An Introduction to linked health administrative data in four cohort studies

11th February 2021

Centre for Longitudinal Studies (CLS), UCL Social Research Institute
## Today’s schedule

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>Topics covered</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2.00 – 2.05pm</td>
<td>Brief introduction to the cohorts</td>
<td>Dr Vanessa Moulton Senior Research Fellow</td>
</tr>
<tr>
<td>2.</td>
<td>2.05 – 2.20pm</td>
<td>Hospital Episode Statistics (NHS England) overview</td>
<td>Sarah Kerry-Barnard Research Data Manager</td>
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<td></td>
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<td>Q&amp;A</td>
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<tr>
<td>3.</td>
<td>2.20 – 2.35pm</td>
<td>Scottish Medical Records (SMR) overview</td>
<td>Danielle Gomes Record Linkage Manager</td>
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<td></td>
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<td>Q&amp;A</td>
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<td>4.</td>
<td>2.35 – 2.50pm</td>
<td>Accessing the datasets</td>
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<tr>
<td>5.</td>
<td>2.50 – 3.00 pm</td>
<td>Available for Q&amp;A</td>
<td>All</td>
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</table>
CLS studies follow people across life

- National Child Development Study 1958
- 1970 British Cohort Study
- Next Steps (formerly LSYPE)
- Millennium Cohort Study
<table>
<thead>
<tr>
<th>Birth (excluding Next Steps)</th>
<th>School years</th>
<th>Adult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household composition</td>
<td>Household composition</td>
<td>Household composition</td>
</tr>
<tr>
<td>Parental social class</td>
<td>Parental social class</td>
<td>Employment</td>
</tr>
<tr>
<td>Obstetric history</td>
<td>Parental employment</td>
<td>Social class</td>
</tr>
<tr>
<td>Smoking in pregnancy</td>
<td>Financial circumstances</td>
<td>Income</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>Housing</td>
<td>Housing</td>
</tr>
<tr>
<td>(problems, antenatal care)</td>
<td>Health</td>
<td>Health (including biomarkers)</td>
</tr>
<tr>
<td>Labour</td>
<td>Cognitive tests</td>
<td>Well-being and mental health</td>
</tr>
<tr>
<td>(length, pain relief, problems)</td>
<td>Emotions and behaviour</td>
<td>Health-related behaviour</td>
</tr>
<tr>
<td>Birthweight, length</td>
<td>School</td>
<td>Training and qualifications</td>
</tr>
<tr>
<td></td>
<td>Views and expectations</td>
<td>Basic skills</td>
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<tr>
<td></td>
<td>Attainment</td>
<td>Cognitive tests</td>
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<tr>
<td></td>
<td></td>
<td>Views and expectations</td>
</tr>
</tbody>
</table>
Linked Health Administrative Data

- NHS England – Hospital Episode Statistics (HES)
  - NCDS
  - BCS70
  - Next Steps

- NHS Scotland – Scottish Medical Records (SMR)
  - NCDS*
  - BCS70*
  - MCS

*not yet available (NOW AVAILABLE AT UKDS)
NHS England – Hospital Episode Statistics (HES)
Hospital Episodes Statistics User Guide(s)

• Covers everything in this webinar and more
• Available publicly from UK Data Service (UKDS) and CLS websites for NCDS, BCS70 and Next Steps

1. Introduction
2. Consent to health data linkage
3. Health data linkage
   3.1 HES datasets
   3.2 Matching strategy
   3.3 Matching rates
4. The research datasets
   4.1 Licensing
   4.2 Data documentation provided
   4.3 Identifiers
   4.4 Data processing
   4.5 Data de-identification
   4.6 The Accident and Emergency (A&E) data
   4.7 The Admitted Patient Care (APC) data
   4.8 The Critical Care (CC) data
   4.9 The Outpatient Care (OP) data
5. Disclosure control: requirements for data users
   5.1. UKDS requirements
   5.2. NHS Digital requirements
6. Data access and variable selection
   6.1 UKDS Secure Access application
   6.2 Selection of variables
   6.3 CLS Licence Agreement

