

## What data is available?

The [Health Data Research UK Innovation Gateway](#) has over 700 datasets available that can be used across forms of research. Not all of them will be suitable for use in prospective clinical trials.

To help searching, the datasets below are a small subset that have been identified & reviewed as possible for use within Cardiovascular clinical trials, these datasets are secondary care data. We plan to continue to add further information, including primary care, as it becomes available.

## Data for only England

### [NHS England - HES Admitted Patient Care \(HES APC\)](#)

**Key Area:** Admitted Care

**Dataset description:** The APC data set includes details of episodes of care where the patient is admitted into hospital, which includes regular day or night attending patients.

**Completion Requirements:** Mandatory completion by NHS Trusts

**Data Standards:** Diagnosis and operations coded to ICD-10 and OPCS-24 respectively (see [Information Standards](#))

**Data Dictionary:**

<https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/hospital-episode-statistics-data-dictionary#download-hes-data-dictionaries>

**Data Quality Information:** Included within [DQMI](#) (monthly data quality report) produced monthly by NHS Digital).

Each Healthcare provider has a score for the APC data based on % of valid and complete data. Linkage can be completed with the '[Master Person Service](#)' (MPS), automatically matching 99% of patients.

**Data Provided by:** NHS England

**Apply for Data:** Data can be applied for via [NHS England – Data Access Request Service \(DARS\)](#) or [NHS Digital - Digi trials](#)

### [NHS England - Emergency Care Dataset \(ECDS\)](#)

**Key Area:** Emergency Care

**Dataset Description:** This dataset replaces HES A&E dataset (A&E data continued to be mapped to HES A&E dataset until March 2020). Data includes details of all A&E attendances at NHS hospitals in England, including minor injury units and NHS walk-in centres, as well as 24 hour and consultant-led emergency departments.

**Completion Requirements:** Mandatory completion by NHS Trusts

**Data Standards:** Includes diagnosis mapped to SNOMED, arrival date/time and initial chief complaint. (see [Information Standards](#))

**Data Dictionary:**

<https://digital.nhs.uk/data-and-information/data-collections-and-data-sets/data-sets/emergency-care-data-set-ecds/ecds-guidance> Refer to 'ECDS Enhanced Technical Output Specification'

**Data Quality Information:** Included within [DQMI](#) (monthly data quality report) produced monthly by NHS England).

Each Healthcare provider has a score for the ECDS data based on % of valid and complete data. Linkage can be completed with the '[Master Person Service](#)' (MPS), automatically matching 99% of patients.

**Data Provided By:** NHS England

**Apply for Data:** Data can be applied for via [NHS England– Data Access Request Service \(DARS\)](#) or [NHS Digital - Digi trials](#)

## [NHS England - HES Outpatient](#)

**Key Area:** Outpatient Care

**Dataset Description:** HES OP data are a collection of individual records of outpatient appointments occurring in England only. It includes information on the type of outpatient consultation, appointment dates, the main specialty and treatment specialty under which the patient was treated, referral source and waiting times.

**Completion Requirements:** Mandatory completion by NHS Trusts

**Data Standards:** Includes diagnosis mapped to ICD-10, number and type of outpatient procedures mapped to OCPS-24. (see [Information Standards](#))

**Data Dictionary:**

<https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/hospital-episode-statistics-data-dictionary#download-hes-data-dictionaries>

**Data Quality Information:** Included within [DQMI](#) (monthly data quality report) produced monthly by NHS Digital). Each Healthcare provider has a score for the Outpatient data based on % of valid and complete data.

Linkage can be completed with the '[Master Person Service](#)' (MPS) , automatically matching 99% of patients

**Data Provided By:** NHS England

**Apply for Data:** Data can be applied for via [NHS England – Data Access Request Service \(DARS\)](#) or [NHS Digital - Digi trials](#)

## [NHS England – Diagnostic Imaging Dataset](#)

**Key Area:** Imaging

**Dataset Description:** The Diagnostic Imaging Dataset (DID) is a central collection of detailed information about diagnostic imaging tests carried out on NHS patients, extracted from local Radiology Information Systems (RISs) and submitted monthly. The dataset is collected at patient level and includes patient identifiers to enable linkage to other datasets, most notably cancer registration data.

**Completion Requirements:** Mandatory completion for NHS Imaging Services (note this may exclude some partner services, obstetric ultrasound and screening exams)

**Data Standards:** Imaging codes - SNOMED-CT or NICIP (National Interim Clinical Imaging Procedure (NICIP) Code Set). (see [Information Standards](#))

**Data Dictionary:**

<https://digital.nhs.uk/data-and-information/data-collections-and-data-sets/data-sets/diagnostic-imaging-data-set>

**Data Quality Information:** NHS England provide a quality report every month. This includes coverage, completeness, NHS Number and DOB quality, and also highlights any issues with provider site codes for uploads.

