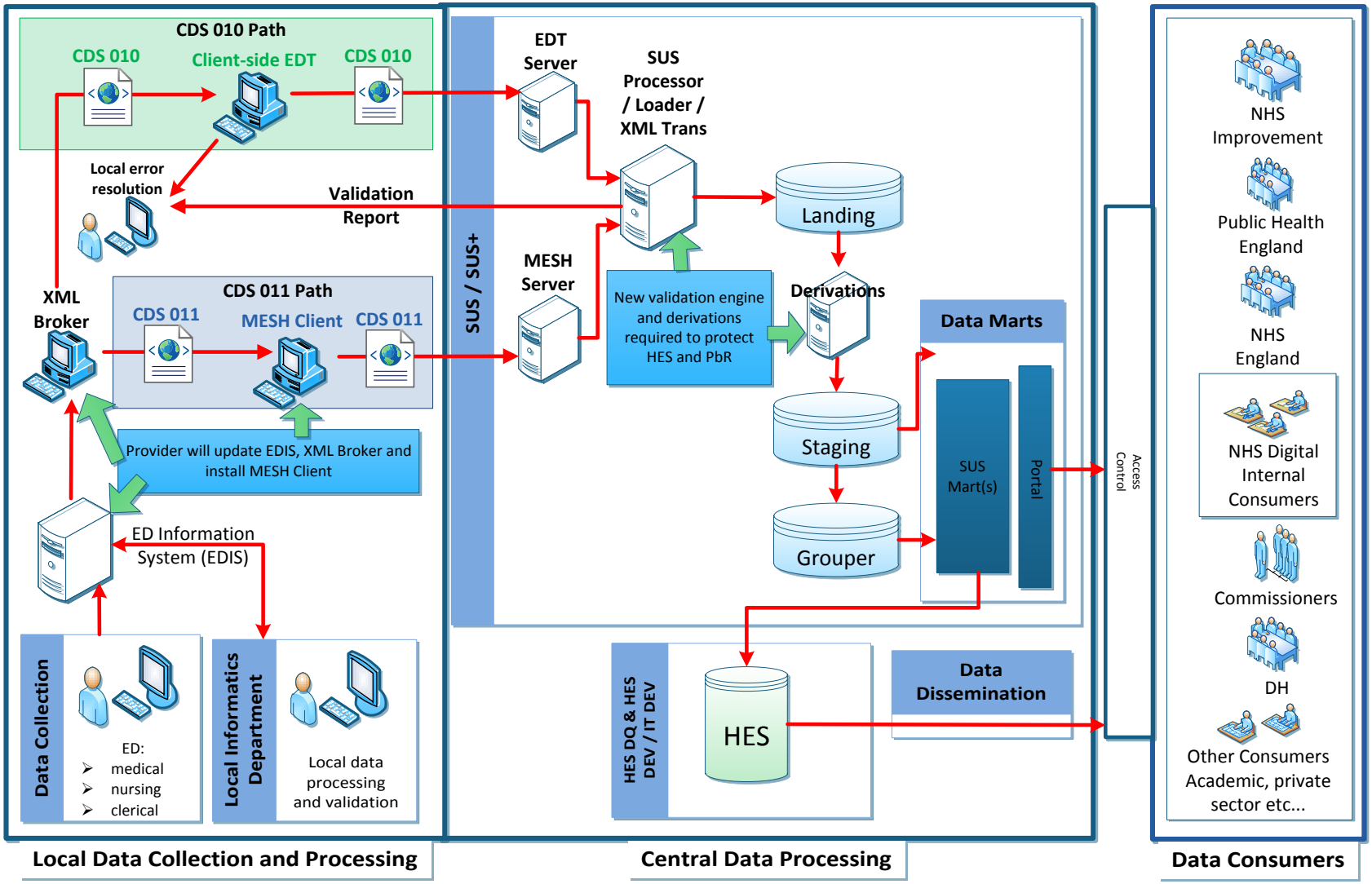
There are three main steps required by providers to install the MESH client;

1. Setting up a MESH account by completing the MESH application form: https://digital.nhs.uk/article/912/MESH-application-form
2. Setting up a MESH end point certificate
3. Installing MESH as a service

For installation guidance of MESH, please visit: https://digital.nhs.uk/messaging-exchange-social-care-health/technical-information

6.4 CDS 6.2 and CDS 6.2.1 XML Schema Data Flow

The following diagram outlines the data flow for submitting both CDS Type 010 A&E in addition to the CDS v6.2.1 Type 011 - ECDS flows:



6.5 CDS 6.2.1 XML Schema

The CDS 6.2.1 XML schema will be published to coincide with the publication of the standard via the Terminology Reference Data Update Distribution (TRUD) Service: https://isd.hscic.gov.uk/trud3/user/guest/group/0/home.

TRUD provides a mechanism for the UK Terminology Centre to license and distribute reference data to interested parties.

6.6 CDS 6.2 and 6.2.1 XML Schema Support

Upon implementation of CDS 6.2.1 support will continue to be provided by the SUS support teams via enquiries@nhsdigital.nhs.uk.

6.7 CDS Type 010 A&E Withdrawal

SUS will continue to support CDS Type 010 A&E submissions from those providers currently doing so until its withdrawal on 31st March 2019.

The current CDS Type 010 A&E will cease to be supported from 1st April 2019, so all providers will need to pay due regard to the standard and transition to using the new CDS v6.2.1 Type 011 - ECDS before this time.

6.8 XML / Middleware Suppliers

All XML / Middleware suppliers will be required to complete appropriate assurance for submission of CDS 6.2.1 XML schema. Information on this assurance approach will be provided by NHS Digital.