Appendices
Modifications to the Accident and Emergency Data
Modifications to the Admitted Patient Care Data
Modifications to the Outpatient Care Data
NHS England – Hospital Episode Statistics (HES)

Datasets available:

- Admitted Patient Care (APC)
- Critical Care (CC) – linked to APC records
- Accident and Emergency (A&E)
- Outpatient Care (OP)
<table>
<thead>
<tr>
<th>Year</th>
<th>Accident and Emergency (A&amp;E)</th>
<th>Admitted Patient Care (APC)</th>
<th>Critical Care (CC)</th>
<th>Outpatient Care (OP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1995</td>
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<td>2005</td>
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<td>2010</td>
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<td>2015</td>
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<td></td>
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</tr>
<tr>
<td>2020</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
HES - Linkage.

Matching Criteria (from Cohort Maintenance team)
- Surname
- First Initial
- Date of Birth
- Sex
- Address
- Postcode
- NHS number
- Bespoke ID (from Research Data Management Team)

Linked to HES ID
Used to retrieve HES data for each individual

Identifiers Removed
Returned to CLS with Bespoke ID
Linked to cohort data at CLS
## HES - Linkage

<table>
<thead>
<tr>
<th></th>
<th>Number in sweep*</th>
<th>Gave consent (% of in sweep)</th>
<th>Has matched data (% of consented)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Next Steps</td>
<td>7,707</td>
<td>4,895 (63.5)</td>
<td>4,579 (93.5)</td>
</tr>
<tr>
<td>BCS70</td>
<td>9,841</td>
<td>7,048 (71.6)</td>
<td>5,488 (77.9)</td>
</tr>
<tr>
<td>NCDS</td>
<td>9,790</td>
<td>7,065 (72.2)</td>
<td>6,188 (87.6)</td>
</tr>
</tbody>
</table>

* Sweep in which consent was sought for linkage:
  - Next Steps: Age 25 Survey
  - BCS70: Age 42 Survey
  - NCDS: Age 50 Survey
Number of cohort members represented in each HES dataset for each cohort

- **Admitted Patient Care**: 6,188 (NCDS), 5,488 (BCS), 6,188 (Next Steps)
- **Critical Care**: 6,188 (NCDS), 5,488 (BCS), 6,188 (Next Steps)
- **Accident and Emergency**: 5,488 (NCDS), 4,578 (BCS), 5,488 (Next Steps)
- **Outpatient**: 4,578 (NCDS), 4,578 (BCS), 4,578 (Next Steps)
The NHS organizes the data into episodes

- **Episode**
  - A continuous period of patient care administered under one consultant within health care providers.
  - Each episode is a row in each dataset.

- **Hospital Spell**
  - Total time spent by a patient in the same care provided by a hospital, from date of admission to date of discharge.
  - Spells cover one or more episodes.
  - To avoid double counting, use the last episode in a spell (spelend = Y).
HES - What data is available?

**Admitted Patient Care 1997-2017**
- Diagnostic codes (ICD-10)
- Operation Chapter (OPCS-4)
- Maternity data
- Indices of Multiple Deprivation
- Administrative data e.g. Health Authority
- Dates of admission, discharge etc

**Critical Care 2009-2017**
- Types of specialist support i.e. Renal
- Number of days spent with assistance for specialist care.
- Every critical care episode links with an APC code (D_SUSID)
HES - What data is available?