<https://www.england.nhs.uk/statistics/statistical-work-areas/diagnostic-imaging-dataset/diagnostic-imaging-dataset-2022-23-data/>

**Data Provided By:** NHS England

**Apply for Data:** Data can be applied for via [NHS England – Data Access Request Service \(DARS\)](#)

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## Data for only England & Wales

### [NHS England – HES Linked to Civil Registration of Deaths \(CRD\)](#)

**Key Areas:** Mortality/Cancer registration, patient tracking

**Dataset Description:** Linking HES data to mortality data from the Office for National Statistics. Reviewed in 2020, enhancements have been made to death reporting, The available data fields are generated from 12 mortality datasets.

*Note:* The Civil registration of deaths is available as a dataset without HES linkage. HES linked to Civil registration of deaths is listed here due to the [data integrity work](#) that has been completed on this dataset and the ability to make use of the HES linked Master Person Service.

**Completion Requirements:** Statutory requirement for death registration

**Data Standards:** Cause of death coded to ICD-10 code that identifies the medical condition judged to be the underlying cause of death. Underlying cause of death can be defined as:

- a) the disease or injury which initiated the train of morbid events leading directly to death; or
- b) the circumstances of the accident or violence which produced the fatal injury.

The underlying cause may be a long-standing, chronic disease or disorder that predisposed the patient to later fatal complications.

**Data Dictionary:**

<https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/hospital-episode-statistics/hospital-episode-statistics-data-dictionary#download-hes-data-dictionaries>

**Data Quality Information:** Linkage can be completed with the '[Master Person Service](#)' (MPS) , automatically matching 99% of patients

NHS trusts and other healthcare organisations submit activity data every month, which is then run through a series of data quality checks and cleaning procedures before it is published.

**Data Provided By:** Office for National Statistics

**Apply for Data:** Data can be applied for via [NHS England – Data Access Request Service \(DARS\)](#) or [NHS England - Digi trials](#)

### [NHS England/Healthcare Quality Improvement Partnership \(HQIP\) - National Diabetes Core Audit \(NCDA\)](#)

**Key Area:** Diabetes

**Dataset Description:** One of the largest annual clinical audits in the world. It measures the effectiveness of diabetes healthcare against NICE Clinical Guidelines and NICE Quality Standards in England and Wales, for both primary and secondary care (specialist diabetes services). For patients with a diagnosis of diabetes and no opt-out the following data is collected during the audit period: Demographics/Clinical observations, HbA1c readings, blood pressure, BMI and cholesterol. As at 2020/21 report, over 6500 practices were participating.

**Completion Requirements:** Mandatory completion (Direction from NHS England under section 254)

**Data Standards:** Data in SNOMED codes from 2018 onwards. (see [Information Standards](#))

**Data Dictionary:** <https://digital.nhs.uk/data-and-information/clinical-audits-and-registries/national-diabetes-audit/core#how-to-participate> (2019-20 SNOMED Code Set). (see [Information Standards](#))

**Data Quality Information:** Once the data is collected from GP system suppliers (GPSS), validation on the file structure and contents is carried out before files are accepted by NHS Digital's GP Data Collector system. All data is reviewed by NHS Digital for errors and queries raised, the [NHS Digital Data Flow Diagram – NDA Core Aug 19](#) shows the process.

**Data Provided By:** NHS England and Wales

**Apply for Data:** Data can be applied for via [NHS England– Data Access Request Service \(DARS\)](#) or [NHS England - Digi trials](#)

## [National Institute for Cardiovascular Outcomes Research \(NICOR\), Multiple Cardiovascular Audits](#)

**Key Area:** Adult Cardiac Surgery/ Angioplasty/ Cardiac Rhythm Management/ Congenital Heart Disease outcomes/ Myocardial Ischaemia (Heart attack)

### **Dataset Description:**

NICOR collects data and produces analysis to enable hospitals and healthcare improvement bodies to monitor and improve the quality of care and outcomes of cardiovascular patients. The [National Cardiac Audit Programme](#) has six sub audits, an application can be made for data from one or multiple audits.

