

# Diagnostic Imaging Dataset

## 2017/18 Technical Report



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## Glossary of Terms

Acronym	Full name
DID	Diagnostic Imaging Dataset
HES	Hospital Episodes Statistics
NHS Digital	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

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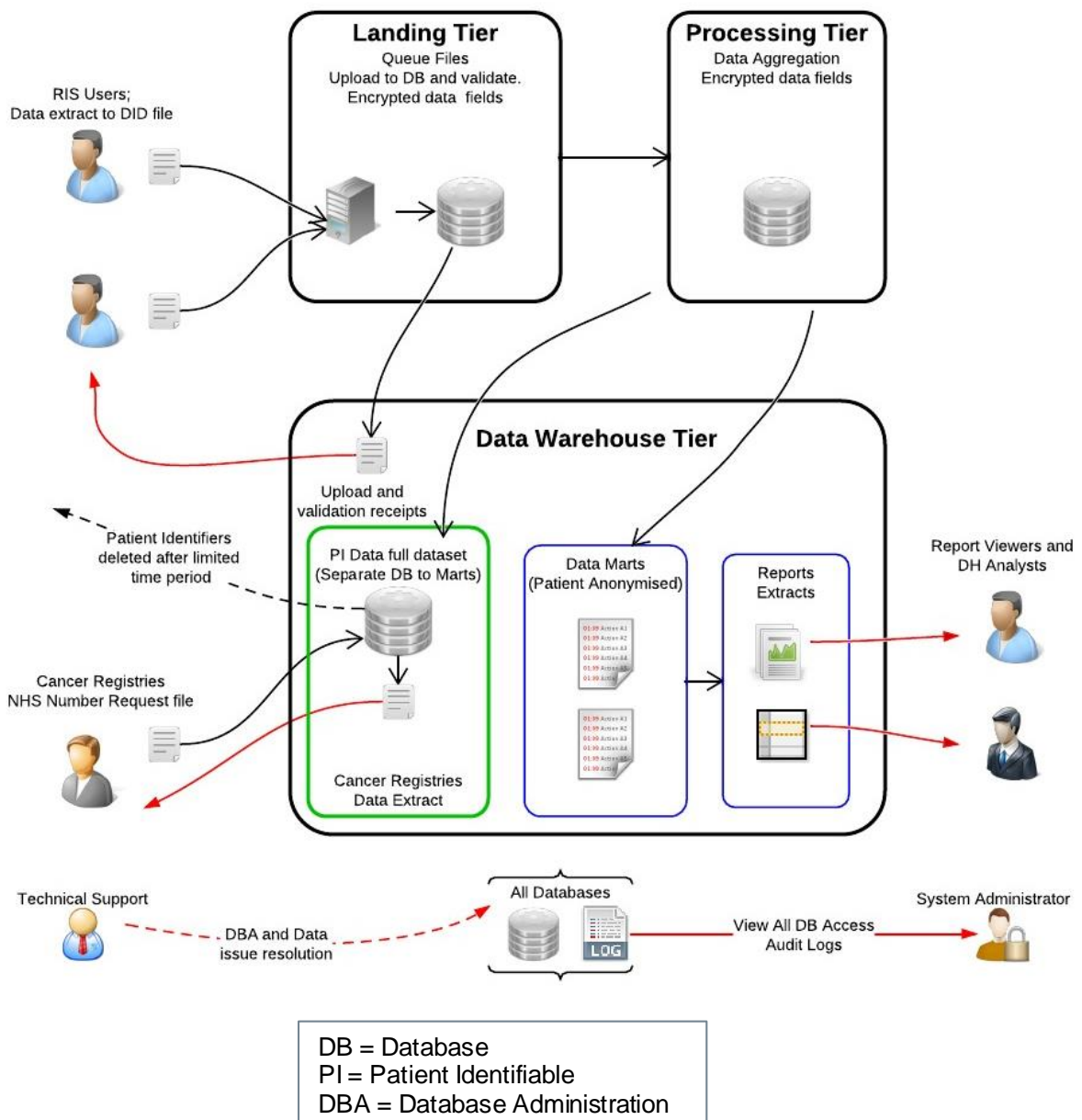
## 1 Introduction

- 1.1.1. On 22<sup>nd</sup> November 2018, NHS England released an Annual Diagnostic Imaging Dataset publication that finalised 2017/18 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 NHS Digital 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 Digital. NHS Digital 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. Non-PI data are held in a database used for reporting (and eventually querying, using a tool called iView) by all other end-users of the data.