Outpatient Care 2003-2017
- Diagnostic codes (ICD-10) (poorly completed)
- Operation Chapter (OPCS-4)
- Indices of Multiple Deprivation
- Administrative data
- Dates (DD/MM/YYYY) seen

Accident and Emergency 2007-2017
- Diagnostic codes (A&E)
- Treatment codes
- Administrative data
- Dates (DD/MM/YYYY) time admission and discharge
HES - Dictionaries & Supplementary Documentation

- CLS User Guide
- NHS Data Dictionaries
- HES Analysis Guide
- International Classification of Diseases ICD-10 (Diagnoses, Symptoms, Causes)
- Operational codes OPCS-4
- A&E Diagnosis and Treatment codes

- Available on the Secure Access server at the UK Data archive
- Can be viewed alongside the data
- Links can also be found in the CLS user guide
Chapter I
Certain infectious and parasitic diseases
(A00-B99)

Incl.: diseases generally recognized as communicable or transmissible

Use additional code (U80-U89), if desired, to identify the antibiotic to which a bacterial agent is resistant.

Excl.: carrier or suspected carrier of infectious disease (Z22.-)
certain localized infections - see body system-related chapters
infectious and parasitic diseases complicating pregnancy, childbirth and the puerperium [except obstetrical tetanus] (O98.-)
infectious and parasitic diseases specific to the perinatal period [except tetanus neonatorum, congenital syphilis, perinatal gonococcal infection and perinatal human immunodeficiency virus [HIV] disease] (P35-P39)
influenza and other acute respiratory infections (J00-J22)

This chapter contains the following blocks:
A00-A09 Intestinal infectious diseases
A15-A19 Tuberculosis
A20-A28 Certain zoonotic bacterial diseases
A30-A49 Other bacterial diseases
A50-A64 Infections with a predominantly sexual mode of transmission
A65-A69 Other spirochaetal diseases
A70-A74 Other diseases caused by chlamydiae
A75-A79 Rickettsioses
A80-A89 Viral infections of the central nervous system
A90-A99 Arthropod-borne viral fevers and viral haemorrhagic fevers
B00-B09 Viral infections characterized by skin and mucous membrane lesions
B15-B19 Viral hepatitis
B20-B24 Human immunodeficiency virus [HIV] disease
B25-B34 Other viral diseases
B35-B49 Mycoses
B55-B64 Protozoal diseases
ICD-10 Version:2010

I Certain infectious and parasitic diseases
A00-A09 Intestinal infectious diseases
A15-A19 Tuberculosis
A20-A28 Certain zoonotic bacterial diseases
A30-A49 Other bacterial diseases
A50-A64 Infections with a predominantly sexual mode of transmission
A65-A69 Other spirochaetal diseases
A70-A74 Other diseases caused by chlamydiae
A75-A79 Rickettsioses
A80-A89 Viral infections of the central nervous system
A90-A99 Arthropod-borne viral fevers and viral haemorrhagic fevers
B00-B09 Viral infections characterized by skin and mucous membrane lesions
B15-B19 Viral hepatitis
B20-B24 Human immunodeficiency virus [HIV] disease
B25-B34 Other viral diseases
B35-B49 Mycoses
B50-B64 Protozoal diseases
B65-B83 Helminthiasis
B85-B89 Pediculosis, acarisis and other infestations
B90-B94 Sequelae of infectious and parasitic diseases
B95-B98 Bacterial, viral and other infectious agents
B99-B99 Other infectious diseases
II Neoplasms
III Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
IV Endocrine, nutritional and metabolic diseases
V Mental and behavioural disorders
VI Diseases of the nervous system
VII Diseases of the eye and adnexa
VIII Diseases of the ear and mastoid process

A15 Respiratory tuberculosis, bacteriologically and histologically confirmed

A15.0 Tuberculosis of lung, confirmed by sputum microscopy with or without culture
  Tuberculous:
  - bronchietasis
  - fibrosis of lung
  - pneumonia
  - pneumothorax
  confirmed by sputum microscopy with or without culture

A15.1 Tuberculosis of lung, confirmed by culture only
  Conditions listed in A15.0, confirmed by culture only

A15.2 Tuberculosis of lung, confirmed histologically
  Conditions listed in A15.0, confirmed histologically

A15.3 Tuberculosis of lung, confirmed by unspecified means
  Conditions listed in A15.0, confirmed but unspecified whether bacteriologically or histologically

