NHS England

Diagnostic Imaging Dataset 2022/23 Technical Report

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Diagnostic Imaging Dataset

2022/23 Technical Report

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Glossary of Terms

Acronym	Full name
DID	Diagnostic Imaging Dataset
HES	Hospital Episodes Statistics
NHS Digital	Now part of NHS England. Previously Health and Social Care Information Centre
NHS Number	Everyone registered with the NHS in England and Wales has their own unique number
Patient Source Setting	The setting that the patient came from when the diagnostic imaging request was made. There are seven options: Accident and Emergency Department, Admitted Patient Care – Day Case, Admitted Patient Care – Inpatient, GP Direct Access – outpatient, Other and Other Health Care Provider.
Referrer	The code of the person making the referral. This will normally be a Care Professional - a General Medical Practitioner or a Consultant.
RIS	Radiology Information System
TRUD	Technology Reference data Update Distribution

Contents

1 Introduction

1.1.1. On 23 November 2023, NHS England released an Annual Diagnostic Imaging Dataset publication that finalised 2022/23 data. Although provisional data were published previously for each of these twelve months, these have been updated. The annual publication serves as the final record.

1.1.2. The data are collected from hospital administrative data sources at patient level and consequently allow for a rich variety of analyses.

1.1.3. This Technical Report gives information on the methodology and data source of this data collection, as well as covering data quality issues to give users an understanding of the usability of these data.

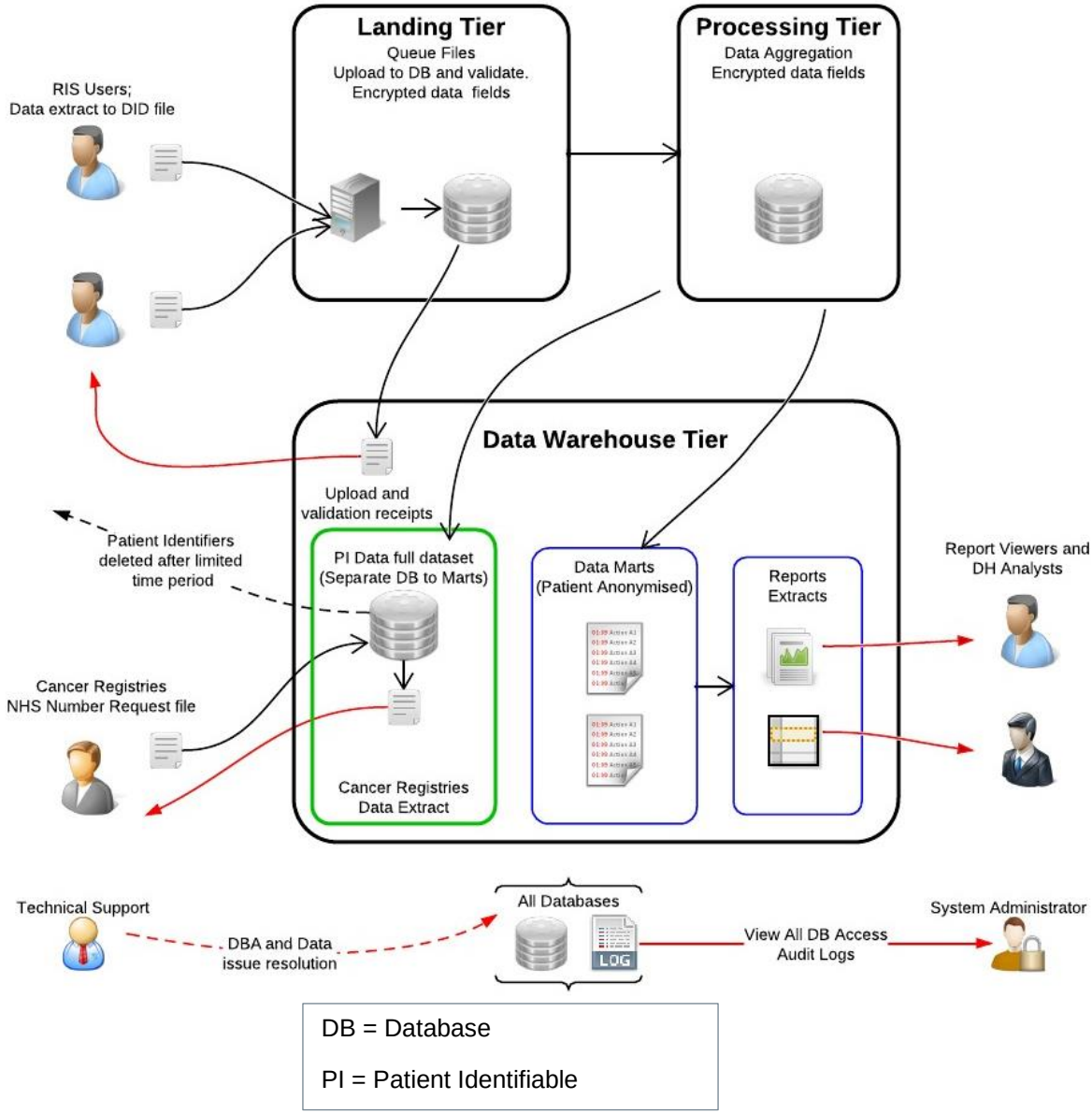
2 Methodology

2.1.1. The information compiled in the DID is sourced from the local Radiology Information System (RIS) of each provider. The aim of this collection is to collate these data nationally through the monthly submission of a standard extract of RIS data to a central data system. The data are extracted through the automated running of a RIS query and then submitted manually via the DID collection website.