All XML / Middleware suppliers will be required to submit the CDS Type 011 ECDS XML schema including the ECDS data to the Messaging Exchange for Social Care and Health (MESH) service (which will transmit the ECDS data to SUS).

For general guidance about MESH, please visit: https://digital.nhs.uk/messaging-exchange-social-care-health

CDS 6.2 will continue to use the EDT client for transmission of data to SUS.

Where changes take place to upgrade the existing SUS version, it is anticipated that the new CDS Type 011 ECDS will also be included within any future delivery and transition road map.

6.9 File Sizes

Users should note that the MESH client will support files up to a limit of 20GB compressed and 10GB uncompressed.

It is unlikely that the introduction of CDS v6.2.1 Type 011 - ECDS will result in increased file sizes that exceed the maximum permitted size for submission to MESH or SUS+. Where maximum permitted file size is exceeded providers are recommended to split their submission into multiple files or by reducing the period of activity included within the submission.

6.10 Changes for Providers

There are likely to be changes to the following in relation to local implementation of changes to introduce the new CDS v6.2.1 Type 011 - ECDS.

Local Systems (e.g. Patient Administration, Care Record Systems & Clinical Systems)

One or more of the following local systems may need changing to include:

- Addition of new data elements to systems to support local electronic data collection
- Removal of old data elements
- Modifications to existing data elements
- Changes to system configuration to allow information to be updated once and then correctly assigned onto individual CDS records
- Changes to extract routines to ensure new data elements can be extracted in a way conducive to inclusion with a CDS submission, including those already captured within the system
- Changes to enable an automated feed of CDS Type 011 on a daily basis
- To support the new code sets, local systems will need to support SNOMED CT output to NHS Digital. SNOMED CT front-end collection is not mandatory although code sets should be accurately represented and translated to SNOMED CT before transmission to NHS Digital
- There may be a need to perform local mapping of values to support local grouping.

Local Data Warehouses

Increasingly, providers use a data warehouse as the basis for generating CDS submissions to allow the linkage of required information from disparate systems.

There are some changes expected to the structure of local data warehouses and extraction routines in order to support CDS v6.2.1 Type 011 - ECDS. Again one of the main changes will be to support the daily flow of CDS v6.2.1 Type 011 - ECDS.

Business Processes

In some cases changes introduced as a result of the CDS v6.2.1 Type 011 - ECDS may require new, or changes to existing, business processes.

This may include new, or changes to existing, local guidance and data recording forms, and may require some degree of training for users.

Change for CDS Users

Users of CDS data such as commissioners, public health observatories and commercial organisations will need to make appropriate changes to systems to support the new data outlined within CDS v6.2.1 Type 011 - ECDS.

7 Timescales

#	Requirement [1]
	Healthcare Providers
1	All providers of emergency care including Type 1, 2, 3 and 4 Accident and Emergency Department Types **MAY** submit the new CDS v6.2.1 Type 011 - ECDS to the Secondary Uses Service (SUS) **from 1st August 2017** on a weekly or daily basis. This will require all providers to ensure their suppliers of relevant clinical systems, patient administration systems and/ or XML Middleware suppliers can incorporate the required changes in order to meet this capability.
2	Providers of emergency care specifically Types 1 and 2 Accident and Emergency Department Types **MUST** submit the new CDS v6.2.1 Type 011 - ECDS to the Secondary Uses Service (SUS) **from 1st October 2017** on a **weekly** basis at least. This will require all providers to ensure their suppliers of relevant clinical systems, patient administration systems and/ or XML Middleware suppliers can incorporate the required changes in order to meet this capability.
3	Providers of emergency care specifically Types 1 and 2 Accident and Emergency Department Types MUST submit the new CDS v6.2.1 Type 011 - ECDS to the Secondary Uses Service (SUS) **from 1st April 2018** on a **daily** basis. This will require all providers to ensure their suppliers of relevant clinical systems, patient administration systems and/ or XML Middleware suppliers can incorporate the required changes in order to meet this capability.
4	Providers of emergency care specifically Types 3 and 4 Accident and Emergency Department Types **MUST** submit the new CDS v6.2.1 Type 011 - ECDS to the Secondary Uses Service (SUS) **from 1st October 2018** on a **daily** basis. This will require all providers to ensure their suppliers of relevant clinical systems, patient administration systems and/ or XML Middleware suppliers can incorporate the required changes in order to meet this capability.
5	All providers of CDS v6.2.1 Type 011 - ECDS **SHOULD** automate their daily submission processes. This will require all providers to ensure their suppliers of relevant clinical systems, patient administration systems and/ or XML Middleware suppliers can incorporate the required changes in order to meet this capability.
6	All providers of CDS v6.2.1 Type 011 - ECDS **SHOULD** submit changes using the Data Set Net Change Protocol. This will require all providers to ensure their suppliers of relevant clinical systems, patient administration systems and/ or XML Middleware suppliers can incorporate the required changes in order to meet this capability.

[1] https://www.ietf.org/rfc/rfc2119.txt

8 Additional Sources of Information

NHS Digital

- **Standardisation Committee for Care Information (SCCI):**
  For information relating to the introduction of the new CDS v6.2.1 Type 011 - ECDS, including change specification, requirements specification and standard:
  http://content.digital.nhs.uk/isce

- **NHS Data Model and Dictionary Service:**
  For information relating to the NHS Data Dictionary including CDS 6.2 data elements, attributes, business definitions, supporting information and CDS 6.2 XML schemas:
  http://www.datadictionary.nhs.uk/

- **NHS Digital:**
  For enquiries relating to the CDS v6.2.1 Type 011 - ECDS standard.
  enquiries@nhsdigital.nhs.uk

- **Secondary Uses Services (SUS):**
  The Secondary Uses Service (SUS) is the single, comprehensive repository for healthcare data in England which enables a range of reporting and analyses to support the NHS in the delivery of healthcare services:
  http://content.digital.nhs.uk/sus

