**Classification: Official** 



# Diagnostic Imaging Dataset Annual Statistical Release 2021/22

Version 1, 15<sup>th</sup> December 2022

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## **1** Introduction

The Diagnostic Imaging Dataset (DID) is a monthly data collection covering data on diagnostic imaging tests on NHS patients in England. It provides estimates of GP usage of direct access to key diagnostics tests for cancer, for example chest imaging, non-obstetric ultrasound and Brain MRI.

The DID was introduced to monitor progress on *Improving Outcomes: A Strategy for Cancer*<sup>1</sup>. This strategy set out how the Government, NHS and public can help prevent cancer, improve the quality and efficiency of cancer services and move towards achieving outcomes that rival the best. One aspect of that is to ensure that GPs have access to the right diagnostic tests to help them to diagnose or exclude cancer earlier. The DID therefore reports on imaging activity, referral source and timeliness.

These data are collated from Radiology Information Systems (RISs), which are hospital administrative systems used to manage the workflow of radiology departments, and uploaded into a database maintained by NHS Digital.

This publication finalises estimates of imaging activity in 2021/22.

<sup>&</sup>lt;sup>1</sup> <u>Improving Outcomes: A Strategy for Cancer</u>, first published 12 January 2011. The cancer strategy was subsequently part of the NHS Long Term Plan, see <u>https://www.longtermplan.nhs.uk/online-version/chapter-3-further-progress-on-care-quality-and-outcomes/better-care-for-major-health-conditions/cancer/</u>.

## 2 Headline Messages

#### For all imaging activity:

- 44.0 million imaging tests were reported in England in the year to March 2022, compared with 34.9 million in the previous year, an increase of 26%. This rise reflects recovery from the impact of the COVID-19 pandemic, which significantly affected services from mid-March 2020.
- Plain Radiography (X-ray) was most common with 21.8 million procedures (up 30% from 2020/21), followed by Diagnostic Ultrasonography (Ultrasound, (10.1 million, up 23%), Computerized Axial Tomography (CT Scan, 6.7 million up 21%) and Magnetic Resonance Imaging (MRI, 3.8 million, up 28%).
- The median period between the request being made and the test being performed varied from the same day for X-ray, Fluoroscopy and Medical Photography up to 21 days for MRI scans in 2021/22.
- Across all types of imaging, emergency admissions and inpatients have shorter waits than outpatients and referrals made under GP direct access arrangements.
- The median period from a test being performed to the report being issued varied from the same day for CT scan, Ultrasound, Fluoroscopy and Medical Photography up to 3 days for MRI in 2021/22 (up from 2 days in 2020/21).

# For the key tests<sup>2</sup> Chest X-ray or CT, Brain MRI and Non-obstetric Ultrasound of the Abdomen and/or pelvis or Kidney/bladder:

- In 2021/22, GPs requested 24% of all tests that may have been used to diagnose or discount cancer, under direct access arrangements. This increase from 18.2% in 2020/21 was seen for all tests and reflected the recovery of activity following the impact of the COVID pandemic
- The test most commonly requested by GPs was Chest X-ray with 1.8 million tests (up 67% from 2020/21), whilst the test with the highest proportion of GP referrals was Ultrasounds that may have been used to diagnose ovarian cancer, 46% of which were requested by GPs in 2021/22.
- The median period between the request being made and the test being performed was higher in 2021/22 than in 2020/21 for all of the key tests under GP direct access arrangements except Chest X-ray, reflecting the recovery of non-urgent activity following the impact of the COVID-19 pandemic.

<sup>&</sup>lt;sup>2</sup> Although these tests are used to diagnose cancer, many of the tests also have wider clinical uses. Within this dataset it is not possible to distinguish the different uses of these tests.

## **3 Annual Imaging Activity**

## 3.1 Imaging Activity by modality

- 3.1.1. 44.0 million imaging tests were reported in England in the year to March 2022, compared with 34.9 million in the previous year, an increase of 26%. This rise reflects recovery from the impact of the COVID-19 pandemic, which significantly affected services from mid-March 2020.
- 3.1.2. Plain Radiography (X-ray) had the biggest share of all tests performed during the year, with 21.8 million X-rays reported in 2021/22 (up 30% from 2020/21). The next most common procedures were Ultrasound (10.1 million, up 23%), CT scans (6.7 million, up 21%) and MRI Scans (3.8 million, up 28%). All other modalities also increased in 2021/22: Fluoroscopy by 23%, Nuclear Medicine by 22%, SPECT by 39%, PET-CT scans by 20% and Medical Photography by 11%. Table 1 shows the imaging counts and growth for each modality.
- 3.1.3. December 2021 was the month with least reported activity during 2021/22, at 3.5 million tests, whilst March 2022 had the most, at 4.0 million. This reflects both a seasonal effect, including the number of weekdays in the month, and ongoing recovery of activity disrupted by the COVID-19 pandemic from March 2020 and continuing into 2021/22. Graph 1 shows this seasonal fluctuation overall and by modality.

Further information on the tests included in these tables is given in the glossary at Section 6.3.

Monthly breakdowns of activity by modality, provider and referral source setting are given in Tables 1 - 6 (separate excel files), available from <u>NHS England DID website</u>.