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 Digital 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 Terminology Centre of NHS Digital. 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 by NHS Digital to map local codes to the relevant NICIP code (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 non-NHS UK provider where no organisation site code has been issued).

3.2.2. Clinical Commissioning Group (CCG) is derived primarily from the GP Practice of the patient, but where this was missing in 2017/18, CCG was derived from Lower Super Output Area (LSOA) based on patient postcode instead. In 2017/18, 95.4% activity had a CCG based on GP Practice, a further 0.5% had a non-English or other valid GP Practice (commissioning hub, etc.), 3.8% had a CCG 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 ('SCT\_ID' for code and 'SCT\_FSN' for description) to impute modality (type of test), laterality (side of the body), region (part of the body), etc. of the imaging test and whether it has use for early diagnosis of cancer. 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.

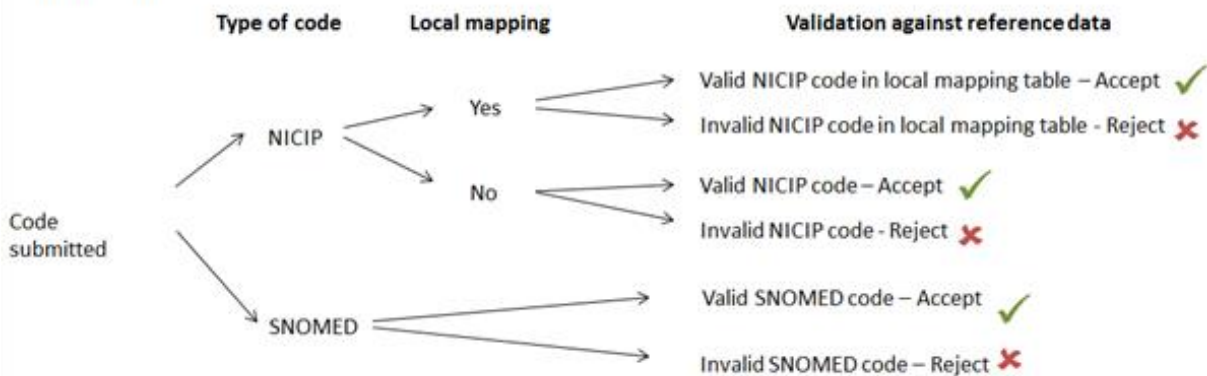
3.2.5. A modality is a broad procedure type based on NICIP or SNOMED codes provided in the DID data submission. The main modalities for the DID are: Plain Radiography (X-ray), Diagnostic Ultrasonography (Ultrasound), Computerized Axial Tomography (CT Scan), Magnetic Resonance Imaging (MRI), Fluoroscopy, Medical Photography, Nuclear Medicine, Position



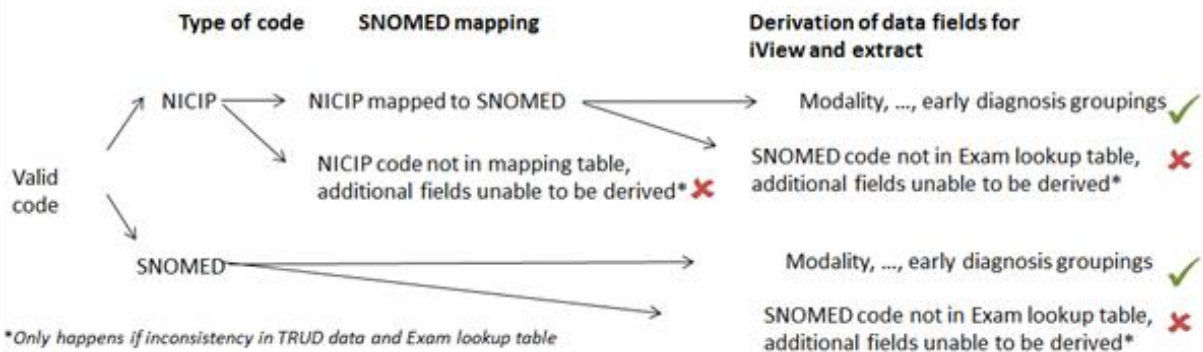
Emission Tomography - Computer Tomography (PET-CT Scan) and Single Photon Emission Computerized Tomography (SPECT Scan). These aggregations are fully described in the lookup table provided at Annex 1. Each modality describes a group of codes with a common set of characteristics, for example, Fluoroscopy - a collection of codes mentioning fluoroscopy or using fluoroscopic guidance, Barium enema or swallow.