- **Messaging Exchange for Social Care and Health:**
  The Messaging Exchange for Social Care and Health (MESH) is the main messaging service used across health and social care
  https://digital.nhs.uk/messaging-exchange-social-care-health

- **Hospital Episode Statistics:**
  HES is a data warehouse containing details of all admissions, outpatient appointments and A&E attendances at NHS hospitals in England.
  http://content.digital.nhs.uk/hes

- **Organisation Data Service (ODS):**
  The Organisation Data Service (ODS) is responsible for publishing organisation and practitioner codes, along with related national policies and standards
  https://digital.nhs.uk/organisation-data-service

- **National Casemix Service:**
  The National Casemix Office designs and refines classifications that are used by the NHS in England to describe healthcare activity
  http://content.digital.nhs.uk/casemix

9 Appendix A - ECDS Hazard Log

ECDS Hazard Log 0.14.4

A Hazard Log detailing the hazards identified to date (April 2017) is presented below. Please refer below for the Risk Matrix used.

Hazard number	**H001**
Hazard name	Incorrect or incomplete information shared
Hazard description	The ECDS includes 1 field (listed below) which propose that information for these fields should be accessed by viewing the SCR: - Comorbidity , a record of whether a person has any of the NHS list of medical comorbidities There is a potential that the information held in the SCR (or other local information sharing systems) may not be up to date, may be incorrect or may be incomplete.
Potential clinical impact	Information relating to comorbidities is likely to be a key determinant in patient care and the absence and/or accuracy of this information may have an effect on the treatment the patient receives within the emergency department.
Possible causes	There may be a time delay in uploading up to date SCR information.
Existing controls	The SCR team were presented with the SCR hazard queries which arose from the Stakeholder Engagement Group (SEG), please see their responses below. **SCRs containing information which is not up to date/being out of date:** • There is a contractual requirement on GPs that the information in the SCR should be updated at least once every twenty four hours. In reality, the vast majority are updated in real time i.e. as soon as a change is made in a patient's GP record then that is reflected in the patient's SCR. Therefore, is unlikely that any SCR will be significantly out of date. The information that is seen by a clinician viewing an SCR is the same information that the patient's GP would see if they viewed the patient's record in their own system at the GP surgery. It is worthy of note that access to the SCR provides an additional source of information that is likely to be highly accurate in the vast majority of cases. At present clinicians rely on patient and relative report and ad hoc information sources that are often substantially less reliable than the SCR. Therefore, although this is an important risk the overall effect is an improvement in the accuracy and detail of the information available. • It is always possible, of course, that the patient might have obtained medication or treatment away from the GP surgery – in a walk-in centre, GP out of hours or Emergency Department, for instance – and that the GP summary may not have had

	that information included in it, so the SCR would not contain that important clinical information either. However this is no different to current practice and does not represent an additional risk **SCRs containing information which is erroneous information and the feedback process:** • Clinicians are encouraged, when viewing the SCR, to report any errors or discrepancies in the record directly to the source GP surgery, just as they would if they had concerns about any other communication from the GP (we would also encourage positive feedback as well as identification of errors). We feel that this is an important element of local collaborative working and provides a local quality control and important feedback of the benefits of having information from a patient's GP record available through the SCR. • This feedback would have to be coordinated locally via letter, phone call, secure email etc. • If viewers of SCRs become aware of errors or omissions which appear to be systematic rather than related to individual records, these errors can be fed back to the SCR Programme via local implementation managers or directly to the Service Desk. SCR user implementation guidance also includes the following information relating to use, completeness and errors: 1. When viewing Summary Care Records it is important to note: • SCRs do not remove the requirement for verbal medical history taking where possible. • Always check the date stamp of the SCR, this may determine whether the SCR is current and up to date. • The SCR may display either the Last Issue Date or First Added Date for medications. • Some SCRs may not include Discontinued Repeat Medication. • Text may be displayed to show that the patient is newly registered at their own practice, so the SCR may not yet be fully up to date. • Text may indicate that some items may have been deliberately withheld. • Text may also indicate that the SCR is no longer being updated by the practice. 2. Completeness and Data Quality Additional Information added to the SCR include data items defined in the SCR inclusion set or specific to the supplier's GP system implementation of SCR. The quality factors include the underlying clinical record, data quality and confidentiality and completeness of the SCR is dependent on a number of factors. As a result, SCR viewers should be aware that the SCR potentially may not be complete. The SCR is a valuable source of information but clinicians should aim to validate this

	information through discussion with the patient, family, carers or GP practice. Always check the date stamp of the SCR, this may determine whether the SCR is current and up to date.					
Initial Hazard Risk Assessment						
Consequence	Significant	**Likelihood**	Medium	**Risk Rating**	2 – Moderate	
Additional Controls						
Design	Consider adding a link/guidance to the "live" ECDS system to facilitate feedback should an error be discovered.					
Test	Nil					
Training	**Out of date information** – Implementation guidance will need to ensure that staff are aware that there is potential for the SCR to not be up to date if a patient has received treatment away from a GP surgery and that staff must triangulate information in the SCR with information from other sources including, importantly, from the patient themselves. **Erroneous information** – Implementation guidance would need to ensure that staff were signposted to the relevant/agreed local SCR feedback process. Staff will be directed to relevant SCR information including scope and use of the SCR.					
Business process change	Clinicians will be able to access comorbidities information be either viewing the patient's SCR or via another local data sharing platform. This information will also be available from discussions with patients as they receive care in the emergency department. If this information is available it should be captured by the emergency department information system and should flow as part of CDS Type 011.					
Residual Hazard Risk Assessment						
Consequence	Significant	**Likelihood**	Low	**Risk Rating**	2 – Moderate	
Summary of actions	03/01/2016 – The Comorbidity data item is an optional data item and will only be collected where department information systems are able to collect and flow the information. There is no clinical safety risk as erroneous information and regular updates are covered as part of the SCR implementation and guidance. 13/01/2017 – Following consideration at the Clinical Safety Group on the 13th Jan 2017 a request was made to check the consent model applicable to the use of data from the SCR in other data sets such as the ECDS. Following discussions with the SCR team we have changed ECDS guidance so that it no longer states that comorbidities information should be extracted from SCR. Instead guidance will leave it to providers to agree how best to capture comorbidities information, and that if it is collected then it should flow as part of CDS Type 011.					
Status	Closed.					