	X-ray	Ultrasound	CT Scan	MRI	Fluoro- scopy	Nuclear Medicine	PET-CT Scans	SPECT Scans	Medical Photography	% organisations included	Total <sup>1</sup>
<b>2012/13</b> <sup>2</sup>	21.195.275	7.807.695	3.474.970	2.352.090	1.061.980	439.470	71.485	19.205	6.090	93.6%	36.428.260
2013/14	21,845,725	8,176,945	3,825,130	2,617,110	1,051,370	444,830	75,650	21,370	10,525	97.8%	38,068,660
2014/15	22,637,935	8,596,590	4,210,630	2,898,465	1,023,720	436,505	89,245	27,690	16,180	99.2%	39,936,960
2015/16	22,572,915	8,919,015	4,461,975	3,085,065	1,043,980	428,400	97,990	32,080	23,945	99.6%	40,665,365
2016/17	22,908,620	9,351,480	4,815,890	3,358,485	1,057,115	427,145	132,745	36,075	31,225	99.7%	42,118,780
2017/18	22,908,795	9,507,560	5,146,475	3,464,010	1,025,330	417,460	154,270	40,015	37,550	100.0%	42,701,465
2018/19	23,467,930	10,161,965	5,665,930	3,743,995	1,034,025	421,650	177,330	45,365	52,875	99.8%	44,771,065
2019/20	23,150,820	10,261,890	5,959,860	3,811,415	1,001,770	396,350	199,585	45,110	57,650	99.9%	44,884,450
2020/21	16,815,875	8,221,710	5,574,475	3,008,970	745,385	269,350	200,175	33,180	51,305	100.0%	34,920,420
2021/22	21,780,645	10,075,110	6,720,535	3,845,155	916,335	328,235	239,400	46,270	56,950	99.9%	44,008,635
% Change <sup>3</sup>	29.5%	22.5%	20.6%	27.8%	22.9%	21.9%	19.6%	39.5%	11.0%	-0.1%	26.0%
					20	21/22					
Apr	1,751,420	817,485	536,790	298,130	74,705	25,680	18,605	3,300	5,115	100.0%	3,531,225
Мау	1,811,130	819,700	549,510	311,840	76,720	25,470	18,440	3,445	4,775	100.0%	3,621,030
Jun	1,931,755	882,385	560,400	322,065	84,300	29,010	20,590	3,980	4,845	100.0%	3,839,330
Jul	1,875,220	846,585	562,535	322,705	78,940	28,170	20,210	3,920	4,615	100.0%	3,742,910
Aug	1,754,390	790,235	548,325	313,800	72,690	26,485	18,455	3,705	4,270	100.0%	3,532,360
Sep	1,847,755	850,880	551,855	318,405	78,055	28,255	20,465	3,890	4,695	100.0%	3,704,255
Nov	1,020,323	887 170	560 025	330,050	74,755	27,360	21,100	4,000	4,760	99.4% 100.0%	3,004,110
Dec	1,602,405	794 485	550 685	329,490	79,000	29,520	20,495	3 815	4,770	100.0%	3 453 030
Jan	1.752.515	832.365	572.515	327,790	71.480	26,740	20.435	3.885	4.750	100.0%	3.612.475
Feb	1,713,435	,713,435 809,785 547,830 315,755		72,360	25,715	20,205	3,675	4,655	100.0%	3,513,405	
Mar	1,970,995	913,005	608,115	350,970	81,980	30,405	21,905	4,485	4,900	100.0%	3,986,765

#### Table 1: Count of NHS imaging activity in England, 2012/13 to 2021/22

Notes:

Totals do not always equal the sum of parts due to rounding.
 2012/13 was the first year of the DID collection and as such some of the changes since then may be due to improved coverage of the dataset.

3. % Change is between 2020/21 and 2021/22.





## 3.2 Imaging recovery

- 3.2.1. The COVID-19 pandemic started to impact NHS imaging service in England from March 2020, with the biggest reduction in April 2020. The reduction was greatest for elective activity, that is referrals arising from outpatient appointments or GP direct access. Referrals from A&E departments or for admitted patients<sup>3</sup> were generally less impacted, with some modalities contributing to COVID diagnostics.
- 3.2.2. The recovery of elective services took longer than that of non-elective imaging, as ongoing national and local lockdowns in both 2020/21 and 2021/22 slowed progress. By the end of 2021/22, most services had recovered close to the level of activity in 2019/20, with Plain radiography somewhat lower and CT considerably higher. Graph 2 shows activity by month from 2019/20 to 2021/22 for selected modalities, split by elective and non-elective request sources.

<sup>&</sup>lt;sup>3</sup> Analysis of admitted patient data suggests that imaging requests are most likely to be raised for patients admitted as an emergency, although some are elective or for other admission methods.



# Graph 2: NHS imaging activity, selected modalities by grouped Patient source setting, March 2019 to March 2022 compared with same months previous years

Notes

1. Elective referrals are from Outpatients or GP direct access; Non-elective are from A&E departments or all admitted patients.

## 3.3 Imaging Activity by Age and Gender

3.3.1. 7.3 million more tests were performed on females than on males in 2021/22. The largest differences occurred for Ultrasound procedures (4.9 million more on females) and for X-rays (2.1 million more). The rate of most imaging modalities increased markedly with age; the exception was Ultrasound, where the rate was highest for women aged 15 to 44. Most of the 2.1 million extra X-rays for females than males were attributable to demographic differences, especially the higher number of older women compared to older men. Conversely there were more CT, Fluoroscopy and PET-CT scans on males than females. Table 2 shows the age and gender of patients who have received diagnostic tests in 2021/22.

#### Table 2: NHS Imaging activity in England by gender and age, 2021/22

	X-ray	Ultrasound	CT Scan	MRI	Fluoro- scopy	Nuclear Medicine	PET-CT Scan	SPECT Scan	Medical Photography	Total <sup>1</sup>
Female Male	11,922,970 9,788,810	7,429,055 2,556,330	3,348,735 3,352,320	2,089,480 1,741,975	426,215 486,330	175,195 151,645	110,850 127,945	25,080 21,065	28,525 27,920	25,556,105 18,254,340
Not known / specified <sup>2</sup>	68,865	89,725	19,480	13,700	3,790	1,395	600	130	505	198,185
0.44	4 000 005	440 405	00.075	455.045	40,400	40.070	500	0.45	5.005	0.007.000
0 -14	1,963,025	446,195	62,975	155,215	49,420	13,970	580	345	5,635	2,697,360
15 - 44	5,033,105	5,120,320	1,102,710	1,117,210	153,110	49,435	22,230	9,190	8,660	12,615,970
45 - 59	4,418,585	1,859,745	1,323,090	1,024,770	200,120	69,985	50,765	8,490	8,085	8,963,635
60 - 74	5,267,490	1,547,790	1,992,270	1,007,665	286,250	112,680	102,330	15,525	13,270	10,345,270
75+	5,080,725	1,089,790	2,232,800	537,270	226,900	82,055	63,490	12,705	21,300	9,347,025
Not known	17,720	11,270	6,690	3,025	540	105	5	20	*	39,380

Notes:

 Totals do not always equal the sum of parts due to rounding.
 "Not Specified" means that the patient did not want to reveal their gender. "Not known" means that the patient's gender was recorded as "Not known" or else was not reported.

## 4 Patient Test Times

## 4.1 Patient Test Times – Request to test

- 4.1.1. The DID collects data on four dates for each imaging event:
  - Date of test request (made by a health care professional).
  - Date of test request received (by the organisation providing the imaging).
  - Date of test
  - Date of test report Issued (by a health care professional interpreting the imaging output).
- 4.1.2. This publication is based on all imaging which had a Date of test between April 2021 and March 2022.
- 4.1.3. There were big differences in the median period between the request being made (or received) and the test being performed for the different tests. The median ranged from the same day for X-Ray, Fluoroscopy and Medical Photography to 21 days for MRI scans. There was also variability within individual tests over the course of the year, see Table 3.