**Figure 2.**

**Submission validation:**



**Information derived from exam codes:**



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, Cone Beam and that without a modality, 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 is scheduled to be updated twice a year to coincide with the national release of updates of the coding frames used in DID. The updates are released in April and October and the Exam code look-up table is generally updated as close to this release as possible. The current version used to map SNOMED codes to modalities and other categories is version 19, which was uploaded in October 2018.

## **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.

4.1.2. 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: <ul style="list-style-type: none"> <li>• before or equal to "Date of test", and</li> <li>• before Today, and</li> <li>• before or equal to "Date test report issued"</li> </ul>
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: <ul style="list-style-type: none"> <li>• before or equal to "Date test request received"</li> </ul>
Date test request received	R	Must be given in the format CCYY-MM-DD. It must be <ul style="list-style-type: none"> <li>• equal to or after "Date of test request"</li> </ul>
Date of test	M	Must be given in the format CCYY-MM-DD. It must be: <ul style="list-style-type: none"> <li>• no earlier than "Date of test request", and</li> <li>• no earlier than "Date test request received", and</li> <li>• no later than "Date test report issued."</li> </ul> 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 '\*\*'

- 4.1.3. Each data item is either Mandatory (M) or Required (R). Excluding a data field which is a mandatory field 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.
- 4.1.4. 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](#).
- 4.1.5. 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.
- 4.1.6. 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 Digital 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 178 submitter organisations listed for 2017/18, relating to 175 provider organisations.
- 4.2.2. The finalised data had 100% coverage of providers in terms of data submissions made (although not necessarily the completeness of submissions – see Section 4.3), up from an average of 97.3% in the provisional data. Table B shows the change in coverage each month.

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

Month	Provisional			Final		
	Submitted	Missing	Submitted %	Submitted	Missing	Submitted %
April	166	6	96.5%	171	0	100.0%
May	169	4	97.7%	172	0	100.0%
June	169	4	97.7%	171	0	100.0%
July	161	12	93.1%	170	0	100.0%
August	166	7	96.0%	170	0	100.0%
September	167	4	97.7%	169	0	100.0%
October	166	3	98.2%	168	0	100.0%
November	164	3	98.2%	167	0	100.0%
December	164	3	98.2%	167	0	100.0%
January	164	3	98.2%	167	0	100.0%
February	164	3	98.2%	167	0	100.0%
March	164	3	98.2%	167	0	100.0%

Note: The provider list is reviewed throughout the year so the number of expected providers may differ between the provisional and final publications.

4.2.3. 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 submission deadline on 26<sup>th</sup> of the month. Any data submitted after this date may not be included in the publication but would be available in the iView tool. In 2017/18, this includes data for the following providers that is missing in the published report:

- Brighton and Sussex University Hospitals NHS Trust (RXH) have 1,140 imaging tests missing for August 2017.
- Surrey and Sussex Healthcare NHS Trust (RTP) does not have any test report issued date for records in October 2017. This caused the days between test to report issued to be labelled as unknown.

### 4.3. Data Quality Issues

4.3.1. Throughout the year 2017/18, several data quality issues were investigated and mostly corrected. The following were outstanding in the finalised data.

#### Variations in reported activity

4.3.2. In addition to the missing data for certain providers listed at 4.2.3 above, some submissions had the following data quality issues:

- a) Activity not fully submitted:
  - Alliance Medical (NT9) had a shortfall of around 350-400 tests in their data for November 2017 to January 2018, due to registering new provider sites which could not be added in time.