A15.4 Tuberculosis of intrathoracic lymph nodes, confirmed bacteriologically and histologically
  Tuberculosis of lymph nodes:
  - hilar
  - mediastinal
  - tracheobronchial
  confirmed bacteriologically and histologically

Excl.: specified as primary (A15.7)

A15.5 Tuberculosis of larynx, trachea and bronchus, confirmed bacteriologically and histologically
  Tuberculosis of:
  - bronchus
  - glottis
  - larynx
  - trachea
  confirmed bacteriologically and histologically

A15.6 Tuberculosis pleurisy, confirmed bacteriologically and histologically
  Tuberculosis of pleura
  Tuberculous empyema
  confirmed bacteriologically and histologically

Centre for Longitudinal Studies
Hospital Episodes Statistics - Any questions?
Scottish Medical Records User Guide(s)

• Cover everything in this webinar and more
• Available publicly from UK Data Service (UKDS) and CLS websites for MCS and soon for NCDS and BCS70

1. Introduction

2. Consent to health data linkage

3. Health data linkage
   3.1 SMR datasets
   3.2 Matching strategy
   3.3 Matching rates

4. The research datasets
   4.1 Licensing
   4.2 Data documentation provided
   4.3 Identifiers
   4.4 Data processing
   4.5 Data de-identification
   4.6 SMR00 – Outpatient Attendance
   4.7 SMR01 – General/Acute Inpatient and Day Case
   4.8 SMR02 – Maternity Inpatient and Day Case (in NCDS and BCS)
   4.9 PIS – Prescribing Information System
   Additional datasets in the MCS

5. Disclosure control: UKDS requirements for data users

Appendices
Modifications to the Inpatient data (SMR00)
Modifications to the Inpatient data (SMR01)
Modifications to the Births data (SMR02)
NHS Scotland – Scottish Medical Data (SMR)

<table>
<thead>
<tr>
<th>Dataset</th>
<th>NCDS</th>
<th>BCS70</th>
<th>MCS</th>
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<tbody>
<tr>
<td>Prescribing Information System (PIS)</td>
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<td>Outpatient Records (SMR00)</td>
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<tr>
<td>Inpatient Records (SMR01)</td>
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<tr>
<td>Maternity Records (SMR02)</td>
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<tr>
<td>Birth and Neonatal Records (SMR11)</td>
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<tr>
<td>Scottish Immunisation &amp; Recall System (SIRS)</td>
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<tr>
<td>Child Health Reviews (CHR)</td>
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<td></td>
<td>✓</td>
</tr>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; visit / 6-8 week visit / 8-9 month visit / 22-24 month visit / 37-42 month visit / Preschool visit / School reviews</td>
<td></td>
<td></td>
<td>✓</td>
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</table>
### Scottish Medical Records over time - MCS

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<td>Inpatients (SMR01)</td>
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<td>Birth and Neonatal Records (SMR11)</td>
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</tbody>
</table>
SMR - Linkage.

Matching Criteria (from Cohort Maintenance team)
- Surname
- First Initial
- Date of Birth
- Sex
- Address
- Postcode
- NHS number
- Bespoke ID (from Research Data Management Team)

Linked to Community Health ID (CMI)
Used to retrieve SMR data for each individual

Identifiers Removed
Returned to CLS with Bespoke ID
Linked to cohort data at CLS
Only linked to cohort members who had ever lived in Scotland

<table>
<thead>
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<th>‘Ever Scottish’ number in sweep*</th>
<th>Gave consent (% of ever-Scottish in sweep)</th>
<th>Has matched data (% of consented)</th>
</tr>
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<tbody>
<tr>
<td>MCS</td>
<td>2370</td>
<td>1494** (60.7)</td>
<td>1481 (99.3)</td>
</tr>
<tr>
<td>BCS70 (Data to be released)</td>
<td>994</td>
<td>693 (69.7)</td>
<td>542 (78.2)</td>
</tr>
<tr>
<td>NCDS (Data to be released)</td>
<td>1482</td>
<td>944 (63.7)</td>
<td>785 (83.2)</td>
</tr>
</tbody>
</table>