# Table 3: Median number of days between date of test request and date of test, by modality, April 2021 to March 2022

	X- ray	Ultra- sound	CT Scans	MRI	Fluoro- scopy	Nuclear Medicine	PET-CT Scans	SPECT Scans	Medical Photography
2012/13	0	13	2	23	0	15	8	14	0
2013/14	0	13	2	24	0	14	7	17	0
2014/15	0	13	2	24	0	15	8	15	0
2015/16	0	13	1	22	0	16	7	15	0
2016/17	0	13	1	22	0	16	7	17	0
2017/18	0	14	1	21	0	18	7	17	0
2018/19	0	14	1	21	0	19	8	18	0
2019/20	0	14	1	21	0	19	8	17	0
2020/21	0	10	1	16	0	16	8	13	0
2021/22	0	14	1	21	0	19	10	15	0
Apr	0	14	1	19	0	18	8	14	0
Мау	0	14	1	19	0	17	8	14	0
Jun	0	14	1	21	0	19	9	16	0
Jul	0	14	1	22	0	18	10	15	0
Aug	0	14	1	23	0	18	10	14	0
Sep	0	14	1	22	0	19	11	15	0
Oct	0	13	1	21	0	18	9	15	0
Νον	0	14	1	21	0	19	9	17	0
Dec	0	13	1	21	0	17	10	15	0
Jan	0	14	1	25	0	22	12	18	0
Feb	0	13	1	20	0	19	9	16	0
Mar	0	14	1	20	0	20	9	18	0

<u>Note:</u> Median values of 0 occur where at least 50% of activity has the same day for both 'date of test request' and 'date of test'. Where 'Date of test request' was missing in 2021/22, 'Date of test request received' was used instead. Records where both dates were missing were excluded from the median calculation.

4.1.4. The figures in Table 3 should not be compared to "waiting time" statistics that measure how long patients are on a waiting list for a procedure, since these

figures included both planned and unplanned imaging activity. In addition, these figures exclude any cancelled or missed appointments and they count the period for individual tests not each patient appointment.

- 4.1.5. The median period between test request (or test request received) and test was higher overall in 2021/22 for Ultrasound, MRI, Nuclear Medicine, PET-CT scans and SPECT, compared with 2020/21. All of these have relatively high proportions of activity for elective purposes (over 80% were GP direct access or outpatient requests) but much shorter waits for non-elective activity (requests from A&E departments or for admitted patients).
- 4.1.6. For all modalities, patients from Accident & Emergency departments and admitted patients have shorter waits for their scan than other sources of referral. GP direct access and outpatient referrals show a longer "waiting time" distribution, affecting the median number of days from request to test for those modalities with more outpatient and GP referrals. This is illustrated in Graph 3, which shows the distribution of periods from request to test for individual procedures, by patient source setting and modality. Table 9 (separate Excel file) gives the underlying figures for these charts.
- 4.1.7. There was some regional variation in the proportion of imaging which occurred within seven days of the test being requested (or received) for CT Scans and within fourteen days of the test being requested (or received) for Ultrasound and MRI Scans. Maps 1-3 illustrate this for each CCG in England (with a fifth of CCGs in each band shown). The underlying data for these charts are given in Table 7a (separate Excel file).





Map 1: Proportion of CT scans where date of test is up to 7 days after date of referral, for each CCG, 2021/22

Map 2: Proportion of Ultrasounds where date of test is up to 14 days after date of request, for each CCG, 2021/22





Map 3: Proportion of MRI Scans where date of test is up to 14 days after date of request, for each CCG, 2021/22

## 4.2 Patient Test Times – Test to report

- 4.2.1. Different test types varied in the median period for the report to be issued after the test, see Table 4. For Ultrasound, CT scans, Fluoroscopy and Medical Photography, at least half the procedures (with a report issue date) were reported the same day as the test (that is, a median of 0). For MRI the median period was 3 days, for PET-CT scans it was 2 days and for all other modalities the median period was 1 day.
- 4.2.2. The median turnaround time for a test report in 2021/22 increased by one day for MRI and PET-CT scans, compared with 2020/21, which reflects recovery of activity to levels seen before the COVID-19 pandemic. The overall median test to report times were the same in 2021/22 as in 2019/20 for all modalities.

	X- ray	Ultra- sound	CT Scans	MRI	Fluoro- scopy	Nuclear Medicine	PET-CT Scans	SPECT Scans	Medical Photography
2012/13	1	0	0	2	0	2	2	1	1
2013/14	1	0	0	2	0	1	2	1	0
2014/15	1	0	0	3	0	1	2	1	0
2015/16	1	0	0	3	0	1	2	1	0
2016/17	1	0	0	3	0	1	2	1	0
2017/18	1	0	0	3	0	1	2	1	0
2018/19	1	0	0	3	0	1	2	1	0
2019/20	1	0	0	3	0	1	2	1	0
2020/21	1	0	0	2	0	1	1	1	0
2021/22	1	0	0	3	0	1	2	1	0
Apr	1	0	0	3	0	1	2	2	0
May	1	0	0	3	0	1	2	1	0
Jun	1	0	0	3	0	1	1	1	0
Jul	1	0	0	3	0	1	2	2	0
Aug	1	0	0	3	0	1	2	2	0
Sep	1	0	0	3	0	1	1	1	0
Oct	1	0	0	3	0	1	2	2	0
Nov	1	0	0	3	0	1	1	2	0
Dec	1	0	0	3	0	1	1	1	0
Jan Feb	1	0	0	3	0	1	2	1	U
FeD	1	0	0	3	0	1	2	1	0
war	1	0	0	3	U	T	2	1	U

# Table 4: Median number of days between date of test and date test report issued, by modality, April 2021 to March 2022

- 4.2.3. The National Imaging Board guidance states that investigations will be seen and accurately reported within as short a time as possible and stresses the importance of reporting imaging activity in a timely manner. It suggested that Inpatient and Accident & Emergency referrals should be reported the same working day whilst all other referrals should be reported by the next working day. A tolerance of 90% for this was considered reasonable.
- 4.2.4. Table 5 shows the percentage of reports that were issued the same day as the test and those issued by the end of the next day separately for Admitted patient and A&E referred tests and for Outpatient and GP direct access tests, for each modality. For most modalities, the percentage of reports issued on the same or next day was lower in 2021/22 than in 2020/21; the exceptions were Ultrasound and Inpatient or A&E CT scans, where there was no change, and Inpatient or A&E Fluoroscopy, which saw an increase compared to the previous year. Table 10 (separate Excel file) gives this breakdown by provider.