2.1.2. The DID is a monthly collection of detailed information about diagnostic imaging tests carried out on NHS patients. The dataset captures information about referral source and patient type, details of the test (type of test and body site), demographic information such as the patient's registered GP practice, postcode, ethnicity, gender and date of birth, plus dates for each diagnostic imaging event giving periods e.g. from test request through to reporting. The dataset is collected at record level (a record being one test for one patient) and includes patient identifiers to enable linkage to other datasets, most notably cancer registration data.

2.1.3. The data required is already held locally, within each provider's RIS. The DID has been structured around the processes and timings of diagnostic imaging tests recorded in RISs, ensuring that the data items specified are already captured in these local systems. An illustration of the system for data flow and data access is shown in figure 1.

Figure 1.



2.1.4. The system allows secure upload of data, which once transmitted is contained in the central database controlled by NHS England (previously NHS Digital). NHS England provide for secure transmission of data and access to aggregated and anonymised datasets. Two points in the system involve patient-identifiable (PI) data – the landing tier and a secure area accessed by authorised Cancer Registry & Data Access Request Service (DARS) staff to enable data linkage.

2.1.5. The system accepts CSV files but is designed to receive XML files and to apply XML schema validation. On receipt of data in CSV format the system converts it to XML; this enables a common workflow and approach to validating data submissions. Prior to conversion, the data structure of the CSV file is checked to ensure a logical conversation to XML is possible.

2.1.6. Data quality is checked at different stages in the system:
Upon file upload:

- The file credentials are verified;
- The structure of the file is checked against the schema definition;
- Codes are validated against NHS England reference data;
- Data integrity is checked (e.g. a patient's date of birth cannot be in the future);
- Cross field validation checks are carried out (e.g. the patient's date of test cannot be before the date of the patient's test request).

Post file upload, monthly cross record checks are carried out. These include:

- Checking for duplicate records from the same provider submitted in different months;
- Checking for records that have been archived in error;
- Monitoring coverage and timeliness of submissions from providers;
- Monitoring the completeness of key non-mandatory data items (e.g. Referrer Code, Date of Referral and Date of Report Issue);
- Checking the integrity of data items such as variation in the other patient identifying information associated with an NHS number.

3 Data Source

3.1.1. The information contained in the DID is sourced directly from the RIS of each organisation that returns data.

3.1.2. A RIS is a computer system used in radiology departments to record, store and manage records of patient's radiological events. The system generally includes demographic information, examination details and scheduling events. The RIS interfaces with an organisation's Patient Administration System (PAS) and Picture Archiving and Communications System (PACS) where required. Different organisations use different brands of RIS, but all have the same remit.

3.1.3. It is intended that each record within a RIS is unique and contains a number of data items, recorded using standard coding systems. This should allow the data to be queried, aggregated or categorised and reports to be produced. Examination details should be recorded using SNOMED CT and/or NICIP codes.

- **SNOMED CT** (Systematised Nomenclature of Medicine - Clinical Terms) is a systematically organised, computer processable collection of medical terms providing codes, terms, synonyms and definitions covering diseases, findings, procedures, microorganisms, substances, etc. It allows a consistent way to index, store, retrieve, and aggregate clinical data across specialties and sites of care. The codes consist of a string of digits.

- **NICIP** (National Interim Clinical Imaging Procedure) codes are a comprehensive, national standard set of codes and descriptions for imaging procedures. They are maintained by the UK NHS Terminology Centre. The list is designed to cover all imaging specialties in the scope of the National PACS programme and currently includes all conventional imaging modalities

found in diagnostic imaging departments, such as CT and MR as well as nuclear medicine and bone densitometry. The codes consist of 5 or 6 characters (for example XANKR is X-ray of the right ankle).

3.1.4. In some cases, local codes, which are recognised only by that organisation, are used to record examination details. A conversion service is provided to map local codes to the relevant NICIP code on submission (using a table provided in advance by the organisation). This means that records that contain local codes can be submitted to the DID and will be mapped to the relevant NICIP code.

3.2. Data Derivation

3.2.1. The provider organisation for imaging activity is derived from the provider site data field reported with the data. This may differ from the submitting organisation. Most tables in DID publications relate to England providers, but some totals may include other unspecified providers (e.g. 89999 refers to non-NHS UK provider where no organisation site code has been issued).