* Sweep in which consent was sought for linkage:
  • MCS: Age 7 Survey (consented by their parents)
  • BCS70: Age 42 Survey
  • NCDS: Age 50 Survey

** Linked data excluded if MCS cohort members themselves refused consent at age 17
SMR - What data is available?

Prescribing Information Service (PIS)
- Prescriber, Dispenser and Patient information
- Dosage
- Frequency
- Formulation
- British National Formulary code
- Deprivation Indices
- Dates (MM/YYYY)

Outpatient care (SMR00)
- Operations
- Administrative data

Inpatient care (SMR01)
- Diagnostic codes
- Specialty
- Operations
- Deprivation indices
- Dates of admission and discharge (MM/YYYY)
SMR - What data is available?

Maternity data (SMR02)
- Diagnostic codes
- Operations
- Anthropometry
- Smoking/Drugs/Alcohol
- Booking information
- Maternity outcomes
- Dates of appointment/admission/discharge

Birth and neonatal records (SMR11)
- Diagnostic codes
- Operations
- Health indicators
- Intensive care
- Administrative data
- Deprivation indices
- Dates (MM/YYYY)
SMR - What data is available? (MCS only)

Scottish Immunisation Recall System (SIRS)
Each immunisation has a variable for:
- Given Y/N
- Date Given
- Pseudonymised Health Board

Child Health Reviews (CHR)
- 1\textsuperscript{st} visit / 6-8 week visit / 8-9 month visit / 22-24 month visit / 37-42 month visit / Preschool visit /School reviews
- Anthropometry
- Safeguarding
- Milestones
- Developmental contributors (e.g. parental smoking, breastfeeding status)
SMR - Dictionaries & Supplementary Documentation

- CLS User Guide(s)
- SMR Crib sheets (data dictionaries)
- International Classification of Diseases ICD-10 (Diagnoses, Symptoms, Causes)
- Operational codes OPCS-4
- British National Formulary BNF (pharmacy codes)
- Carstairs and Scottish Index of Multiple Deprivation Guidance
- Child Health Review Guidance & Data Collection Instruments

- Available on the Secure Access server at the UK Data archive
- Can be viewed alongside the data
- Links also be found in the CLS user guide
Differences between English (HES) and Scottish (SMR) health data

▪ Geographical information:
  SMR data cannot be linked to fine geographical indicators, only to country of Scotland

▪ Dates:
  • HES has dates DD / MM / YYYY
  • SMR dates are MM / YYYY
Scottish Medical Records - Any questions?
Accessing HES and SMR data
Accessing the data

Due to the potential disclosivity and sensitivity of HES and SMR data, these datasets are **only** accessible under Secure Access conditions through the UK Data Service Secure Lab.

In order to have access to the data and as part of the application process:

- you must be based in a UK organisation, and be affiliated with a UK HE or FE institution.
- you must be an accredited researcher to use **ONS data** or apply to be one as part of the project application or you must fill in the accredited researcher form each time you apply to access **ESRC data**
- your User Agreement must be authorised and signed by someone who can take legal responsibility on behalf of your institution
- you must have attended and passed a Safe Researcher training course (a place on this course can be offered as part of the application process)
- you must be able to access the data from a suitable safe environment that meets the UK Data Service’s security requirements
To apply to use the data:

**Step 1: Register**

**Step 2: Create a project**
To apply to use the data:

**Step 3: Select your data**


**Step 4: Assign dataset to a project**
To apply to use the data

Step 5: Access the appropriate forms

My Project to request data

<table>
<thead>
<tr>
<th>SN</th>
<th>Dataset</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>8733</td>
<td>1970 British Cohort Study: Linked Health Administrative Datasets (Hospital Episode Statistics), England, 1997-2017: Secure Access</td>
<td><img src="danger" alt="Request access" /></td>
</tr>
</tbody>
</table>