Hazard number	H002
Hazard name	Inappropriate information recorded
Hazard description	The ECDS sets out a number of code sets relating to the collection of specific data fields. SEG (the ECDS Stakeholder Engagement Group) attendees and Information Standard Assurance Service (ISAS) have queried whether restricting the codes available to staff collecting information relating to an emergency department attendance could influence the clinical outcome for the patient. There are 41 data fields which have a corresponding code set. 26 of these data fields and their corresponding code sets do not have any direct clinical safety risk and are unlikely to have any impact on the clinical decision making relating to patient care, please see the ECDS Technical Output Specification for a list of the ECDS data fields. 12 of the data fields could have a potential clinical safety hazard for patients, they are listed below: • Accessible Information Professional Required Code – Whether a person requires an interpreter to communicate successfully. • Interpreter Language – The language of the interpreter needed to allow the person to communicate successfully. • Comorbidity – A record of whether a person has any of the NHS list of medical co-morbidities (see H001). • Emergency Care Acuity – The person's score from their acuity assessment. • Emergency Care Chief Complaint – The nature of the patient's chief complaint as assessed by the clinician first assessing the patient. • Emergency Care Diagnosis – please see H003. • Emergency Care Diagnosis Qualifier – please see H004. • Emergency Care Clinical Investigations – The investigations performed while the person is under the care of the Emergency Care facility. • Emergency Care Procedure – The treatments performed while the person is under the care of the Emergency Care facility. • Emergency Care Injury Alcohol or Drug Involvement - A record of any drugs or alcohol used by the patient, which are thought likely to have contributed to the need to attend the ED. • Emergency Care Discharge Information Given – Answers the question: "Has the GP letter been printed and given to the patient?" • Safeguarding Concern - Used to identify an unresolved issue or concern regarding adult and child safeguarding that

	requires communication to another ORGANISATION or care agency. The ECDS lays out the minimum information which should be captured for patient attendances in an emergency department, and where this information satisfies a national reporting requirement the XML schema has been developed to extract this data from the provider to NHS Digital. The ECDS is not a clinical decision-making tool and the project board believes that the collection of data will have minimal effect on direct patient care. In fact stakeholders have commented that the introduction of a minimum data set will improve patient safety in the longer term as providers will have better information to support the commissioning of services.
Potential clinical impact	The codes selected may not best represent the true nature of the patient's emergency department attendance and could potentially have an effect on the treatment the patient receives within the emergency department.
Possible causes	Code sets do not represent the required granularity.
Existing controls	Accessible Information Professional Required Code – ECDS notes (see implementation guidance) currently includes guidance regarding the question which should be asked '[Do you] [Does the person] [Does (name)] require an interpreter'?. This data item has been reviewed to align to the Mental Health Services Data Set and support the Accessible Information Standard. This data item now aligns to ISO standard 639 - http://www.loc.gov/standards/iso639-2/php/code_list.php. Interpreter Language – ECDS notes (see implementation guidance) currently includes guidance regarding the question which should be asked "What language interpreter should we ask for"? Where a person is not able to consent for themselves (e.g. baby, child or confused) then an interpreter of the language of the person who is consenting will be recorded. For example a parent/guardian or someone with enduring power of attorney. ECDS code set developed following consultation with data dictionary and terminology teams. This data item has been reviewed to align to the Mental Health Services Data Set and support the Accessible Information Standard. This data item now aligns to ISO standard 639 - http://www.loc.gov/standards/iso639-2/php/code_list.php. **Comorbidity** – (see H001). **Emergency Cary Acuity** – This is a score attributed by the clinician as an assessment of patient acuity. Acuity assessment is practiced and recorded in some form in emergency departments in England, although a formal scoring system is not used. The recording of the acuity system used and the corresponding score provides an important marker of resource use and patient outcomes in the long term. Assessment scores are used to predict a patient's resource need and are used to reduce risk and ensure a safe and equitable level of care. The sickest patients need the most resources, and fastest treatment.