Table 5: Proportion of imaging reports that were issued, either the same day as the test or by the end of the following day, by modality, April 2021 to March 2022

#### Inpatient and A&E

		X-r	ay	Ultras	sound	CT S	cans	M	RI	Fluoro	scopy	Nuc Medi	lear icine	PET Sca	-CT Ins	SPECT	Scans	Med Photog	lical graphy
Rep	orted by:	Same day	Next day	Same day	Next day	Same day	Next day	Same day	Next day	Same day	Next day	Same day	Next day	Same day	Next day	Same day	Next day	Same day	Next day
I A&E	2012/13 2013/14 2014/15 2015/16 2016/17 2017/18 2018/19 2019/20 2020/21 2021/22	25% 25% 28% 29% 28% 28% 28% 36% 28%	50% 51% 53% 55% 53% 53% 53% 53% 64% 53%	91% 92% 93% 94% 95% 95% 95% 96% 97% 97%	94% 96% 96% 96% 97% 97% 98% 98%	81% 84% 85% 88% 88% 88% 90% 91% 91%	92% 94% 95% 96% 96% 97% 97% 97% 98% 98%	64% 65% 66% 65% 66% 69% 70% 75% 74%	81% 81% 82% 83% 80% 80% 83% 83% 83% 83% 89%	70% 71% 72% 73% 73% 73% 73% 75% 75% 77%	79% 80% 81% 82% 82% 81% 82% 85% 85%	58% 59% 60% 62% 64% 66% 66% 65% 69% 68%	76% 78% 78% 77% 79% 79% 79% 83% 81%	23% 28% 29% 35% 39% 36% 33% 28% 35% 30%	54% 52% 57% 61% 64% 61% 62% 58% 67% 63%	75% 73% 67% 72% 76% 80% 80% 80% 83% 79%	84% 84% 87% 85% 85% 88% 87% 88% 91% 89%	20% 48% 52% 48% 52% 51% 52% 52% 54% 49%	59% 76% 73% 74% 66% 65% 62% 62% 68% 60%
Inpatient and	Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar	27% 29% 28% 28% 28% 27% 29% 29% 30% 30% 29%	53% 52% 51% 51% 51% 55% 53% 55% 53%	96% 96% 97% 97% 97% 96% 97% 97% 97% 97%	98% 98% 98% 98% 97% 98% 98% 98% 98% 98%	91% 91% 91% 91% 91% 91% 91% 91% 91% 91%	98% 98% 98% 98% 98% 97% 98% 98% 98% 98% 98%	75% 73% 74% 74% 74% 74% 75% 75% 75%	88% 87% 87% 87% 87% 87% 88% 88% 87% 87%	79% 78% 77% 78% 79% 79% 79% 79% 79% 79%	86% 85% 85% 86% 86% 85% 85% 86% 86% 86%	68% 67% 69% 66% 67% 68% 69% 71% 67% 66%	81% 82% 81% 80% 81% 80% 83% 83% 83% 80% 81%	31% 32% 31% 29% 28% 34% 33% 30% 31% 28% 30% 28%	64% 70% 62% 57% 69% 63% 64% 61% 59%	80% 76% 76% 80% 76% 81% 83% 85% 83% 79%	90% 86% 89% 87% 89% 84% 88% 92% 93% 90% 90%	48% 56% 45% 46% 51% 52% 46% 46% 56% 42% 53% 51%	59% 66% 56% 63% 65% 59% 57% 65% 57% 63% 59%

## Outpatient and GP Direct Access

		X-r	ay	Ultras	ound	CT S	cans	MI	રા	Fluoro	scopy	Nuc Medi	lear cine	PET Sca	-CT ans	SPECT	Scans	Med Photog	lical graphy
Re	oorted by:	Same day	Next day	Same day	Next day	Same day	Next day	Same day	Next day	Same day	Next day	Same day	Next day	Same day	Next day	Same day	Next day	Same day	Next day
birect Access	2012/13 2013/14 2014/15 2015/16 2016/17 2017/18 2018/19 2019/20 2020/21 2021/22	37% 38% 39% 39% 39% 39% 38% 47% 39%	53% 53% 54% 54% 54% 54% 53% 64% 53%	84% 87% 88% 90% 91% 92% 93% 94%	90% 91% 93% 93% 94% 95% 95% 95% 96%	34% 32% 29% 27% 25% 23% 21% 26% 19%	50% 47% 45% 42% 40% 37% 36% 33% 43% 32%	20% 19% 18% 17% 17% 16% 15% 14% 19% 14%	35% 34% 33% 32% 31% 29% 29% 28% 36% 28%	54% 56% 59% 61% 63% 65% 64% 63% 67% 67%	68% 70% 72% 73% 74% 76% 74% 74% 74% 78% 77%	23% 25% 26% 29% 30% 31% 30% 30% 37% 35%	45% 46% 50% 50% 51% 49% 50% 58% 58%	9% 9% 10% 13% 16% 14% 12% 11% 17% 15%	39% 35% 38% 38% 41% 43% 39% 37% 50% 44%	23% 22% 20% 23% 24% 23% 24% 23% 28% 25%	46% 43% 44% 44% 43% 42% 43% 43% 49% 44%	25% 66% 70% 57% 60% 62% 62% 62% 74% 72%	70% 90% 86% 76% 72% 71% 70% 71% 83% 81%
Outpatient and GP I	Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar	39% 39% 37% 37% 38% 38% 40% 40% 41% 39% 37%	54% 55% 51% 51% 51% 52% 55% 55% 55% 55% 54% 50%	94% 94% 94% 94% 93% 93% 93% 94% 94% 94% 94%	96% 96% 96% 96% 96% 96% 96% 96% 96% 96%	20% 21% 19% 18% 20% 19% 19% 20% 21% 19% 18%	33% 35% 32% 31% 29% 33% 32% 33% 33% 34% 31% 31%	14% 15% 14% 13% 15% 13% 14% 14% 14% 14% 13%	27% 29% 27% 26% 29% 27% 28% 28% 28% 28% 28% 28% 28%	67% 67% 68% 68% 68% 67% 67% 67% 68% 68% 68%	77% 78% 77% 76% 78% 77% 76% 78% 78% 78% 78%	35% 36% 35% 34% 36% 35% 36% 36% 34% 34%	53% 56% 52% 52% 56% 54% 55% 56% 54% 55%	15% 14% 17% 14% 14% 14% 14% 16% 14% 15% 12%	43% 44% 48% 42% 41% 46% 40% 45% 45% 45% 44% 42% 43%	24% 27% 24% 23% 22% 23% 26% 27% 29% 26% 26% 24%	42% 47% 46% 41% 40% 42% 42% 42% 40% 46% 46% 46% 44%	74% 78% 71% 70% 72% 72% 72% 72% 71% 73% 69% 72%	81% 84% 82% 79% 81% 83% 82% 82% 81% 80% 79% 80%