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- Great Western Hospitals NHS Foundation Trust (RN3) had a shortfall in reported imaging activity throughout 2017/18, due to unresolved reporting issues.
  - Isle of Wight NHS Trust (R1F) had a shortfall in reported activity across 2017/18 due to processing errors. A total of 26,465 imaging scans were omitted from DID.
  - King's College Hospital NHS Foundation Trust (RJZ) had a shortfall in their data in May-17 which is unexplained.
  - Kingston Hospital NHS Foundation Trust (RAX) had a small shortfall in their data in August 2017, due to omission of two provider sites.
  - Northern Lincolnshire and Goole NHS Foundation Trust (RJL) had a shortfall in their submitted activity throughout 2017/18 due to excluding all activity where the test report was issued on the day of the test. This resulted in 173,820 imaging scans being omitted from DID in 2017/18.
  - Royal Surrey County Hospital NHS Foundation Trust (RA2) had a 50% shortfall in activity in April 2017, due to extraction errors.
  - Sherwood Forest Hospitals NHS Foundation Trust (RK5) had a shortfall in reported X-ray activity from July to September 2017. A total of 9,500 X-ray scans were omitted from DID over the three months.
  - Southport and Ormskirk Hospital NHS Trust (RVY) had a shortfall in submitted imaging activity from April to October 2017, due to issues with the reporting procedure.
  - Sussex Community NHS Foundation Trust (RDR) had a shortfall in their data throughout 2017/18, due to the omission of provider sites.
  - The Queen Elizabeth Hospital, King's Lynn, NHS Foundation Trust (RCX) had a shortfall in reported activity for some modalities in 2017/18 due to an error arising from an upgrade to the RIS system and omission of provider sites. A total of 30,185 imaging scans were omitted from DID over the 12 months, of which 23,950 were ultrasound scans (mainly August onward) and 1,720 were MRI (May to July 2017).
  - University Collect London Hospitals NHS Foundation Trust (RRV) had a shortfall in activity in June 2017 relating to nuclear medicine imaging, PET-CT and SPECT-CT, amounting to around 530 scans.
- b) Test report issued date not correctly submitted:
- Bart's Health NHS Trust (R1H) erroneously reported all imaging activity as having the test and test report issued on the same day for two of their provider sites from April to September 2017 and for all provider sites in October 2017, due to an extraction error.
  - Bradford Teaching Hospitals NHS Foundation Trust (RAE) only submitted test report issued dates for February 2018. The report issued date was missing from records in all other months in 2017/18 due to a misunderstanding.
  - Salford Royal NHS Foundation Trust (RM3) reported delayed test report issued dates for medical photography in January to February 2018. Although correct, the delay reflects administrative sign-off not reporting as such.

- Surrey and Sussex Healthcare NHS Trust (RTP) did not submit a test report issued date for any records from April to September 2017, due to a submission error that could not be corrected in time.

c) Patient source setting incorrectly labelled:

- Barking, Havering and Redbridge University Hospitals NHS Trust (RF4) incorrectly apportioned activity from January to March 2018 between patient source settings due to a change in reporting procedure.
- South Tyneside NHS Foundation Trust (RE9) did not assign any activity referred from an inpatient setting or GP with the correct patient source setting in March-18 (default 'Other' used).

d) Incorrect provider code:

- Norfolk and Suffolk NHS Foundation Trust (RMY) had an imaging scan recorded in August 2017. This site code was used in error by West Suffolk NHS Foundation Trust (RGR) and was excluded from the published report.

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. During 2016 it came to light 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**

4.3.1. 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 Princess Alexandra Hospital NHS Trust (RQW) erroneously archived 1,760 records from August and September 2017 after the 2017/18 DID data was finalised, reducing the data available in the iView tool. The volume of duplicates is generally thought to be small.

## **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 2017/18, with comparisons from earlier DID years. In this table, the values "not known", "not applicable" etc. are acceptable values for certain data



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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<sup>1</sup>**

Field	Status	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
NHS Number	M*	96.0%	97.0%	100.0%	98.1%	98.8%	98.6%
NHS Number Status Description:	R	44.2%	47.3%	49.8%	51.2%	62.0%	67.7%
Number not present, trace not required	-	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Number present and verified	-	35.2%	36.8%	37.4%	38.1%	45.5%	51.7%
Number present but not traced	-	7.7%	9.1%	10.5%	11.0%	14.3%	14.1%
Trace attempted - no match or multiple match found	-	0.1%	0.1%	0.1%	0.4%	0.5%	0.8%
Trace in progress	-	0.2%	0.3%	0.5%	0.5%	0.7%	0.4%
Trace needs to be resolved - (NHS Number or patient detail conflict)	-	0.1%	0.0%	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%
Trace required	-	0.8%	0.9%	1.0%	1.0%	0.8%	0.6%
Date of Birth	M*	97.9%	98.5%	98.4%	98.7%	99.8%	100.0%
Ethnic Category Code	M*	87.7%	93.4%	92.6%	93.0%	94.8%	96.6%
Ethnicity known/stated	-	73.7%	78.5%	78.3%	79.4%	80.5%	82.0%
Gender Code	M*	97.4%	98.6%	98.5%	98.8%	99.7%	100.0%
Gender known/stated	-	96.4%	97.8%	98.1%	98.3%	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%
GP Code	M*	92.8%	92.2%	93.5%	95.2%	96.9%	98.6%
Patient Source Setting	M	99.9%	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%
Diagnostic Test Req Rec Date	R	86.4%	85.2%	86.5%	87.8%	89.9%	91.2%
Diagnostic Test Date	M	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%
NICIP code used	-	96.9%	97.3%	97.3%	97.7%	97.6%	98.3%
Service Report Issue Date	R	88.8%	88.2%	87.1%	87.1%	89.7%	91.6%
Provider Site Code	M	99.0%	100.0%	100.0%	100.0%	100.0%	100.0%