3.2.2. Sub-Integrated Care Board (ICB) location is derived primarily from the GP Practice of the patient, but where this was missing in 2022/23, Sub-ICB location was derived from Lower Super Output Area (LSOA) based on patient postcode instead. In 2022/23, 93.8% activity had a Sub-ICB location based on GP Practice, a further 0.3% had a non-English or other valid GP Practice (e.g. prisons and Ministry of Defence practices), 5.5% had a Sub-ICB location derived from LSOA and 0.3% were unknown.

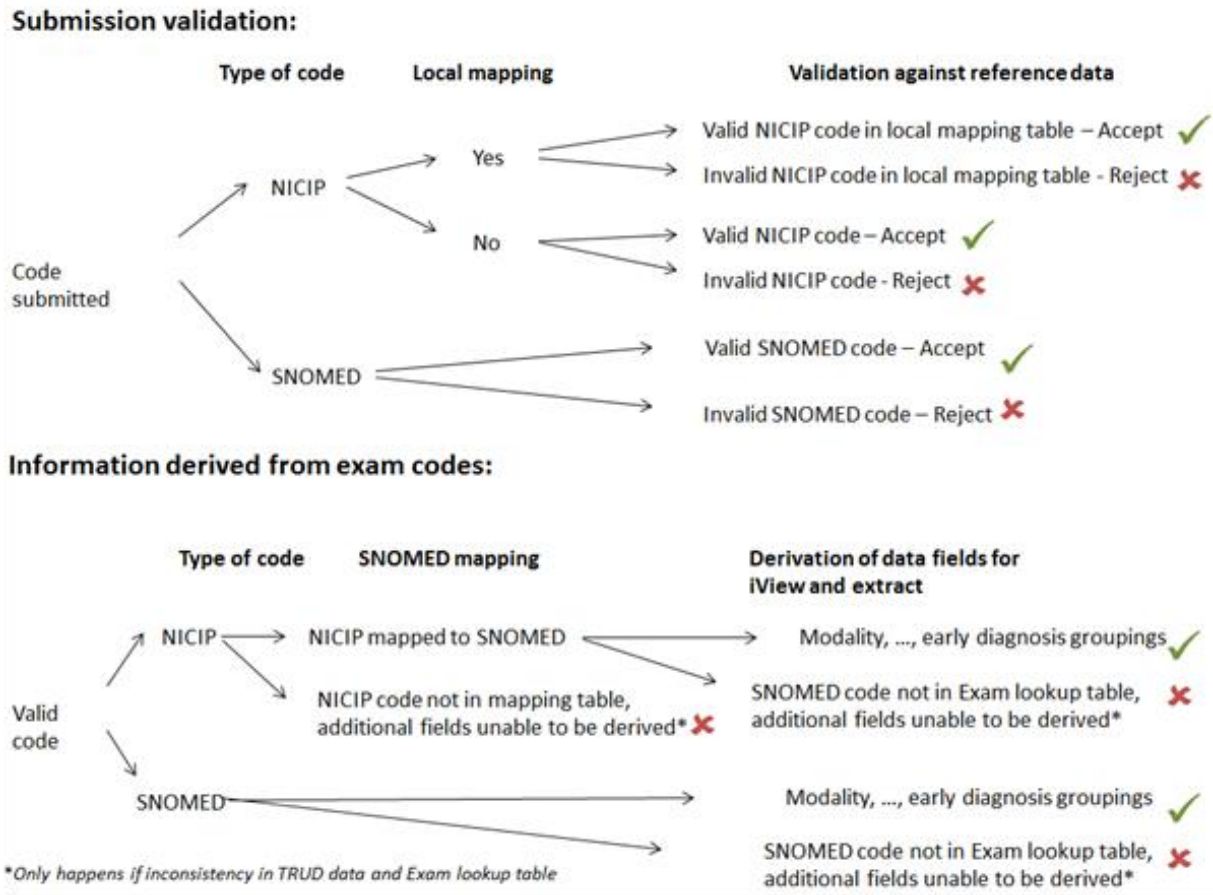
3.2.3. Examination codes which are submitted are validated against over 4,000 valid NICIP and over 3,000 valid SNOMED codes. For reporting purposes, data are aggregated for key groups based on SNOMED codes. The groups are described fully in the lookup table provided at Annex 1. This table provides lookup information from SNOMED clinical terms to impute modality (type of test) and whether it has use for early diagnosis of cancer. Earlier versions also gave a lookup to laterality (side of the body), region (part of the body), etc. of the imaging test, but this reference information is no longer updated so has been discontinued in 2022/23. It also provides NICIP codes (‘short codes’) and descriptions matched to SNOMED.

3.2.4. The process of validation of examination codes and derivation of aggregations of these codes is described in figure 2.