### **National Adult Cardiac Surgery Audit (NACSA)**

*The National Adult Cardiac Surgery Audit (NACSA) collects data on all major heart operations carried out in NHS hospitals and a selection of private hospitals throughout the UK.*

### **Adult Percutaneous Coronary Interventions (Angioplasty audit)**

*The Adult Percutaneous Coronary Interventions collects information about Percutaneous coronary interventions (PCI) that have taken place.*

### **National Audit of Cardiac Rhythm Management (CRM)**

*The National Audit of Cardiac Rhythm Management (CRM) collects information about all implanted cardiac devices and all patients receiving interventional procedures for management of cardiac rhythm disorders in the UK.*

### **National Congenital Heart Disease Audit (NCHDA)**

*The National Congenital Heart Disease Audit (NCHDA) focuses on monitoring activity levels and outcomes following cardiovascular procedures with an aim of improving the quality of specialist congenital cardiovascular care by providing reliable, risk adjusted and independently validated data, including individual procedural counts, activity levels, access to high quality fetal cardiology screening for antenatal diagnosis, and most importantly, patient outcomes with respect to mortality and postprocedural complications.*

### **Heart Failure audit**

*The National Heart Failure Audit covers all patients with an unscheduled admission to hospital, who are discharged with a primary diagnosis of heart failure.*

### **Myocardial Ischaemia National Audit Project (MINAP)**

*The Myocardial Ischaemia National Audit Project (MINAP) is a domain within NCAP that contains information about the care provided to patients who are admitted to hospital with acute coronary syndromes (heart attack).*

**Completion Requirements:** Mandatory completion. Audit completion requirement is annual closing at the end of March. This can impact on the level of completeness throughout the year depending on how individual trusts choose to submit data.

**Data Standards:** Coding is specific to these datasets (see [Information Standards](#))

**Data Dictionary:** Each dataset description can be found here (<https://www.nicor.org.uk/national-cardiac-audit-programme/datasets/>). The list of fields also show which fields are mandatory for completion.

**Data Quality Information:** NICOR complete data linkage with NHS digital for all datasets for survival status prior to data being available for research. NICOR data can be linked with HES data from NHS Digital. Each participating hospital has access to NICOR data tools where they can assess data completeness reports and the comparison against national averages.

**Data Provided By:** NHS England & Wales. Pre-2020/1 data includes NHS Scotland data.

**Apply for Data:** The data controller for NICOR is now NHS England and the data is hosted by NHS Arden and Greater East Midlands Commissioning Support Unit (Arden and GEM). Contact [nicor.auditenquiries@nhs.net](mailto:nicor.auditenquiries@nhs.net)

## Data for only Scotland

### [National Health Service Central Register \(NHSCR\)/ NRS Deaths](#)

**Key Area:** Mortality/Cancer registration, patient tracking

**Dataset Description:** Data includes date and cause of death, cancer registration information, notification of name changes/name of health area in the UK where a patient is registered.

**Completion Requirements:** Statutory requirement for death registration

**Data Standards:** Cause of death coded to ICD-10, cancer registration information, notification of name changes/name of health area in the UK where a patient is registered. Cancer data is coded to ICD-10 and ICD-O-3. (see [Information Standards](#))

**Data Dictionary:** Extract layout is available on request from [dg.nhscr-scotland-medical-research@nhs.scot](mailto:dg.nhscr-scotland-medical-research@nhs.scot)

**Data Quality Information:** Quality checks are completed on all death data, all ICD-10 codes are reviewed by an experienced medical coder. Documentation on the checks is available on the [NRS website](#).

**Data Provided By:** National Records of Scotland

**Apply for Data:** [Apply to NHSCR](#)

### [General Acute Inpatient and Day Case - Scottish Morbidity Record \(SMR01\)](#)

**Key Area: Admitted Care**

**Dataset Description:** Data includes where episode took place, the admission type (includes patient injury classifications such as self-inflicted or home accident). PHS statistics for Angina, CHD, Myocardial infarction and Heart failure utilise SMR01. Data is also available for Stroke, however, please also see the Scottish Stroke Care Audit below.

**Completion Requirements:** Mandatory completion

**Data Standards:** Data includes where episode took place, the admission type (includes patient injury classifications such as self-inflicted or home accident), diagnosis classified as ICD-10. (see [Information Standards](#))

**Data Dictionary:** <https://www.ndc.scot.nhs.uk/Dictionary-A-Z/>

**Data Quality Information:** Data undergoes validation including checks for missing/invalid data and consistency. Record completeness reports are also available quarterly <https://www.opendata.nhs.scot/dataset/scottish-morbidity-record-completeness>

**Data Provided By:** NHS Scotland

**Apply for Data:** Data can be applied for via [Public Health Scotland](#)

## [Scotland Accident & Emergency Datamart \(A&E2\)](#)

**Key Area:** Emergency care

**Dataset Description:** Scottish NHS Boards are required to submit data on all attendances for emergency care, including A&E Department, Emergency Department, Minor Injuries Units and the trolleyed area of an Assessment Unit (which may be further described as Medical, Surgical, Combined, or Paediatric),