<sup>1</sup> 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 Policy

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



**All data collected may be revised.**

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

**Revisions to provisional estimates**

- 5.1.3. 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**

- 5.1.4. Once data have been finalised, revisions will only be made in exceptional circumstances if not doing so would materially distort the historical time series. Currently, the iView dataset may incorporate revisions made after the data were finalised for publication, but these are generally minimal and do not affect the final published data.

**Decisions about revisions**

- 5.1.5. NHS England and NHS Digital 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**

- 5.1.6. Revisions can be made by resubmitting data to the DID system according to the timetable and guidance provided by NHS Digital. Revisions outside of this period can be requested by emailing NHS Digital 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 three collections:
- The *Monthly Diagnostics Waiting Times and Activity* return (DM01) collects data on waiting times and activity for 15 key diagnostic tests and procedures.
  - The *Quarterly Diagnostics Waiting Times* census collects data on patients waiting over 6 weeks for a diagnostic test. This collection may be discontinued pending the outcome of a 2018 consultation.
  - The *Annual Imaging and Radiodiagnostics data* collection (KH12) collected data on the number of imaging and radiological examinations or tests carried out during the year. This collection was discontinued after the 2013/14 publication following a consultation which concluded that DID data, if suitably processed, could fulfil the requirements of KH12 without the need for a separate return.

- 6.1.2. Further information and data can be accessed via the [NHS England website](#).
- 6.1.3. 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](#).
- 6.1.4. Currently NHS Digital produce DID data linked to Hospital Episodes Statistics (HES). For more information see [NHS Digital](#)<sup>1</sup>.

## 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 Public Health England 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.
- To link to other health data sets to examine patient pathways from symptoms to treatment.

- 7.1.2. However, there are limitations to how the data can be used. For example, users should exercise caution when considering time series since:

- At a national level, there are variations in coverage from month to month.
- At a provider level there are some instances of high levels of variation from month to month which are unlikely to reflect genuine changes in activity.

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<sup>1</sup> The monthly HES-DID linkage reports are no longer produced by NHS Digital but the linked data are still available.

- 7.1.3. Due to scope and definitional requirements, the data are not directly comparable with 'Diagnostic Test Waiting Time Statistics'.
- 7.1.4. Due to data quality issues discussed in this report, the statistics published should **not** be used for performance monitoring at this time. However, in the future these statistics may be appropriate for this use.

## 8. Contact Us

### 8.1. Feedback

We welcome feedback on this publication. Please contact us at [england.did@nhs.net](mailto:england.did@nhs.net).

### 8.2. iView

NHS Digital allow health sector colleagues to access DID information through their web-based reporting tool, iView. Registered users may access anonymised data at aggregate level in a consistent and flexible format:

- **Access Information** – choose from a variety of data areas.
- **Build Reports** – select data to suit their needs.
- **Generate Charts** – customise report tables and graphs.
- **Export Data** – copy to Excel and manipulate data.
- **Save Reports** – store favourite views for future use.

If you would like to register to use iView for DID, please email [enquiries@nhsdigital.nhs.uk](mailto:enquiries@nhsdigital.nhs.uk) (subject: DID iView Access). For more information, please visit the [iView website](#).

### 8.3. Websites

NHS Digital collects the DID on behalf of NHS England. Further information about the dataset can be found on [NHS Digital 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/](http://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](mailto:nhsengland.media@nhs.net)

## OFFICIAL

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## 9. Annexes

Annex 1 – DID Lookup Table Version 19  
Annex 2 – DID Data items table  
Annex 3 – DID Activity of excluded Modalities  
Annex 4 – DID Standardised CCG Rates 2017/18