## 5 Imaging Tests that could contribute to Early Diagnosis of Cancer

## 5.1 Definition of the tests

5.1.1. One of the main drivers for establishing the DID was to assess the use of diagnostic imaging that could contribute to the early diagnosis of cancer and in particular General Practitioner (GP) direct access to these tests. To enable this analysis, a subset of procedures that are often used to diagnose or discount a diagnosis of cancer has been identified:

## • 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.

- 5.1.2. Although these tests are used to diagnose cancer, many of them also have wider clinical uses. Within this data, it is not possible to distinguish between the different uses of these tests.
- 5.1.3. Brain MRI, chest X-ray, and ultrasounds of the abdomen and pelvis to diagnose Ovarian Cancer were three of the key tests outlined in *Improving Outcomes: a Strategy for Cancer*.

## 5.2 Imaging activity and GP referral

5.2.1. In 2021/22, 10.8 million of these tests that may have been used to diagnose or discount cancer were performed, up 19% from 9.1 million in 2020/201. This increase reflects recovery from the impact of the COVID-19 pandemic, which significantly affected services from mid-March 2020. Chest X-ray referrals were up 18% from 2020/21 and Pelvic and Kidney Ultrasound were up 25% and 15% respectively, but none of these returned to 2019/20 prepandemic levels and GP referrals were still lower. However, Chest or

abdomen CT and Brain MRI activity exceeded 2019/20 pre-pandemic levels and were up 22% and 21% respectively compared with 2020/21, including an increase in direct GP referrals. Table 6 shows the total number of tests suitable for diagnosing cancer, with the subset of these that had a referral source of GP direct access

# Table 6: Imaging activity for groups of tests suitable for diagnosing cancer, for all patients referred and for those directly referred by a GP, April 2021 to March 2022

	Brain	(MRI)	Kidn blac (Ultras	ey or Ider sound)	Chest a abdome	nd/or n (CT)	Chest (	X-ray)	Abdomen pelvis (Ultr	and/or asound)
	All	GP	All	GP	All	GP	All	GP	All	GP
2012/13	472,820	31,035	220,270	67,455	388,640	32,210	7,728,945	1,993,455	1,165,540	536,945
2013/14	529,285	39,540	220,045	65,390	438,190	39,180	7,694,255	1,931,255	1,246,130	570,170
2014/15	584,755	50,150	228,810	67,060	490,140	46,680	8,170,075	2,128,450	1,303,945	600,390
2015/16	629,050	68,325	222,740	65,920	512,825	50,995	8,070,205	2,019,280	1,312,635	600,365
2016/17	686,365	76,925	233,440	65,990	539,405	58,875	8,253,310	2,167,875	1,286,845	576,665
2017/18	717,650	82,115	228,970	62,700	566,610	63,790	8,332,405	2,161,805	1,264,240	559,955
2018/19	774,845	87,320	240,255	65,745	611,620	68,105	8,280,540	2,051,840	1,312,270	586,075
2019/20	802,490	90,970	237,355	63,870	638,905	75,910	8,347,800	2,079,920	1,290,100	581,370
2020/21	689,780	75,280	176,455	43,665	561,555	52,775	6,723,690	1,090,125	947,380	390,705
2021/22	837,395	103,735	203,270	57,415	684,040	82,115	7,906,825	1,818,905	1,179,865	537,275
Change	21.4%	37.8%	15.2%	31.5%	21.8%	55.6%	17.6%	66.9%	24.5%	37.5%
	_				2021/22					
Apr	68,110	8,210	16,790	4,610	52,125	6,125	621,530	137,340	97,740	43,515
May	69,515	8,825	16,750	4,510	53,960	6,535	640,495	138,735	99,150	44,590
Jun	70,735	8,325	17,780	4,905	56,710	6,520	641,355	141,225	102,165	45,740
Jui	70,260	8,430	17,510	4,655	56,815 54,600	6,905	649,990 610 165	134,450	98,820	45,425
Sen	68 965	8,570	17 060	4,340	55 540	0,305 6 440	640 660	142 065	91,775	41,595
Oct	71.145	9.315	17,080	4,985	56.650	6.790	680.155	151.390	97.600	45,405
Nov	71,115	9,060	17,975	5,415	58,780	6,900	692,325	170,175	103,220	48,295
Dec	65,850	7,815	16,045	4,480	55,825	6,520	679,930	156,740	89,690	40,625
Jan	71,640	8,695	16,445	4,720	59,185	7,490	683,400	165,785	97,045	43,760
Feb	68,860	8,505	15,900	4,670	58,885	7,285	642,480	167,850	96,300	44,270
Mar	73,605	9,445	18,030	5,235	64,970	8,240	715,345	184,070	107,430	48,905

1. Totals do not always equal the sum of parts due to rounding.

2. % Change is between 2020/21 and 2021/22.

5.2.2. Chest X-ray remained the most common of these tests, with 7.9 million tests being requested through all source settings in 2021/22. This was also the most common test requested by GPs, at 1.8 million (up 67% on 2020/21). Next most common were tests that may have been used to diagnose ovarian cancer (Abdominal or Pelvic Ultrasound, 1.2 million), with 46% of such tests being requested by a GP. Imaging activity for patients referred by a GP increased for all modalities in 2021/22 compared with 2020/21. The change in the number of these tests directly referred by GPs over the year is shown in Graph 4.1.