	While there is always a possibility of a patient having a 'wrong' score, this overall risk of this is low and the benefit to patients and the system of measuring acuity is high. This field should be captured by a clinician. Guidance is required to support trusts in best way to capture acuity depending on the system that they used. **Emergency Care_Chief_Complaint** – Entering the wrong 'chief complaint' would not harm patient care directly, and is part of the initial patient assessment that is used to minimise risk and ensure a safe and equitable level of care. The patients with the most serious potential illnesses require the most urgent assessment and treatment e.g. possible heart attack, stab wounds, and Chief Complaint is used to record how these clinical decisions are made. While there is always the possibility of a patient having a 'wrong' Chief Complaint, the overall risk of this is low and benefit to patients and the system of measuring Chief Complaint is high. This data item should only be entered by the clinician first assessing the patient and not by reception staff as part of the triage system. Additional guidance has been produced to explain the difference between the information collected by reception as part of the triage system and Chief Complaint. **Emergency Care_Diagnosis** – please see H003. **Emergency Care_Diagnosis_Qualifier** - please see H004. **Emergency Care Clinical Investigations** – CDS Type 010 already captures investigations and treatments but the code set list is out of date and does not represent the granularity of investigations delivered in the ED. The ECDS investigations code list is derived from that already captured by CDS type 010 and other fields suggested by emergency department clinicians from the Royal College of Emergency Medicine Informatics Committee, the Faculty of Liaison Psychiatry, Royal College of Paediatrics and Child Health and Royal College of Ophthalmology. This data item should be entered by clinicians. The ECDS project team are working with the HSCIC to ensure that the new code list can be developed so to ensure that there is no negative effect on the current HRG's used for payment and costings. **Emergency CareProcedures** – CDS Type 010 already captures investigations and treatments but the code set list is out of date and does not represent the granularity of treatments delivered in the ED. The ECDS treatments code list is derived from that already captured by CDS type 010 and other fields suggested by emergency department clinicians from the Royal College of Emergency Medicine Informatics Committee, the Faculty of Liaison Psychiatry, Royal College of Paediatrics and Child Health and Royal College of Ophthalmology. This data item should be entered by clinicians. The ECDS project team has worked with NHS Digital to ensure that the new code list ensures that there is no negative effect on the current HRG's used for payment and costings. Emergency Care Injury Alcohol or Drug Involvement – This list has been developed following advice from provider drug/alcohol leads and also from the Alcohol Expert Reference Group at Public Health England (PHE). This data item no longer presents a clinical safety risk as it is simply a record of whether drugs or alcohol have been involved in the reason for attendance and not

	for direct clinical care. Emergency Care Discharge Information Given – Mandatory field which must be completed for all patients who are discharged from the emergency care facility to ensure that the patient understands the care they have received. This should be auto populated by the IT system. Safeguarding Concern – An inappropriate safeguarding code would trigger a healthcare worker to check the patient's situation, and in this case would decide that no further action would be required. This list of terms has been developed in collaboration with NHS Digital, the Royal College of Paediatrics and Child Health DH, NHS England and the Home Office.					
Initial Hazard Risk Assessment						
Consequence	Considerable	**Likelihood**	Medium	**Risk Rating**	3 – significant	
Additional Controls						
Design	Each code set has been developed in collaboration with the Data modelling and Dictionary team and the Terminology teams at NHS Digital to ensure that all eventualities are captured. All code sets have been subject to consultation and where appropriate additional codes have been included where they have been missing. There is a process in place to update code sets where necessary. Other specialties have been included in consultation such as Paediatric EM, Ambulatory Emergency Care and Emergency Eye Care and codes specific to these specialties have been included.					
Test	The code sets will be subject to user acceptance testing and further review following testing.					
Training	User guidance will ensure that staff are trained and supported in the correct use of the relevant code sets.					
Business process change	A review of the code sets has been built into the accompanying ISN maintenance plan so if codes are found to be necessary for inclusion a formal review will take place and steps will be taken to update the code sets.					
Residual Hazard Risk Assessment						
Consequence	Considerable	**Likelihood**	Low	**Risk Rating**	2 – moderate	
Summary of actions	May 2016 – First phase of piloting completed in Leeds General Infirmary Emergency Department. Proof of concept and data set refinement. September 2016 – Second phase of testing using live emergency department system completed 21st September. Final report being written. 3 further phase 1 tests conducted in type 3 departments. ECDS testing in Leeds did not highlight any clinical safety risks and actually supported better completion rates of data					

	collection, specifically for diagnosis. ECDS Diagnostic data set only required addition of one new diagnostic code, 'apparent drowning'. Acuity – Acuity data items being reviewed by expert reference group to develop new method of collecting acuity score. Presented to board on the 29th September. 5 way or 3-way acuity score to be used by providers according to the current process within that department. Clear guidance to be provided in the user guidance including use cases. 03/01/2017 – Board support to collect 3-way acuity score which is based on the intended treatment area for the patient e.g. Immediate care area, high acuity area, low acuity area. This means that a triage score can be mapped to this scoring system as can resus, majors and minors.
Status	Closed – for diagnosis please see H003 & H005

Hazard number	H003
Hazard name	Inappropriate diagnosis code selected
Hazard description	This hazard relates to the use of a SNOMED CT subset (paired with a qualifier, see H004 below) to collect and analyse diagnostic information. The ECDS Diagnostic Data Set (DDS) is a SNOMED CT subset of approximately 760 codes which is based on a diagnostic data set, the Unified Diagnostic Dataset (UDDA), which has been developed by the Royal College of Emergency Medicine and has been implemented in a number of emergency departments across England already. Stakeholders and the SNOMED CT team have highlighted concerns that they may not be able to record the most appropriate diagnoses if they are limited to only 760 codes.
Potential clinical impact	The diagnosis code (and qualifier) selected may not best represent the true nature of the patient's emergency department attendance and could potentially have an effect on the treatment the patient receives within the emergency department. This information would also be used in the emergency department discharge summary which is communicated to primary care.
Possible causes	760 SNOMED CT codes may be too restrictive.
Existing controls	Currently, emergency and urgent care diagnoses are coded using at least five different coding systems by different organisations and this greatly impairs valid comparisons. Common options are listed below: • A&E CDS National Values Table for Discharge Diagnosis, first developed some 30-40 years ago • SNOMED-CT, the granularity and wealth of detail available in the full unconstrained SNOMED-CT data set is appealing in principle, however in practice the overwhelming choice confuses clinicians and results in data that is often unusable and which leads to 'spurious accuracy'. • ICD-10. The ECDS Diagnostic Data Set (DDS) is a SNOMED CT subset of approximately 760 codes, the following design principles were used in its development: • Exhaustive : the DDS items should cover all conditions commonly seen, but not very rare conditions – i.e. if a candidate condition had not been seen during the >50 physician years of experience of the senior EM physicians constructing the original list. • Exclusive: for any given clinical picture, there should be one and only one best answer. • There should be no vague terms ('unwell', 'cause unspecified') • There should be no symptoms (e.g. back pain) presented as a diagnosis.