- ![Accept standard EUL](checkmark)
- ![Complete Research Project Application documentation](exclamation)
- ![Complete ESRC Accredited Researcher Application](exclamation)
- ![Complete Secure Access User Agreement](exclamation)
- ![Depositor approval](checkmark)
- ![Training](checkmark)
- ![Secure Lab access](checkmark)

[Complete actions](#)
To apply to use the data

Step 5: Download Application forms

Research Project Application documentation

1. UKDS Project Application form
2. ESRC Accredited Researcher Application.
3. HES Variables list (HES only)
4. Secure Access User Agreement
5. CLS Licence Agreement (HES only)
6. Complete the Secure access section
To apply to use the data

Step 5: Application forms (HES and SMR data)

- **Completed by**: Project Lead

- **Completed by**: the Principal Investigator/Project Lead

- Any project member who requires access to statistical analysis before release from the UK Data Service

- PhD supervisors and co-authors (even if they will not be analysing the data)
To apply to use the data

Step 5: Application – HES Variable selection (e.g. NCDS_HES_variables_List_1.xlsx)

<table>
<thead>
<tr>
<th>var_order</th>
<th>variable_name</th>
<th>variable_label</th>
<th>value_labels</th>
<th>Requested?</th>
<th>(YES/blank)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NSID</td>
<td>NSID - cohort member identifier</td>
<td>(-1) &quot;Missing: not applicable/not available/not given&quot;; (1) &quot;Brought in by ambulance (including helicopter)&quot;; (2) &quot;Other&quot;</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>AARRIVALMODE</td>
<td>Arrival mode</td>
<td>(0) &quot;Arrived by ambulance&quot;; (1) &quot;Arrived by other transport mode&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>AATTEND_EXC_PLANNED</td>
<td>Attendances excluding planned</td>
<td>(1) &quot;Missing: not applicable/not available/not given&quot;; (2) &quot;First Accident and Emergency attendance&quot;; (3) &quot;Follow-up Accident and Emergency attendance - planned&quot;; (4) &quot;Follow-up Accident and Emergency attendance - unplanned&quot;; (5) &quot;Not known&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>AATTENDCAT</td>
<td>Attendance category</td>
<td>(1) &quot;Admitted to hospital bed at same MCP&quot;; (2) &quot;Discharged follow-up treatment to be provided by IP&quot;; (3) &quot;Discharged did not require any follow-up treatment&quot;; (4) &quot;Referred to A&amp;E clinic&quot;; (5) &quot;Referred to fractured limb&quot;; (6) &quot;Referred to other outpatient clinic&quot;; (7) &quot;Transferred to other healthcare provider&quot;; (8) &quot;Died in department&quot;; (9) &quot;Referred to other healthcare professional&quot;; (10) &quot;Left department before treatment&quot;; (11) &quot;Left department having refused treatment&quot;; (12) &quot;Other&quot;; (13) &quot;Not known&quot;</td>
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<tr>
<td>5</td>
<td>AATTENDDISP</td>
<td>Attendance disposal</td>
<td>(1) &quot;Missing: not applicable/not available/not given&quot;; (2) &quot;1 Emergency department&quot;; (3) &quot;2 Consultant-led minor specialty accident and emergency service&quot;; (4) &quot;Other type of A&amp;E minor Injury activity with designated accommodation for reception of patients&quot;; (5) &quot;NH walk-in centres&quot;; (6) &quot;Not known&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>AEDEP TYPE</td>
<td>Department type</td>
<td>(-1) &quot;Missing: not applicable/not available/not given&quot;; (10) &quot;Home&quot;; (40) &quot;Work&quot;; (50) &quot;Educational establishment&quot;; (60) &quot;Public place&quot;; (99) &quot;Other&quot;; (99) &quot;Not known&quot;</td>
<td></td>
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<tr>
<td>7</td>
<td>AEINCLOCTYPE</td>
<td>Incident location type</td>
<td>(1) &quot;Missing: not applicable/not available/not given&quot;; (10) &quot;Home&quot;; (40) &quot;Work&quot;; (50) &quot;Educational establishment&quot;; (60) &quot;Public place&quot;; (99) &quot;Other&quot;; (99) &quot;Not known&quot;</td>