3.2.5. A modality is a broad procedure type based on NICIP or SNOMED codes provided in the DID data submission. The main modalities for the DID are: Plain Radiography (X-ray), Diagnostic Ultrasonography (Ultrasound), Computerized Axial Tomography (CT Scan), Magnetic Resonance Imaging (MRI), Fluoroscopy, Medical Photography, Nuclear Medicine, Position Emission Tomography - Computed Tomography (PET-CT Scan) and Single Photon Emission Computerized Tomography (SPECT Scan). These aggregations are fully described in the lookup table provided at Annex 1. Each modality describes a group of codes with a common set of characteristics, for example,

Fluoroscopy - a collection of codes mentioning fluoroscopy or using fluoroscopic guidance, Barium enema or swallow.

Figure 2.



3.2.6. Some imaging codes submitted to the DID are grouped under the modality 'Endoscopy'. However, this only provides partial coverage of endoscopy services, i.e. those recorded on the RIS, most commonly Endoscopic retrograde cholangiopancreatography (ERCP), so it does not feature in the main report. Some imaging codes are grouped under the modality 'Cone Beam Computed Tomography', but these are also excluded from the main report due to limited coverage. Additionally, some examination codes submitted to the DID are not mapped to any modality – the occasions when this occurs are shown in Figure 2. Codes not grouped into a modality are excluded from the analysis as they may be insufficiently precise, not generally stored in RISs or covered more fully in other data.

3.2.7. Annex 3 gives the amount of imaging activity submitted to the DID which is identified as Endoscopy and Cone Beam, by provider.

3.2.8. Imaging Tests that could contribute to Early Diagnosis of Cancer are derived as follows (subject to review):

Brain (MRI)

- This may diagnose brain cancer, this includes MRI of brain (often with contrast);

Kidney or bladder (Ultrasound)

- This may diagnose kidney or bladder cancer, this includes ultrasound of kidney, ultrasound scan of bladder or ultrasound and Doppler scan of kidney;

Chest and/or abdomen (CT)

- CTs which may diagnose lung cancer, this includes chest + abdominal CT, CT of chest (high resolution or other), CT thorax + abdomen with contrast, CT thorax with contrast or CT chest + abdomen;

Chest (X-ray)

- This may diagnose lung cancer, this includes - plain chest X-ray only;

Abdomen and/or pelvis (Ultrasound)

- This may diagnose ovarian cancer, this includes ultrasonography of pelvis, ultrasonography of abdomen (upper, lower or other) or abdomen + pelvis.

3.2.9. Although these tests are regularly used to diagnose cancer, many of the tests also have wider clinical uses. Within the DID data it is not possible to distinguish between tests that are carried out to diagnose cancer and those carried out for other reasons.

3.3. Exam code look-up table status

3.3.1. The exam lookup table was previously scheduled to be updated twice a year, in April and October, to coincide with the national release of updates of the coding frames used in DID. However, the lookup tables are no longer centrally maintained, so new codes are only added as they arise in the DID data. The current version used to map SNOMED codes to modality (and not the full range of other fields) is now restarted as Annex 1 version 1, which was uploaded in November 2023.

4. Data Quality

The Diagnostic Imaging Dataset first collated data from RISs at a national level in 2012/13. Although data quality, coverage and completeness improvements have been made since then, the data should be used and interpreted with care.

4.1. Validations

4.1.1. There are a large number of validations built into the DID upload system, verifying that the data provided by organisations makes sense. There are two types of validations built into the system: hard validations (meaning that data provided will fail to upload if the validation rule is not satisfied) and soft validations (which draw the submitters attention to potentially illogical data, but

do not cause the upload to fail). The hard validations are shown in the table below.