Graph 4.1: Imaging activity for patients directly referred by a GP, April 2021 to March 2022

5.2.3. Of the 10.8 million tests suitable for diagnosing cancer requested in 2021/22, 24.0% were requested by GPs under direct access arrangements, compared with 18.2% in 2020/21. This significant increase in the proportion referred by GPs was seen for all tests and reflected the recovery of activity following the impact of the COVID pandemic. Graph 4.2 shows the proportion of each test requested by GPs. The lowest proportions of GP direct access were for Chest and/or Abdomen CT (12%) and Brain MRI (12%).

Graph 4.2: Percentage of referrals made by GPs by type of test, 2021/22



## 5.3 Patient test times

#### Patient test times – Request to test

5.3.1. For the key tests that may be used to diagnose or discount cancer, the median period from a test request being made (or received) to being performed is longer for GP direct access than for all referrals, see Table 7. The main reason for this difference is that 'all referrals' includes tests on emergency admissions and inpatients, which have shorter waits.

Table 7: Median number of days between date of test request and date of test forgroups of tests suitable for diagnosing cancer, overall and for GP Direct Access, April2021 to March 2022

	Brain	(MRI)	Kidney ( (Ultra	or bladder sound)	Chest abdome	and/or en (CT)	Chest	(X-ray)	Abdome pelvis (Ul	n and/or trasound)
	All	GP	All	GP	All	GP	All	GP	All	GP
2012/13	21	25	13	23	13	17	0	0	14	22
2013/14	21	25	13	23	13	16	0	0	15	24
2014/15	21	26	13	24	14	17	0	0	17	26
2015/16	19	21	11	26	14	16	0	0	17	27
2016/17	19	21	12	27	14	17	0	0	17	27
2017/18	19	22	12	27	15	18	0	0	17	27
2018/19	19	22	13	28	16	18	0	0	20	30
2019/20	18	23	13	27	16	19	0	0	19	30
2020/21	12	21	11	25	13	16	0	5	13	26
2021/22	16	25	14	32	15	16	0	7	19	32
Apr	14	23	14	32	14	16	0	7	20	33
May	15	24	14	33	13	16	0	7	18	33
Jun	16	25	15	35	14	16	0	7	20	34
Jul	17	26	14	35	14	15	0	7	19	34
Aug	18	27	15	37	15	16	0	6	19	34
Sep	16	27	15	37	15	15	0	6	20	34
Oct	17	24	14	33	15	14	0	6	18	31
Νον	17	24	14	30	15	15	0	6	19	31
Dec	16	25	11	27	15	15	0	7	17	29
Jan	20	28	14	33	18	17	0	5	20	36
Feb	16	22	13	27	15	15	0	6	18	29
Mar	16	24	14	28	15	17	0	7	19	32

<u>Note:</u> Median values of 0 occur where at least 50% of activity has the same day for both 'date of test request' and 'date of test'. Where 'Date of test request' was missing in 2021/22, 'Date of test request received' was used instead. Records where both dates were missing were excluded from the median calculation.

5.3.2. Most median periods from request to test were higher in 2021/22 than in 2020/21, overall and for GP direct access, reflecting the impact of non-urgent activity recovery following the COVID-19 pandemic. For GP referrals, Brain MRI, Chest X-ray and Pelvic and Kidney Ultrasound had a higher median number of days between request to test in 2021/22 than pre-pandemic levels seen in 2019/20. However, the overall median number of days between request to test in 2021/22 than pre-pandemic levels stat may be used to diagnose or discount cancer.

5.3.3. The median number of days between date of request and date of test varied during 2021/22 for tests that are suitable for diagnosing cancer as shown in Graph 5. There was a seasonal increase in the request to test period in January 2022 for all modalities except Chest X-ray.





#### Patient test times – Test to report

- 5.3.4. The overall period between the date of test and the date the report was issued returned to pre-pandemic 2019/20 levels for most tests suitable for diagnosing cancer in 2021/22. Compared with 2020/21, the median period from test to report for Brain MRI and Chest X-Ray rose from 1 day to 2 days and for Chest CT rose from 1 day to 3 days, whilst the median turnaround time for Pelvic and Kidney Ultrasound remained at 0 days throughout, as shown in Table 8.
- 5.3.5. For Ultrasound there is generally little difference in the time taken for a test report to be issued for GP direct access and for all referrals for tests suitable for diagnosing cancer. However, for Brain MRI and Chest and/or abdomen CT, the median period from test to report was 1 day longer for GP-referred cases then the overall median.

Table 8: Median number of days between date of test and date test report issued and Percentage of records where report issued on day of test, for groups of tests suitable for diagnosing cancer, All referrals and GP Direct Access, April 2021 to March 2022

		Brain	(MRI)		Kidney or bladder (Ultrasound)							
	All Median	All % Same day	GP Median	GP % Same day	All Median	All % Same day	GP Median	GP % Same day				
2012/13	2	32%	3	17%	0	85%	0	80%				
2013/14	2	34%	3	18%	0	89%	0	85%				
2014/15	2	33%	3	18%	0	91%	0	88%				
2015/16	2	35%	3	21%	0	92%	0	89%				
2016/17	2	33%	3	19%	0	93%	0	89%				
2017/18	2	32%	3	16%	0	94%	0	90%				
2018/19	2	33%	3	17%	0	95%	0	92%				
2019/20	2	33%	3	17%	0	95%	0	92%				
2020/21	1	39%	2	23%	0	95%	0	92%				
2021/22	2	35%	3	18%	0	95%	0	91%				
Apr	2	35%	3	19%	0	95%	0	92%				
May	2	35%	3	20%	0	95%	0	91%				
Jun	2	35%	3	19%	0	95%	0	93%				
Jul	2	35%	3	17%	0	95%	0	92%				
Aug	2	35%	3	18%	0	96%	0	94%				
Sep	2	35%	2	20%	0	95%	0	92%				
Oct	2	34%	3	18%	0	95%	0	91%				
Nov	2	34%	3	17%	0	95%	0	91%				
Dec	2	36%	3	18%	0	95%	0	91%				
Jan	2	34%	3	18%	0	95%	0	91%				
Feb	2	34%	3	16%	0	94%	0	90%				
Mar	2	34%	4	14%	0	95%	0	90%				