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<tr>
<td>8</td>
<td>AEPATGROUP</td>
<td>Patient group</td>
<td>(1) &quot;Missing: not applicable/not available/not given&quot;; (10) &quot;Road traffic accident&quot;; (20) &quot;Assault&quot;; (30) &quot;Deliberate self-harm&quot;; (40) &quot;Sports injury&quot;; (50) &quot;Firework injury&quot;; (60) &quot;Other accident&quot;; (70) &quot;Brought in dead&quot;; (80) &quot;Other than above&quot;; (99) &quot;Not known&quot;</td>
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<td>9</td>
<td>AERESSOURCE</td>
<td>Source of referral for A&amp;E</td>
<td>(1) &quot;Missing: not applicable/not available/not given&quot;; (0) &quot;General medical practitioner&quot;; (1) &quot;Self referral&quot;; (2) &quot;Local authority social services&quot;; (3) &quot;Emergency services&quot;; (4) &quot;Work&quot;; (50) &quot;Educational establishment&quot;; (6) &quot;Police&quot;; (70) &quot;Healthcare provider: same or other&quot;; (80) &quot;Other&quot;; (92) &quot;General dental practitioner&quot;; (93) &quot;Community dental service&quot;</td>
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<tr>
<td>10</td>
<td>ARRIVALDATE</td>
<td>Arrival start date</td>
<td>(1) &quot;Missing: not applicable/not available/not given&quot;; (1) &quot;Yes&quot;; (2) &quot;No&quot;</td>
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<td>11</td>
<td>ARRIVALTIME</td>
<td>Arrival time HH:MM (00:00 to 23:59)</td>
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<td>12</td>
<td>CARERSI</td>
<td>Carer support indicator</td>
<td>(1) &quot;Missing: not applicable/not available/not given&quot;</td>
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<td>13</td>
<td>CONCLTIME</td>
<td>Conclution time HH:MM (00:00 to 23:59)</td>
<td>(1) &quot;Missing: not applicable/not available/not given&quot;</td>
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<tr>
<td>14</td>
<td>DEP DUR</td>
<td>Duration to departure (in minutes)</td>
<td>(1) &quot;Missing: not applicable/not available/not given&quot;</td>
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<td>15</td>
<td>DEP DUR</td>
<td>Duration to departure (in minutes)</td>
<td>(1) &quot;Missing: not applicable/not available/not given&quot;</td>
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<td></td>
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<tr>
<td>16</td>
<td>DEP TIME</td>
<td>Departure time HH:MM (00:00 to 23:59)</td>
<td>(1) &quot;Missing: not applicable/not available/not given&quot;</td>
<td></td>
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<tr>
<td>17</td>
<td>DIAG_01</td>
<td>A&amp;E diagnosis (1)</td>
<td>(1) &quot;A&amp;E diagnosis is a six character code made up of, diagnosis condition [n2], sub-analysis [n1], anatomical area [n2] and anatomical side [n1]. (1) &quot;Missing: not applicable/not available/not given&quot;</td>
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<tr>
<td>18</td>
<td>DIAG_02</td>
<td>A&amp;E diagnosis (2)</td>
<td>(1) &quot;A&amp;E diagnosis is a six character code made up of, diagnosis condition [n2], sub-analysis [n1], anatomical area [n2] and anatomical side [n1]. (1) &quot;Missing: not applicable/not available/not given&quot;</td>
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<tr>
<td>19</td>
<td>DIAG_03</td>
<td>A&amp;E diagnosis (3)</td>
<td>(1) &quot;A&amp;E diagnosis is a six character code made up of, diagnosis condition [n2], sub-analysis [n1], anatomical area [n2] and anatomical side [n1]. (1) &quot;Missing: not applicable/not available/not given&quot;</td>
<td></td>
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</tr>
</tbody>
</table>
To apply to use the data

Step 5: Application forms - Agreements (HES and SMR data)

Project lead and their organisation signatory need to read and agree to terms.