Table A: Diagnostic Imaging Dataset Hard Validations

Data Item	Status	Hard Validations
NHS number	M*	Must be 10 numeric digits in length and an unbroken sequence. In line with NHS Number specification it must satisfy the modulus 11 algorithm and is not allowed be 1234567890, 0123456789 or N00000000N, where N is a non-zero number.
NHS number status	R	Must be one of the nationally defined codes^
Date of birth	M*	Must be given in the format CCYY-MM-DD. It must be: • before or equal to “Date of test”, and • before Today, and • before or equal to “Date test report issued”
Ethnicity	M*	Must be one of the nationally defined codes^. This includes the option “National code Z - Not Stated should be used where the person has been given the opportunity to state their ethnic category but chose not to.”
Patient gender	M*	Must be one of the defined national codes^, including the options Not Known and Not Specified.
Patient home postcode	M*	Must only have 1 space between 2 alphanumeric parts of postcode. This does not check that the postcode provided is a valid postcode.
Patient registered GP practice	M*	Must be one of the defined national codes^, including codes for “Not Registered”, “Not Applicable” and “Not Known”.
Patient Type (Source Setting)	M	Must be one of the defined national codes^, which includes an option for other, but no option for unknown.
Referrer	R	Must be in a valid format (8 characters, normally 1 or 2 letters followed by 7 or 6 numbers) or else it is converted to 99, but may not be a defined national value^.
Referring organisation	R	Must be from defined national values^, which includes an option for not known and for not applicable.
Date of test request	R	Must be given in the format CCYY-MM-DD. It must be: • before or equal to ”Date test request received”
Date test request received	R	Must be given in the format CCYY-MM-DD. It must be • equal to or after “Date of test request”
Date of test	M	Must be given in the format CCYY-MM-DD. It must be: • no earlier than ”Date of test request”, and • no earlier than ”Date test request received”, and • no later than ”Date test report issued. Cannot be more than 3 months before submission month
Imaging code (NICIP)	M	Must be from defined national codes^ NICIP may be missing if SNOMED-CT is valid.
Imaging code (SNOMED-CT)	M	Must be from defined national codes^ SNOMED-CT may be missing if NICIP is valid.
Date test report issued	R	Must be in the format CCYY-MM-DD. Must be after or equal to “Date of Test”
Provider site code	M	Must be from defined national codes^
RIS accession number	M	Must be an alphanumeric code of up to 20 characters, which must be unique within site code (validated after submission to the DID).

^Information about nationally defined codes and values can be found in Annex 2.
Status: M = Mandatory; R = Required; M* = Mandatory for at least one of the fields marked with ‘*’

4.1.2. Each data item is either Mandatory (M) or Required (R). Excluding a data field which is mandatory would cause the data upload to fail. At least one of the fields marked M* is required; for example if NHS Number is not available, this field can be left blank as long as at least one of the other fields marked M* have been provided. Excluding all fields marked M* would cause the data upload to fail. The mandatory fields should be available in all configurations of RISs for all examinations. The required fields are important to the DID collection for secondary uses of the data; however they may not be available in all configurations of RIS and/or may not be available for each record. For instance not all RISs capture NHS Number Status, which may be available in the PAS but not all RISs are connected to the PAS. Another example is availability of Date of Report Issue. This may not be captured in the RIS for all records, for instance where the reporting is carried out by a specialist outside of the radiology department.

4.1.3. Further information about these 18 fields can be found in Annex 2 *Diagnostic Imaging Dataset Data items* and in the DID submitters guidance, available at the DID submission website under the guidance section.

4.1.4. These hard and soft validations help to ensure that the data are fit for purpose. However, not all validations were fully applied from the start of the collection and some earlier data may not meet current validation rules. Information on data field completeness in Table C shows where required data were missing or invalid.

4.1.5. The validations built into the DID system cannot ensure that organisations submit all the activity they carry out. There is a dependency on the data provider to upload all records within their RIS relating to NHS funded patients. The data collection team at NHS England are continuing to support data providers to upload all the required data and are encouraging submitters to use default codes for GP practices and trust sites if they do not have valid data.

4.2. Organisation Coverage

4.2.1. Any organisation in England with a RIS that carries out imaging activity on NHS funded patients is required to submit to the DID. There were up to 165 submitter organisations listed for 2022/23.

4.2.2. Data for the monthly publications are extracted from the DID data warehouse around the 28th of the third month after the period for provisional data and of the sixth month for finalised data. These periods give time for records to be completed, e.g. adding report times, and for any problems to be resolved before the final submission deadline.

4.2.3. The finalised data had 98.4% coverage of providers in terms of monthly data submissions, compared with 99.9% in 2021/22. Table B shows the coverage by month. In total, 19 providers failed to submit all or any records for at least one month of 2022/23, see Section 4.3 for details. The overall shortfall from these missing submissions is estimated to be around 1.1 million imaging

records, or 2.5% of the total submitted. NHS England are working with providers to resolve submission issues.

Table B: Count and proportion of providers with data in final monthly extracts

2022/23	Submitted	Missing	Submitted %
April	163	0	100.0%
May	162	0	100.0%
June	163	1	99.4%
July	162	2	98.8%
August	160	4	97.6%
September	161	3	98.2%
October	159	5	97.0%
November	160	4	97.6%
December	162	2	98.8%
January	160	3	98.2%
February	158	4	97.5%
March	159	3	98.1%

Note: The provider list is reviewed throughout the year so the number of expected providers may vary.

4.3. Data Quality Issues

4.3.1. Throughout the year 2022/23, a number of submission and data quality issues were investigated and mostly corrected. However, the following were outstanding in the finalised data.