**Completion Requirements:** Mandatory

**Data Standards:** Data mirroring ECDS for NHS Digital, with presenting complaint, arrival date & time and diagnosis at discharge coded to ICD-10. (see [Information Standards](#))

**Data Dictionary:** <https://www.ndc.scot.nhs.uk/Data-Dictionary/Other-Standards//Accident-and-Emergency/>

**Data Quality Information:** In addition to local data quality checks, the data submitted to the A&E DataMart is subject to a validation procedure. As well as ensuring that data for the correct site and time period is submitted, the validation ensures that the data is in the correct format and only contains accepted codes

**Data Provided By:** NHS Scotland

**Apply for Data:** Data can be applied for via [Public Health Scotland](#)

## [Scottish Outpatient attendance \(SMR00\)](#)

**Key Dataset:** Outpatient Care

**Dataset Description:** The Outpatients (SMR00) dataset collects episode level data from patients on new and follow up appointments at outpatient clinics in all specialities (except A&E and Genito-Urinary Medicine).

**Completion Requirements:** Mandatory

**Data Standards:** Data includes the speciality, the type of facility (Outpatients, Day Centre etc.), mode, referral source etc. Data coded to ICD-10. (see [Information Standards](#))

**Data Dictionary:** <https://www.ndc.scot.nhs.uk/Data-Dictionary/SMR-Datasets/SMR00-Outpatient-Attendance/>

**Data Quality Information:**

Data undergoes validation including checks for missing/invalid data and consistency. Record completeness reports are also available quarterly <https://www.opendata.nhs.scot/dataset/scottish-morbidity-record-completeness>

**Data Provided By:** NHS Scotland

**Apply for Data:** Data can be applied for via [Public Health Scotland](#)



## [Scottish Stroke Care Audit \(SSCA\)](#)

**Key Area:** Stroke

**Dataset Description:** The Scottish Stroke Care Audit (SSCA) includes all hospitals managing acute stroke in Scotland and collects data to review against the Scottish Stroke Care Standards ([https://www.strokeaudit.scot.nhs.uk/Quality/Scottish\\_Stroke\\_Care\\_Standards.html](https://www.strokeaudit.scot.nhs.uk/Quality/Scottish_Stroke_Care_Standards.html)).

**Completion Requirements:** Completion of SSCA audit forms is mandatory for all acute hospitals admitting patients with stroke. However, if the patient is boarding in a general medical ward or outlying ward, these may be captured by SMR01. The SSCA contains more detail regarding stroke outcomes. Both SMR01 and SSCA only capture inpatient details, if a patient suffers a Transient Ischaemic Attack and is not admitted, this will not be represented. (Ref: <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-015-1244-y>)

**Data Standards:** ICD-10 categories utilised for final diagnosis. (see [Information Standards](#))

**Data Dictionary:** [Inpatient and Outpatient Data Definitions](#)

**Data Quality Information:** Audit data are subject to validation at data entry and quality assurance procedures. For the SSCA annual report, data on patients who have a final diagnosis of stroke is compared to SMR01 data to ensure that no patients have been missed.

**Data Provided By:** NHS Scotland

**Apply for Data:** Data can be applied for via [Public Health Scotland](#)

## [SCI-Diabetes \(Scottish Care Information – Diabetes Collaboration\)](#)

**Key Dataset:** Diabetes

**Dataset Description:** SCI Diabetes is a live clinical medical record system for diabetes patients that is used in Scotland, however, is available for research purposes. SCI Diabetes is thought to cover >99% of the population who are diagnosed with diabetes based on the fact that all general practices in Scotland contribute data. Some patients with a diagnosis of pre-diabetes are included. Primary care data is via automated extract, selected secondary care data is added manually by hospital staff. Lab data is also included and is via automated extract.

**Completion Requirements:** Clinical data - not all data fields are mandatory for completion

**Data Standards:** READ Codes/ICD-10 and OCPS-24 codes (see [Information Standards](#))

**Data Dictionary:** Data dictionary available on request from National Education Scotland (<https://www.nationaldigitalplatform.scot/contact-us/>)

**Data Quality Information:** This is not a curated dataset - a dashboard has been created within the system to allow health boards to check their levels of completeness. **Data Provided**

**By:** NHS Scotland

**Apply for Data:** Single health board data is available with Scottish regional safehaven/TRE. Apply via Health Board Caldicott Guardian.