• Signed by:
  • Project Lead &
  • Institution Contracts Office or person authorised to sign on behalf of the organisation.
To apply to use the data

Step 5: Application forms- Additional agreement required (HES data only)

- Important sections in the document: These are NHS Digital requirements.
  - Section 9.3 - Legal basis
  - Section 15 - Organisational Security
  - Schedule 1 - Project proposal
  - Provide project’s expected measurable benefits to Health and/or Social Care
  - Select variables (this is different to Scottish health data where only datasets are specified)
  - Completed by Project Lead and each member applying to use the data.
  - Signed by Institution Contracts Offices or authorised signatory.
Access to secure data

Step 6: Depositor approval

- The application will be presented to the CLS Data Access Committee (DAC) for approval.

- For applications requesting access to HES data, DAC will assess whether the researcher has provided satisfactory information to the NHS Digital requirements sections highlighted previously.
Access to secure data

Step 7: Training

- New Secure Lab researchers who haven’t previously completed the Safe User of Research Environment (SURE) or Safe Researcher Training will be invited by the UKDS to attend training.
- Researchers who completed training since January 2016 will be required to complete a short online training that covers the specifics of the Secure Lab,
- Current Secure Lab researchers who have not accessed the Secure lab for 30 months will be asked to complete a short online refresher course.

- During COVID-19 for those who have already completed the Safe Researcher Training and are an Accredited Researcher you can access data from home on a temporary basis by:
  - completing the Secure Access additional agreement: COVID19 temporary home working (Non-ONS data), and
  - you are able to remotely access your organisational/institutional office computer at the location specified in your application and using the IP address on record.
Access to secure data: Secure Lab Access

Complete actions for access

- Introduction
- Accept standard EUL
- ESRC Accredited Researcher Proposal form
- ESRC Accredited Researcher Application form
- Secure Access User Agreement form
- Depositor approval required
- Training required
- SecureLab access required

SecureLab access required

This Controlled dataset requires approval from the depositor (Research Application), training (Accredited Researcher) and a Secure Lab account to be set up before it can be accessed.

Please wait while we set up your account. You will be notified when this is completed.

In progress.

Your changes will be saved automatically.
Accessing the data

- For more information on how to apply for access, please visit https://www.ukdataservice.ac.uk/get-data/how-to-access/accesssecurelab
- If you have any enquiries regarding the application process, please contact the UK Data Service via their ‘Accessing data’ web form: https://beta.ukdataservice.ac.uk/help?id=accessingData
- Alternatively, the UK Data Service can be contacted via email at help@ukdataservice.ac.uk, or by telephone on 01206 872143.

Timescales
All applications must be validated and processed by the UK Data Service and then approved by the data owners. The UK Data Service works through a high volume of applications throughout the year. The UK Data Service endeavour to process applications as soon as possible but each application may take a number of months from start to finish.
Welsh health data in the MCS via the SAIL Data Bank

Datasets available:

- Emergency Department Dataset
- Primary Care GP dataset
- Outpatient Dataset
- Patient Episode Database (episodes of inpatient and day case care)
  - MCS1-6 currently available
  - Data for CM’s (up to age 14) and parents

Access

Secure Anonymised Information Linkage (SAIL) Databank – a Wales-wide research resource offering a range of health related datasets.

- Can apply for any health data in the SAIL Databank via https://data.ukserp.ac.uk/Organisation/Category? nodeId=1&orgId=0
- Application process can be found at https://saildatabank.com/application-process/two-stage-process/
- There is a charge determined on a case by case basis
Linked health administrative data available at the UKDS in the near future

- HES data from NHS Digital linked to MCS

- HES refresh
  - New A&E data – different linkage and ontologies
  - Including COVID-19 data

- CLS will refresh the Welsh health dataset linked to MCS (2001-2012) currently available at the UKDS.