Variations in reported activity

4.3.2. Although monthly data was submitted for all imaging providers during 2022/23, the following gaps and data quality issues were noted:

a) Activity not fully submitted or misrepresented:

- Buckinghamshire Healthcare NHS Trust (RXQ) did not report any activity from January to March 2023, resulting in an estimated shortfall of 75,000 records.
- East and North Hertfordshire NHS Trust (RWH) did not report activity for the second half of August 2022, resulting in an estimated shortfall of 13,000 records.
- Frimley Health NHS Foundation Trust (RDU) did not report any activity for June or July 2022, resulting in an estimated shortfall of 90,000 records.
- Gloucestershire Hospitals NHS Foundation Trust (RTE) did not report any activity for February 2023, resulting in an estimated shortfall of 35,000 records.
- Healthshare Diagnostics (NYR) submitted extra Ultrasound activity in November 2022 and February 2023, including abdominal US, that suggests a shortfall in adjacent months.
- Lewisham and Greenwich NHS Trust did not report activity for its Queen Elizabeth Hospital (RJ231) site in April 2022, resulting in an estimated shortfall of 19,000 records.

- Medway NHS Foundation Trust (RPA) did not report any activity for August or December 2022, resulting in an estimated shortfall of 45,000 records.
- North Cumbria Integrated Care NHS Foundation Trust (RNN) did not report any activity from October 2022 to March 2023, resulting in an estimated shortfall of 150,000 records.
- North Middlesex University Hospital NHS Trust (RAP) did not report any activity from September to November 2022, resulting in an estimated shortfall of 50,000 records.
- Northern Care Alliance NHS Foundation Trust (RM3) did not report any activity for July, August, October, or November 2022, resulting in an estimated shortfall of 240,000 records.
- Portsmouth Hospitals University National Health Service Trust (RHU) did not report any activity for August 2022, resulting in an estimated shortfall of 30,000 records.
- Royal Berkshire NHS Foundation Trust (RHW) did not report any activity for February 2023, resulting in an estimated shortfall of 25,000 records.
- Southport and Ormskirk Hospital NHS Trust (RVY) did not report any activity for August 2022, resulting in an estimated shortfall of 12,000 records.
- St George's University Hospitals NHS Foundation Trust (RJ7) did not report any activity for October or November 2022, resulting in an estimated shortfall of 65,000 records.
- Stockport NHS Foundation Trust (RWJ) did not report any activity for September 2022, resulting in an estimated shortfall of 20,000 records.
- Tameside and Glossop Integrated Care NHS Foundation Trust (RMP) did not report any activity for September 2022, resulting in an estimated shortfall of 15,000 records.
- The Royal Marsden NHS Foundation Trust (RPY) did not report any activity for the last two weeks of March 2023, resulting in an estimated shortfall of 4,000 records.
- University Hospitals of Leicester NHS Trust (RWE) did not report activity for the first half of August 2022 or any activity for January 2023, resulting in an estimated shortfall of 65,000 records.
- University Hospitals Dorset NHS Foundation Trust (R0D) did not report any activity for October 2022 or March 2023 or full activity for its Royal Bournemouth Hospital (R0D02) site from April to November 2022, resulting in an estimated shortfall of 150,000 records.
- The Royal Orthopaedic Hospital NHS Foundation Trust (RRJ) submitted records of images acquired elsewhere from October 2022 to March 2023, resulting in an excess of 6,000 records.

b) Patient source setting incorrectly labelled:

- Gateshead Health NHS Foundation Trust (RR7) used the 'Other' patient source setting instead of GP Direct access from April to December 2022.
- Northampton General Hospital NHS Trust (RNS) used the 'Other' patient source setting for all records in July, October and March, that should be from a variety of sources.

- The Royal Orthopaedic Hospital NHS Foundation Trust (RRJ) used the 'Other' patient source setting for duplicate records of images acquired elsewhere from October 2022 to March 2023.
- High proportions of ‘Other’ patient source setting might indicate use of a default. Details are given in the Table 11 2022/23 Provider count of Imaging Activity by Modality and Patient source setting.

c) Referral to test time missing:
The following providers did not submit dates when the test was requested or the request received by the Trust in 2022/23 for the number of cases shown, so their referral to test waiting times are missing:

- Blackpool Teaching Hospitals NHS Foundation Trust (RXL): 100,000 (35%) missing.
- County Durham and Darlington NHS Foundation Trust (RXP): 214,000 (53%) missing.
- Sheffield Children's NHS Foundation Trust (RCU): 29,000 (67%) missing.
- University Hospitals of Morecambe Bay NHS Foundation Trust (RTX): 183,000 (60%) missing.
- Whittington Health NHS Trust (RKE): 202,000 (100%) missing.

d) Report turnaround time missing:
The following providers did not submit test report dates in 2022/23 for the number of cases shown, so their report turnaround times are missing:

- Alliance Medical (NT9): 59,000 (25%) missing.
- Dorset County Hospital NHS Foundation Trust (RBD): 91,000 (69%, including 100% for eight months) missing.
- East Kent Hospitals University NHS Foundation Trust (RVV): 108,000 (19%) missing.
- University Hospitals of North Midlands NHS Trust (RJE): 180,000 (32%) missing.
- Whittington Health NHS Trust (RKE): 202,000 (100%) missing.
- Wye Valley NHS Trust (RLQ): 165,000 (100%) missing.

e) Other fields missing:

- Birmingham Women's and Children's NHS Foundation Trust (RQ3) did not report gender for most activity at the Women’s hospital site during 2022/23.
- Dorset County Hospital NHS Foundation Trust (RBD) did not report gender or age for activity in May 2022.
- Kleyn Healthcare (NFO) did not submit patient postcode for any of its activity in 2022/23.
- Further information on missing data for fields used to impute the ICB responsible for the patient and to standardise rates across ICBs for differences in the age, sex and postcode-derived deprivation distribution of their populations is given in Annex 4.