The Scottish Diabetes Research Network (SDRN) receive a regular data feed and will review research applications from Scottish based researchers for collaborative projects. SDRN can be contacted here (<http://sdrn.org.uk/research-register/>)

Extracts on a national level should be applied for via [Public Health Scotland](#)

## Data for only Wales

### [Emergency Care Dataset \(EDDS\)](#)

**Key Area:** Emergency Care

**Dataset Description:** The Emergency Department Data Set (EDDS) captures attendances at Accident & Emergency departments and Minor Injury Units (MIUs) in Welsh hospitals.

**Completion Requirements:** Mandatory

**Data Standards:** Diagnosis and operations coded to ICD-10 and OPCS-24 respectively (see [Information Standards](#))

**Data Dictionary:**

<http://www.datadictionary.wales.nhs.uk/index.html#!WordDocuments/datasetstructure25.htm>

**Data Quality Information:** Data consistency and validity are monitored on a monthly basis: <https://gov.wales/time-spent-nhs-emergency-departments-quality-report>

**Data Provided By:** NHS Wales

**Apply for Data:** Apply for bespoke data requests via [Digital Health and Care Wales](#)

### [Outpatient Dataset for Wales](#)

**Key Area:** Outpatient Care

**Dataset Description:** The Outpatient (OP) Data Set captures data for all consultant or nurse led clinic activity where that meets the criteria outlined in Terms Clinic Appointment – Consultant Led (Outpatients) or Terms Clinic Appointment – Nurse Led (Outpatients). This includes Face to face appointments, Virtual clinic appointments (patient contact) Phone, Virtual clinic appointments (patient contact) Video and Virtual clinical reviews (non-patient contact). Any activity which is not consultant or nurse should be excluded. Also excluded are: Community nurse led activity

**Completion Requirements:** Mandatory

**Data Standards:** ICD-10 (see [Information Standards](#))

**Data Dictionary:**

<http://www.datadictionary.wales.nhs.uk/index.html#!WordDocuments/datasetstructure22.htm>

**Data Quality Information:** Data consistency and validity are monitored on a monthly basis: <https://dhcw.nhs.wales/information-services/information-standards/data-quality/data-quality-standards/outpatient-data-validity/>

**Data Provided By:** NHS Wales

**Apply for Data:** Apply for bespoke data requests via Digital Health and Care Wales



## Admitted Patient Care

### **Key Area:** Admitted Care

**Dataset Description:** The Admitted Patient Care (APC) data set captures data for all consultant-led admitted patient activity, regardless of the patient's area of residence.

Any activity which is not undertaken by a consultant (or a member of their firm) should be excluded. All NHS activity regardless of the care provider is included. Private patients seen at an NHS organisation are also included.

From April 2009 assessment unit activity has been required to be reported in the APC data set.

### **Completion Requirements:** Mandatory

**Data Standards:** Diagnosis and operations coded to ICD-10 and OPCS-24 respectively. (see [Information Standards](#))

### **Data Dictionary:**

<http://www.datadictionary.wales.nhs.uk/#!WordDocuments/datasetstructure21.htm>

**Data Quality Information:** Data consistency and validity are monitored on a monthly basis

<https://dhw.nhs.wales/information-services/information-standards/data-quality/data-quality-standards/apc-data-validity/>

**Data Provided By:** NHS Wales

**Apply for Data:** Apply for bespoke data requests via Digital Health and Care Wales

## Data for only England, Wales and N Ireland

### Sentinel Stroke National Audit Programme (SSNAP)

**Dataset Description:** The clinical audit collects a minimum dataset for stroke patients in England, Wales and Northern Ireland in every acute hospital, and follows the pathway through recovery, rehabilitation, and outcomes at the point of 6 month assessment. It is the only national stroke register in the world to collect longitudinal data on the processes and outcomes of stroke care up to six months post stroke. Every year data from approximately 85,000 patients are submitted to the audit webtool for analysis, representing over 90% of all stroke hospital admissions in the NHS.

**Completion Requirements:** The core clinical audit is mandatory, there is also an acute organisational collected biennially.

**Data Standards:** Coding is specific to this dataset

**Data Dictionary:** <https://ssnap.zendesk.com/hc/en-us/articles/115003811269-SSNAP-Clinical-Audit-Datasets>

**Data Quality Information:** Information available under SSNAP methodology:

<https://www.strokeaudit.org/Resources/New-SSNAP-Users.aspx>

**Data Provided By:** Kings College London

**Apply for Data:** Data can be applied for via [NHS England – Data Access Request Service \(DARS\)](#) or [NHS England - Digi trials](#)