<table>
<tr><td></td><td colspan="5">The diagnosis terms should maximise usability by being presented to IT suppliers in a form, and with instructions, that facilitate ease of use and coding validity and reliability.
To allow for the degrees of uncertainty that exists in any diagnostic situation, the diagnostic term is combined with a qualifier– ‘working diagnosis’ OR ‘confirmed present diagnosis’.
Each diagnosis should be recorded by clinician.</td></tr>
<tr><td colspan="6">Initial Hazard Risk Assessment</td></tr>
<tr><td>Consequence</td><td>Significant</td><td>Likelihood</td><td>High</td><td>Risk Rating</td><td>3 – Significant</td></tr>
<tr><td colspan="6">Additional Controls</td></tr>
<tr><td>Design</td><td colspan="5">The proposed DDS system offers a list of diagnoses that has been proven by clinical use with millions of patient episodes with completion rates of up to 100%. Feedback from these patient episodes has been used to ensure that the risk of miscommunication on the basis of diagnosis is minimised. Miscoding and miscommunication of patient diagnosis was the reason that the proposed diagnosis data set was developed.
The minimum list (ECDS Diagnostic Data set) is made up of approx. 760 SNOMED CT codes and will be presented to trusts as the list of concepts to be collected in the ED. Further Guidance explains that where a department wishes to capture codes outside of the ECDS list these codes, whilst able to flow as part of the ECDS submission, these will not enter the central record and will not be included in further analysis or reporting. Trusts will also receive feedback which highlights that the submitted code was not part of the ECDS diagnosis list, and/or whether this code was an appropriate concept e.g. not a symptom. The ECDS user guidance will advise departments to collect the most appropriate ECDS diagnosis and if further detail is necessary to record this in the clinical summary.
Where trusts believe a code should be included in the ECDS diagnosis list this should be submitted to NHS Digital as per the ECDS maintenance plan.</td></tr>
<tr><td>Test</td><td colspan="5">The ECDS Diagnostic Data Set (DDS) was implemented as part of the phase 2 pilot at Leeds Teaching Hospitals. The report for this phase of testing has been completed. Findings show that the rate of completion of diagnosis recording improved following introduction of the DDS, with only one new code (apparent drowning) being introduced as a result of the pilot, all other codes were found to represent an appropriate diagnosis.</td></tr>
<tr><td>Training</td><td colspan="5">ECDS implementation guidance explains the options for recording diagnosis with the primary method being use of the ECDS diagnosis list.</td></tr>
<tr><td>Business process</td><td colspan="5">Following recent discussion with ISAS the ECDS team has written guidance on how to use the ECDS DDS to help resolve any perceived issues with the use of a SNOMED CT subset to record diagnosis.</td></tr>
</table>

change					
Residual Hazard Risk Assessment					
Consequence	Significant	Likelihood	Medium	Risk Rating	2 – Moderate
Summary of actions	May 2016 – First phase of piloting completed in Leeds General Infirmary Emergency Department. Proof of concept and data set refinement. September 2016 – Second phase of testing using live emergency department system completed 21st September. Final report being written. 3 further phase 1 tests conducted in type 3 departments. Leeds ECDS pilot found that use of the SNOMED CT subset actually improved rates of diagnostic recording. One code were identified as being absent from the code set, 'death by drowning' and has now been included. 07/02/2017 – Following the pilot in Leeds analysis of the diagnosis data prior to the ECDS changes and then also post implementation of the ECDS changes found that prior to implementation of the 760 code ECDS Diagnostic Data Set (DDS) 7 of the top 10 codes used in the ED's in Leeds were either symptoms or were non-specific. Following implementation of the ECDS DDS all 10 of the top 10 codes used to capture diagnosis were specific diagnoses. The ECDS Board believes that this demonstrates that the 760 code DDS includes sufficient granularity to code every condition that reasonably occurs in an ED and that the terms are sufficiently accurate and well understood to ensure that every clinical situation should have one 'best' answer, greatly improving the quality of the diagnostic information captured. Updates have been made to capture this information in the ECDS Change Specification and user guidance. 27/03/2017 – ECDS User Guidance and Implementation Guidance has been updated to clearly explain the use of a SNOMED subset and guidance on the process whereby another SNOMED code is submitted as part of the ECDS submission.				
Status	Closed				

Hazard number	**H004**				
Hazard name	Inappropriate diagnosis qualifier code selected				
Hazard description	This hazard relates to the use of a qualifier to allow the clinician to express the (un)certainty of the diagnosis. The ECDS will use a 2 way qualifier ('suspected' and 'confirmed present') and stakeholders have queried whether having to commit to a definite diagnosis, not being able to exclude a specific diagnosis and not being able to differentiate between a possible or probable diagnosis may cause a risk to patient safety. However, not pairing a diagnosis code from a SNOMED subset with a qualifier removes the ability to express uncertainty and would then require a larger number of diagnosis codes which runs the risk of capturing increasingly 'fluffy' diagnoses, reducing the quality of the diagnosis information captured.				
Potential clinical impact	The diagnosis code and qualifier selected may not best represent the true nature of the patient's emergency department attendance and could potentially have an effect on the treatment the patient receives within the emergency department.				
Possible causes	2 way qualifier (Suspected and Confirmed diagnosis) is too restrictive.				
Existing controls	Qualifiers are not currently reported and the proposal to include a qualifier in national reporting is new.				
Initial Hazard Risk Assessment					
Consequence	Significant	Likelihood	Medium	Risk Rating	2 – Moderate
Additional Controls					
Design	The original ECDS proposal was to use a 3 way qualifier (Possible, Probable and Proven), following a consultation period this was amended to a 2 way qualifier (Working and Proven/Certain). Following work to align the ED Discharge summary project to the ECDS the two way qualifier has been changed to 'suspected' or 'confirmed' diagnosis following comment from the NHS Digital terminology team.				
Test	At time of writing a proposal to test the use of 2 and 3 way qualifiers is currently nearing completion in a type 1 emergency department. The trusts that the pilot is being performed in already collect diagnosis with a 3 way qualifier and achieve 100% rates of diagnostic recording.				
Training	User guidance ensures that staff understand and use the qualifier correctly, which reflects the outcomes from the December/Jan 2017 pilot. User guidance ensures that the purpose and limitations of the qualifier are clear in respect of capturing diagnostic Vs				