	Chest	and/or a	abdomen	(CT)		Chest	(X-ray)		Abdomen and/or pelvis (Ultrasound)				
	All Median	All % Same day	GP Median	GP % Same day	All Median	All % Same day	GP Median	GP % Same day	All Median	All % Same day	GP Median	GP % Same day	
2012/13	1	42%	2	32%	2	25%	2	29%	0	86%	0	84%	
2013/14	1	40%	2	29%	2	25%	2	28%	0	89%	0	88%	
2014/15	1	38%	2	27%	2	25%	2	28%	0	90%	0	89%	
2015/16	1	36%	2	25%	2	26%	2	29%	0	92%	0	90%	
2016/17	2	36%	3	23%	2	26%	2	27%	0	93%	0	91%	
2017/18	2	34%	4	19%	2	24%	2	28%	0	94%	0	92%	
2018/19	3	32%	4	19%	2	24%	1	29%	0	95%	0	93%	
2019/20	3	30%	4	16%	2	24%	2	28%	0	95%	0	94%	
2020/21	1	39%	2	23%	1	35%	1	43%	0	96%	0	93%	
2021/22	3	30%	4	18%	2	24%	1	30%	0	95%	0	93%	
Apr	3	31%	4	16%	2	23%	1	30%	0	96%	0	94%	
May	2	31%	3	17%	2	24%	1	31%	0	95%	0	93%	
Jun	3	30%	4	16%	2	23%	2	28%	0	95%	0	93%	
Jul	3	29%	4	15%	2	23%	1	29%	0	95%	0	93%	
Aug	3	30%	5	16%	2	23%	2	28%	0	95%	0	93%	
Sep	3	31%	3	19%	3	23%	2	28%	0	95%	0	93%	
Oct	3	30%	4	17%	2	22%	1	29%	0	95%	0	93%	
Nov	3	30%	3	20%	2	24%	1	31%	0	95%	0	93%	
Dec	3	30%	4	19%	2	25%	1	32%	0	95%	0	93%	
Jan	3	29%	3	19%	2	25%	1	33%	0	95%	0	94%	
reb	3	29%	3	19%	2	25%		29%	0	95%	0	93%	
war	3	29%	4	19%	2	22%	2	21%	U	95%	U	93%	

#### Patient test times - Variation by provider

5.3.6. The median period between the date the test request was made (or received) and the test date varies by provider as well as by referral source and modality, see Graph 6.1 for Chest X-ray, Ultrasound of the abdomen and/or pelvis in females and Brain MRI. For Chest X-ray, there is less variation by provider in the median period from request to test, with the median for A&E and admitted patients universally up to a day and those for GP referrals and outpatients generally up to a week, but with an increased spread over a week similar to that in 2020/21 which wasn't seen pre-COVID. The median from request to test was also generally up to one day for Ultrasound of female abdomen/ pelvis and Brain MRI A&E and admitted patients, though a larger proportion of admitted Brain MRI patients waited a median of 1 to 2 days compared with the two previous years. There was much more variation in the median from request to test for GP direct access and outpatients for all three tests, with providers differing in their median request to test period by several weeks.

Graph 6.1 Variation by provider of median period from date of test request to date of test for procedures suitable for diagnosing cancer, by referral source, 2021/22



Note: Median period from 'date of test request' or, where missing, 'date of test request received' to 'date of test'.

5.3.7. The median period between the test and report dates varies by provider for Chest X-ray and Brain MRI, but not for Ultrasound of the female abdomen and/or pelvis, see Graph 6.2. Of these, only Chest X-ray shows much variation by provider for A&E and admitted patients, but Brain MRI also shows variation in the provider medians for GP direct access and outpatient referrals of several days. The median reporting period for Ultrasound of the abdomen and/or pelvis in females is up to a day for almost all providers for all referral sources. No significant correlation was observed between the median request to test period and the median test to report period at provider level, neither were the provider means for either period related to the volume of imaging tests performed for these three diagnostics.

# Graph 6.2 Variation by provider of median period from date of test to date test report issued for procedures suitable for diagnosing cancer, by referral source, 2021/22



## 6 Annex

## 6.1 Data Quality Statement

- 6.1.1. Although data from Radiology Information Systems (RISs) were not originally intended for statistical purposes and have some inconsistencies, they do provide a rich resource with great potential for wider analysis. This data collection aligns with the code of practice for official statistics in making better use of administrative data and evaluating existing data sources to limit the burden on respondents.
- 6.1.2. There are a number of validations built into the DID upload system, verifying that the data provided by organisations makes sense. Whilst validations and other checks have been made to ensure that the data are complete and accurately reflect activity, data issues may affect activity for some providers.
- 6.1.3. Final data for each month are extracted from the DID data warehouse around the 28th of the sixth month after the period. Data coverage and quality has been maintained in 2021/22, with most providers having data for each month. However, within this, some data submissions may be incomplete. Known problems are:
  - Countess of Chester Hospital NHS Foundation Trust (RJR) did not report any activity in October 2021, resulting in an estimated shortfall of 14,000 records.
  - University Hospitals Dorset NHS Foundation Trust (R0D) did not report activity for its Royal Bournemouth Hospital (R0D02) site in October to November 2021, resulting in an estimated shortfall of 26,000 records.
  - Northern Care Alliance NHS Foundation Trust (RM3) did not report activity for its Salford Royal (RM301) site in November 2021, resulting in an estimated shortfall of 20,000 records.
  - University Hospitals of Leicester NHS Trust (RWE) did not report activity for the second half of December 2021, resulting in an estimated shortfall of 20,000 records.
  - United Lincolnshire Hospitals NHS Trust (RWD) reported 3,469 CT Radiotherapy planning scans over a 3-day period in April 2021, compared with typical levels of a few patients per day, resulting in a possible overcount of CT activity.
  - University Hospitals of Derby and Burton NHS Foundation Trust (RTG) mislabelled patient source setting for 147,000 records throughout 2021/22 as 'Other Health Care Provider' in place of 'Accident and Emergency department' and some 'Other'.
  - University Hospitals Dorset NHS Foundation Trust (R0D) reported 43,000 scans from the default 'Other' patient source setting in 2021/22 at its Royal Bournemouth Hospital site that appear to be from A&E or GP and other sources.
  - East Suffolk and North Essex NHS Foundation Trust (RDE) reported 66,000 scans from 'Other' patient source setting in 2021/22, including 96% of all records in September 2021, that should be from a variety of sources.
  - Whittington Health NHS Trust (RKE) submitted no Test request dates or Test report issued dates during 2021/22.