4.3.3. The DID Guidance notes for submitters (available from the link at Section 8.3) state that there should be one record per examination, with the most complex

procedure code applied. However, it appears that some providers report multiple records for complex activity that is not readily described by a single or dominant code. This may therefore affect comparisons of reported activity between providers for imaging that is described by multiple codes.

Duplicate records and archived errors

4.3.4. Each DID record needs a unique identifier so that it can be revised, for example to update the test report date of a record originally submitted before this was known. Within each RIS, every record should have an accession number which is unique to each test and reported to the DID. However, for some organisations this field was not available consistently. This led to two or more records being submitted with the same accession number (overwriting the earlier ones as archive errors) or the same record being submitted twice with different accession numbers (creating duplicates). The volume of such errors is small in 2022/23.

4.4. Data field completeness

4.4.1. Only five data fields (in addition to accession number) are mandatory (see Table A for details), whilst all other fields can be left blank if the data is not available. However, missing data fields affect the analysis of the data and the completeness of results.

4.4.2. Table C gives the percentage of records that contain each of the listed data items in 2022/23, with comparisons from earlier DID years. In this table, the values “not known”, “not applicable” etc. are acceptable values for certain data items, as outlined in Table A above. However, submitters with a high proportion of these codes are encouraged to start using known values as this can greatly affect the usability of their data.

Table C: Percentage of records with a given field[1]

Field	Status	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
NHS Number	M*	96.0%	97.0%	100.0%	98.1%	98.8%	98.6%	99.1%	99.1%	99.2%	99.3%	99.3%
NHS Number Status Description:	R	44.2%	47.3%	49.8%	51.2%	62.0%	67.7%	71.1%	76.7%	76.3%	77.5%	79.6%
Number not present, trace not required	-	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.3%	0.2%	0.2%	1.1%
Number present and verified	-	35.2%	36.8%	37.4%	38.1%	45.5%	51.7%	54.2%	58.1%	58.1%	59.4%	59.5%
Number present but not traced	-	7.7%	9.1%	10.5%	11.0%	14.3%	14.1%	15.1%	16.6%	16.3%	16.0%	17.0%
Trace attempted - no match or multiple matches found	-	0.1%	0.1%	0.1%	0.4%	0.5%	0.8%	0.8%	0.9%	0.8%	0.7%	1.1%
Trace in progress	-	0.2%	0.3%	0.5%	0.5%	0.7%	0.4%	0.2%	0.2%	0.4%	0.5%	0.3%
Trace to be resolved - (NHS No. or patient detail conflict)	-	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Trace postponed (baby < six weeks old)	-	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Trace required	-	0.8%	0.9%	1.0%	1.0%	0.8%	0.6%	0.5%	0.5%	0.5%	0.5%	0.4%
Date of Birth	M*	97.9%	98.5%	98.4%	98.7%	99.8%	100.0%	99.9%	100.0%	99.9%	99.9%	99.9%
Ethnic Category Code	M*	87.7%	93.4%	92.6%	93.0%	94.8%	96.6%	95.5%	96.9%	97.0%	95.9%	96.6%
Ethnicity known/stated	-	73.7%	78.5%	78.3%	79.4%	80.5%	82.0%	80.9%	81.6%	82.3%	80.8%	80.7%
Gender Code	M*	97.4%	98.6%	98.5%	98.8%	99.7%	100.0%	100.0%	100.0%	100.0%	99.9%	100.0%
Gender known/stated	-	96.4%	97.8%	98.1%	98.3%	99.5%	99.8%	99.9%	99.3%	99.8%	99.5%	99.8%
MSOA (derived from Postcode of Patient Usual Address)	M*	94.5%	94.1%	94.5%	97.7%	97.6%	98.8%	99.3%	99.3%	99.5%	99.0%	99.6%
GP Code	M*	92.8%	92.2%	93.5%	95.2%	96.9%	98.6%	98.4%	98.3%	96.4%	94.7%	94.4%
Patient Source Setting	M	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Diagnostic Test Date Request	R	80.9%	81.3%	83.4%	85.7%	88.9%	91.3%	91.2%	92.0%	92.4%	92.9%	93.0%
Diagnostic Test Request Received Date	R	86.4%	85.2%	86.5%	87.8%	89.9%	91.2%	91.1%	91.3%	91.5%	92.7%	93.5%
Diagnostic Test Date	M	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Imaging Code SNOMED and/or NICIP	M	99.9%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
NICIP code used	-	96.9%	97.3%	97.3%	97.7%	97.6%	98.3%	98.4%	98.4%	98.3%	98.4%	97.9%
Service Report Issue Date	R	88.8%	88.2%	87.1%	87.1%	89.7%	91.6%	93.5%	93.8%	95.7%	93.1%	94.3%
Provider Site Code	M	99.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