	pathological (un)certainty.				
Business process change	n/a				
Residual Hazard Risk Assessment					
Consequence	Significant	Likelihood	Low	Risk Rating	2 – Moderate
Summary of actions	18/02/2016 – Discussions with trusts and suppliers regarding possible qualifier pilot (2 vs 3) qualifier s. 22/04/2016 – Confirmation that Plymouth NHS Foundation Trust will run a pilot of using a 2 way qualifier with the support of their EDIS supplier (CSC) in June 2016. Oct 2016 – System configuration has been completed so pilot ready to start when clinician back from deployment. Update following deployment in December 2016. 03/01/2016 – Phase one of the pilot complete – using a 3 way qualifier. At the date of updating this guidance the phase 2 pilot (using a 2 way qualifier) is not complete. Initial feedback has not highlighted any issues with moving towards a two way qualifier. 05/04/2017 – The pilot is nearing completion, but has not identified any issues with the use of a 2-way qualifier.				
Status	Closed.				

Hazard number	**H005**				
Hazard name	Transmitting diagnostic uncertainty outside of the core ED information system.				
Hazard description	This hazard has been identified by colleagues at the UK Terminology Centre (UKTC) and relates to the use of a qualifier paired with a diagnosis code to capture uncertainty in the ED. In particular the hazard focuses on the onward transmission of these two values from the core ED information system, which may lead to information about diagnostic certainty / uncertainty being lost or misinterpreted when information is extracted (in any form) from the core "capturing" system and either transmitted / printed or otherwise sent on to another system or person. The full detail of the UK TC's position is available on request.				
Potential clinical impact	Potential for incorrect interpretation of a patient's diagnosis in their medical record.				
Possible causes	• Systems receiving or transmitting diagnostic data from the ED system may not be able to receive, process or present the ED information in the correct way for example by omitting or "dropping" the qualifier or in some other way separating the qualifier from the diagnosis. • Extracts direct from the ED system (e.g. into a spreadsheet or paper copy) may not keep the diagnosis and qualifier together, or may omit the qualifier entirely. • The ED system may not be able to send the qualifier alongside the diagnosis, or in some other way cause the two values to become separated or the qualifier omitted.				
Existing controls	The use of qualifiers is not currently mandated via CDS Type 010 (A&E CDS) so there are no existing controls in place for A&E data. Uncertainty is captured in various other data sets but there is no consistent approach and these are not necessarily suited to the context of an Emergency Department.				
Initial Hazard Risk Assessment					
Consequence	Significant	Likelihood	Low	Risk Rating	2 – Moderate (Tolerable where cost of further reduction outweighs benefits gained)
Additional Controls					
Design	**Sending the data to NHS Digital's SUS+ service** Data validation which forms a component of XML schema validation will include a specific rule regarding diagnosis and qualifiers e.g. one must always be paired with the other, if one is sent in CDS Type 011 – ECDS without the other then the record shall be rejected with information made available to the submitting organisation pertaining to the error.				

	Sending the data to a GP via the forthcoming Emergency Care to GP Discharge Summary electronic message The design of the transmission protocol for sending data to GP's using this specification specifically addresses this hazard by design. This method is approved by the RCGP Health Informatics Group and endorsement of the EC Discharge project and associated items has come from the RCGP through its endorsement process. Relevant extract from the associated PRSB ED Discharge Summary implementation guidance document: **4.6.5 Diagnoses** 1. The discharge summary should inform the GP of the main diagnosis / diagnoses that were important during the EC attendance, including any new diagnosis that came to light during the attendance. The diagnoses should be recorded in order of their relevance to the emergency presentation, with the most serious item first. Further guidance on recording diagnoses is provided in the ECDS. 2. Excluded diagnoses should not be recorded in structured coded fields, but may be listed in the 'clinical narrative'. 3. Historical inactive diagnoses, where they are clinically important, should be carried in the clinical narrative to provide some explanation, for example - prior history of breast cancer but no evidence of any recurrence on investigations carried out during this attendance. 4. The same guidance applies to the recording of 'co-morbidities', which should be recorded as separate diagnoses where they are newly identified in EC. 5. Where a 'confirmed present' diagnosis exists (e.g. 'fractured tibia') this is used to populate the appropriate diagnosis entry 'diagnosis' data item, and will flow to the GP system where it will be easily available for integration into the GP record. 6. Where there is no 'confirmed present' diagnosis then: • The chief complaint (a symptom) is used to populate the diagnosis entry 'diagnosis data item, e.g. 'Shortness of breath' • The 'suspected' diagnosis is converted into a text entry and this is used to populate the diagnosis entry 'comment' data item. e.g. 'Suspected diagnosis: pulmonary embolus'. 7. This format allows the information about any 'suspected' diagnosis to be clearly and unambiguously presented to the receiving GP user. Furthermore, the combination of symptom plus text comment may then be easily incorporated into the GP record. As a result, the example provided above would appear as 'Shortness of breath', coupled with the extra information from the diagnosis comment box: 'suspected pulmonary embolus'. This requirement is safe and workable and: • meets the core parts of the PRSB standard for diagnoses. • requires no alteration to the arrangements already agreed and trialed for ECDS handling of diagnosis.