- The Queen Elizabeth Hospital, King's Lynn NHS Foundation Trust (RCX): submitted no Test request dates or Test report issued dates for five months of 2021/22.
- 6.1.4. Other providers were missing certain data fields for all or part of the year, including a valid GP Practice, Patient postcode, Age (date of birth), Sex, Date of request or report and Patient source setting. The Technical Report gives more information on data completeness and quality in Section 4.
- 6.1.5. Reported times from test request to test should not be compared to diagnostic test waiting time statistics, as these are collected using different definitions. Unlike these statistics, the DM01 diagnostic test waiting times statistics exclude records where, for example:
  - The patient is waiting for a planned (or surveillance) diagnostic test/ procedure, that is a procedure or series of procedures as part of a treatment plan which is required for clinical reasons to be carried out at a specific interval or repeated at a specific frequency, such as 6-month check cystoscopy;
  - The patient is currently admitted to a hospital bed and is waiting for a diagnostic test/procedure as part of their inpatient treatment.
- 6.1.6. For the data published here, 97.9% of tests had a date of test request or date of test request received included (up from 97.1% in 2020/21). In addition, 93.1% of tests had a date of test report issue included (down from 95.7% in 2020/21).
- 6.1.7. Some patient records have no known commissioner as this is derived from patient registered GP practice which is not a mandatory field. In 2021/22, where this was missing, CCG was derived from Lower Super Output Area (LSOA) based on patient postcode instead. Data shortfalls by provider also affect their commissioner data.
- 6.1.8. Details of coverage, completeness, comparability with other data sources and a discussion on the types of data quality issues encountered are provided in the Technical Report which is available on the <u>NHS England DID website</u>.

## 6.2 Revisions

In the provisional publications, several Trusts did not provide data on time and their figures were shown as blank. Most of these subsequently submitted data, with the exceptions listed above. Further revisions will only be made in exceptional circumstances, see the Technical Report.

## 6.3 Glossary

## Computerised Axial Tomography (CT Scan)

Computed tomography (CT), sometimes called CAT scan, uses special X-ray equipment to obtain image data from different angles around the body, then uses computer processing of the information to show a cross-section of body tissues and

organs. In the DID this means all codes mentioning CAT or computed tomography except those also mentioning PET.

## Diagnostic Ultrasonography (Ultrasound)

The use of ultrasonic waves for diagnostic or therapeutic purposes, specifically to image an internal body structure, monitor a developing foetus or generate localised deep heat to the tissues. In the DID this means any code relating to ultrasound.

### Fluoroscopy

Fluoroscopy is an imaging technique commonly used by physicians to obtain realtime images of the internal structures of a patient through the use of a fluoroscope. In its simplest form, a fluoroscope consists of an X-ray source and fluorescent screen between which a patient is placed. In the DID this is a collection of codes mentioning fluoroscopy or using fluoroscopic guidance, Barium enema or swallow. Interventional procedures are classified under imaging modalities which provide guidance. Almost all interventional procedures are under fluoroscopy procedure. A very small number of interventional procedures are under CT or MRI procedures.

## Magnetic Resonance Imaging (MRI)

Magnetic resonance imaging (MRI) is a method of producing extremely detailed pictures of body tissues and organs without the need for X-rays. The electromagnetic energy that is released when exposing a patient to radio waves in a strong magnetic field is measured and analysed by a computer, which forms two- or three-dimensional images that may be viewed on a TV monitor. In the DID this means all codes mentioning MRI.

### Plain Radiography (X-ray)

A Radiograph is an image produced on a radiosensitive surface, such as a detector, by radiation other than visible light, especially by X-rays passed through an object or by photographing a fluoroscopic image. In the DID this means any code referring to radiography or X-ray.

### **Medical Photography**

A Photograph is an image recorded on sensitised material by energy from the light spectrum, which is then processed to create a print that can be viewed clearly. Medical Photography is used in order to document a variety of different medical conditions and their treatment.

### **Nuclear Medicine**

Nuclear medicine (NM) is a branch of medicine and medical imaging that uses unsealed radioactive substances in diagnosis and therapy. These substances consist of radionuclides, or pharmaceuticals that have been labelled with radionuclides (radiopharmaceuticals). In diagnosis, radioactive substances are administered to patients and the radiation emitted is measured.

Nuclear medicine imaging tests differ from most other imaging modalities in that the tests primarily show the physiological function of the system being investigated, as opposed to the anatomy. It has both diagnostic and therapeutic uses, such as planning cancer treatments and evaluating how well a patient has responded to a treatment. It can be used with other diagnostic methods, including CT scans and

MRI, where the images are superimposed to produce complex cross-sectional, three-dimensional scans.

## Position Emission Tomography – Computer Tomography (PET-CT Scans)

Position Emission Tomography - Computed Tomography (PET-CT Scan) is an imaging technique used in the diagnosis and treatment of cancer which combines PET with CT. PET uses gamma-type cameras to produce crude three-dimensional images highlighting radionuclide concentration in the body. CT allows precise localisation of the radionuclide concentration. PET-CT scans can be used to show how far a cancer has spread and can determine if a patient is responding positively to a treatment. In the DID this means all codes mentioning PET, whether or not they also mention CT.

## Single Photon Emission Computerised Tomography (SPECT scans)

Single Photon Emission Computerised Tomography (SPECT scans) is an imaging method that allows for analysis of internal organs. Gamma photon-emitting radionuclides are administered to a patient prior to being exposed to gamma cameras that rotate around a patient to produce cross-sectional slices that can then be reformatted into a true three-dimensional image of the patient.

### Median

The median is the preferred measure of the average time between pairs of dates within records as it is less susceptible to extreme values than the mean. The median number of days between pairs of dates is calculated by ordering the values obtained by subtracting the dates for each record and selecting the middle value when all records are ranked by these numbers of days.

## Modality

The broad procedure or method used for examination, for example MRI. This may include procedures assisted by the method, e.g. biopsy or injection. In the DID the modality of the examination is derived from SNOMED CT (Systematised Nomenclature of Medicine – Clinical Terms) or NICIP (National Interim Clinical Imaging Procedure) codes.

## Patient source setting

This is a categorisation of the department or organisation making the referral for the imaging activity. It includes categories for admitted patient care, outpatients, GP Direct Access, A&E and health care providers other than the organisation providing the imaging activity.

## 6.4 Contact Us

## 6.4.1. Feedback

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

## 6.4.2. Websites

NHS Digital collects the DID on behalf of NHS England. Further information about the dataset can be found on <u>NHS Digital DID website</u>.

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

The DID Additional Tables and Technical Report can be found on <u>NHS England DID</u> website.

#### 6.4.3. Additional Information

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

The Government Statistical Service (GSS) statistician responsible for producing these data is:

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