1 This table does not include Referrer Code and Referrer organisation code.
Status: M = Mandatory; R = Required; M* = Mandatory for at least one of the fields marked with '*'

5. Revision of data

This revision protocol relates to the DID which is collected and disseminated by NHS England via a statistical notice 'Diagnostic Imaging Dataset Statistics'.

5.1. Revision Policy

All data collected may be revised.

5.1.1. This policy is consistent with the National Statistics Code of Practice and the Office for Statistics Regulation guidance on revisions.

Revisions to provisional estimates

5.1.2. DID statistics are published on a monthly basis as provisional and therefore subject to change. The provisional data are extracted from the database just over 3 months after the period. Submitters may continue to submit and refresh data on the DID dataset. Final data are extracted from the database 6 months after the period. The statistics were designated as experimental from 2012/13 to 2014/15.

Revisions to finalised estimates

5.1.3. Once data have been finalised, revisions will only be made in exceptional circumstances if not doing so would materially distort the historical time series.

Decisions about revisions

5.1.4. NHS England data collections team reserve the right to refuse any revisions that do not make material differences to published data. The normal pre-release procedure will apply to revisions.

Process for making revisions

5.1.5. Revisions can be made by resubmitting data to the DID system according to the timetable and guidance provided by NHS England. Revisions outside of this period can be requested by emailing NHS England contacts given at the DID submission website.

6. Related Statistics

6.1. Other sources

6.1.1. NHS England produce other statistics relating to diagnostic test activity and waiting times through the *Monthly Diagnostics Waiting Times and Activity* return (DM01), which collects waiting times and activity for 15 key diagnostic tests and procedures. Further information and data can be accessed via the NHS England website.

6.1.2. A comparison between DID data and that from the DM01 and KH12 returns is available for 2013/14 in Diagnostic Imaging Activity Comparisons 2013/14.

6.1.3. NHS England has produced DID data linked to Hospital Episodes Statistics (HES). For more information see NHS Digital legacy page[1].

6.2. Devolved Administrations

6.2.1. The DID includes data about imaging activity carried out in England on NHS funded patients. It does not contain information about imaging activity carried out on NHS funded patients in the devolved administrations. Similar data is not collected and published by the devolved administrations.

7. Uses of the data

7.1.1. Data are collected to meet the following needs:

- To provide national data on GPs' direct access to tests, as well as tests requested via other referral sources.
- To provide more detailed national data than is otherwise available on test type (modality), body site of test and patient demographics.
- To enable analysis of demographic and geographic access to diagnostic imaging tests.
- To enable analysis of turnaround times for tests, in particular test to report times which are not reported elsewhere.
- To enable better analysis of cancer pathways by linking Cancer Registry data to diagnostic imaging test data for cancer patients.
- To allow UK Health Security Agency to calculate more accurate estimates of the distribution of individual radiation dose estimates from medical exposures.
- To inform work on development of accurate tariffs for all diagnostic imaging tests.
- To replace the annual KH12 dataset (the former *Annual Imaging and Radiodiagnostics data collection*, which collected data on the number of imaging and radiological examinations or tests carried out during the year).
- To link to other health data sets to examine patient pathways from symptoms to treatment.

7.1.2. Due to scope and definitional requirements, the data are not directly comparable with '*Diagnostic Test Waiting Time Statistics'*.

[1] The monthly HES-DID linkage reports are no longer produced by NHS England but the linked data are still available.

8. Contact Us

8.1. Feedback

We welcome feedback on this publication. Please contact us at england.did@nhs.net.

8.2. iView

NHS Digital previously allowed health sector colleagues to access DID information through their web-based reporting tool, iView, but this tool has now been withdrawn.

8.3. Websites

NHS England collects the DID. Further information about the dataset can be found on the NHS Digital legacy DID website.

Those who submit data to DID do so via a secure submission portal. Further information about submissions can be found on the DID submission website.

DID data and annexes can be found on the NHS England DID website (www.england.nhs.uk/statistics/statistical-work-areas/diagnostic-imaging-dataset/).

8.4. Additional Information

For press enquiries contact the NHS England Media team on 0113 825 0958 or 0113 825 0959. Email enquiries should be directed to nhsengland.media@nhs.net

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9. Annexes

Annex 1 – DID Exam Lookup Table Modality version 1
Annex 2 – DID Data items table
Annex 3 – DID Activity of excluded Modalities
Annex 4 – DID Standardised ICB Rates 2022/23