	8. This requirement requires robust measures to ensure that every diagnosis is accompanied by the correct qualifier and processing to ensure that the EC to GP discharge summary message is populated as described. **Sending the data anywhere else outside the core ED system other than via the methods above** Transmitting related values from an information system, for example forename and surname, is a common practice and cannot be prevented nor should we wish to. However, where there is a clear hazard involved with doing so the ECDS guidance by design will clearly explain how to mitigate the risk of the diagnosis and associated qualifier becoming separated. The UK Terminology Centre has agreed to work with the ECDS project team to ensure this guidance is clear and presented in the best possible way. Engagement activities will also stress the importance of this hazard and explain how to mitigate it.
Test	The flow of this data outside of the ED has not been tested. But this system is currently in use following a pilot in Leeds and there have not been any reported issues.
Training	The ECDS includes detailed user guidance explaining the importance of capturing a diagnosis and a qualifier, specifically providing information relating how to safely and accurately pass this information on to other areas. User guidance clearly states that provider systems must be configured such that a diagnosis must always be accompanied by a qualifier and vice versa. User guidance for secondary data consumers clearly explains the situation and what consumers need to do to ensure proper use / interpretation of the data, and also explain that when data has crossed the boundary for secondary use purposes the data must not cross back to be used for primary uses. User guidance explains the differing uses for the data for direct care and secondary purposes – it includes guidance for front-line users of the system, those behind the front-line such as informatics and data management staff and also those who will be using / consuming the data. The user guidance includes a data flow diagram showing what happens to the data during the care of the patient and for secondary uses. The user guidance includes guidance for systems suppliers to ensure maximum usability and correct use of the associated fields, e.g. on-screen help for system users. The user guidance explains that there is a limitation to the mechanism for overlaying uncertainty (pathologic / diagnostic) so that users understand the intended purpose and limitations of the data set.
Business process change	We have included a section in the ECDS Implementation Guidance suggesting that providers should look at other systems within the trusts where ED data is used and complete an assessment of whether the changes proposed in the ECDS will have an impact on these systems, and identify how to mitigate against this.
Residual Hazard Risk Assessment	

Consequence	Significant	Likelihood	Low	Risk Rating	2 – Moderate
Summary of actions	07/02/2017 – Response sent to UKTC 06/02/2017. Response suggests a call to work through content of user guidance, we will engage with subject matter experts to ensure that the ECDS user guidance clearly explains how to mitigate against the risks highlighted by the UKTC. 20/02/2017 – Call between ECDS team and UKTC agreed to process mitigation by developing implementation guidance. UKTC's suggestion to change the method with which uncertainty should be captured in the ECDS has been presented to the ECDS project at a time when the data set has already been sent to the schema developers. It was agreed that the concerns of UKTC could be adequately mitigated by writing clear guidance covering this area. UKTC have accepted the offer to contribute to the guidance. 21/02/2017 – Response sent to UKTC. 05/04/2017 – All agreed actions have been carried out, primarily via enhancements to user guidance.				
Status	Closed				

Hazard Matrix

Hazard Consequence

Category	Interpretation	
	Consequence	**Patients affected**
CATASTROPHIC	Death	Multiple
	Permanent life-changing incapacity and any condition for which the prognosis is death or permanent life-changing incapacity; severe injury or severe incapacity from which recovery is not expected in the short term.	Multiple
MAJOR	Death	Single
	Permanent life-changing incapacity and any condition for which the prognosis is death or permanent life-changing incapacity; severe injury or severe incapacity from which recovery is not expected in the short term.	Single
	Severe injury or severe incapacity from which recovery is expected in the long term.	Multiple
	Severe psychological trauma	Multiple
CONSIDERABLE	Severe injury or severe incapacity from which recovery is not expected in the short term.	Single
	Severe psychological trauma	Single
	Minor injury or injuries from which recovery is not expected in the short term.	Multiple
	Significant psychological trauma	Multiple
SIGNIFICANT	Minor injury or injuries from which recovery is not expected in the short term	Single
	Significant psychological trauma	Single
	Minor injury or injuries from which recovery is not expected in the short term	Multiple
	Minor psychological upset: inconvenience	Multiple
MINOR	Minor injury from which recovery is expected in the short term: minor psychological upset: inconvenience: any negligible consequence.	Single

Hazard Likelihood

Category	Interpretation
Very high	Certain or almost certain; highly likely to occur
High	Not certain but very possible; reasonably expected to occur in the majority of cases
Medium	Possible
Low	Could occur but in the great majority of occasions will not
Very low	Negligible or nearly negligible possibility of occurring

Hazard Risk

Likelihood						
	Very High	3	4	4	5	5
	High	2	3	3	4	5
	Medium	2	2	3	3	4
	Low	1	2	2	3	4
	Very Low	1	1	2	2	3
		Minor	Significant	Considerable	Major	Catastrophic
		Consequence				

5	Very High	Unacceptable level of risk. Mandatory elimination or control to reduce risk to an acceptable level.
4	High	Unacceptable level of risk. Mandatory elimination or control to reduce risk to an acceptable level
3	Significant	Undesirable level of risk. Attempts should be made to eliminate or control to reduce risk to an acceptable level. Shall only be acceptable when further risk reduction is impractical.
2	Moderate	Tolerable where cost of further reduction outweighs benefits gained.
1	Low	Acceptable, no further action required