

# Diagnostic Imaging Dataset Annual Statistical Release 2022/23

Version 1, 23<sup>rd</sup> November 2023

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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 England.

This publication finalises estimates of imaging activity in 2022/23.

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

## 2 Headline Messages

### For all imaging activity:

- 45.0 million imaging tests were reported in England in the year to March 2023, compared with 44.0 million in the previous year, an increase of 2.2%.
- Plain Radiography (X-ray) was most common with 22.0 million procedures (up 1.0% from 2021/22), followed by Diagnostic Ultrasonography (Ultrasound, 10.3 million, up 1.8%), Computerized Axial Tomography (CT Scan, 7.1 million up 5.5%) and Magnetic Resonance Imaging (MRI, 4.1 million, up 6.2%).
- 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 Nuclear Medicine scans in 2022/23.
- 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 4 days for MRI in 2022/23 (up from 3 days in 2021/22).

### 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 2022/23, GPs requested 26.4% of all tests that may have been used to diagnose or discount cancer, under direct access arrangements. This increase from 24.0% in 2021/22 was seen for all tests.
- The test most commonly requested by GPs was Chest X-ray with 2.1 million tests (up 15.4% from 2021/22), whilst the test with the highest proportion of GP referrals was Ultrasounds that may have been used to diagnose ovarian cancer, 47% of which were requested by GPs in 2022/23.
- The median period between the request being made and the test being performed was unchanged or lower in 2022/23 than in 2021/22 for most key tests under GP direct access arrangements, but remained higher than the pre-pandemic levels seen in 2019/20 for all except Chest CT.

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<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. 45.0 million imaging tests were reported in England in the year to March 2023, compared with 44.0 million in the previous year, an increase of 2.2%.
- 3.1.2. Plain Radiography (X-ray) had the biggest share of all tests performed during the year, with 22.0 million X-rays reported in 2022/23 (up 1.0% from 2021/22). The next most common procedures were Ultrasound (10.3 million, up 1.8%), CT scans (7.1 million, up 5.5%) and MRI Scans (4.1 million, up 6.2%). All other modalities except Fluoroscopy (down 2.4%) and Nuclear Medicine (down 3.3%) also increased in 2022/23: PET-CT scans by 6.7%, SPECT by 5.0% and Medical Photography by 0.7%. Table 1 shows the imaging counts and growth for each modality.
- 3.1.3. December was the month with least reported activity during 2022/23, at 3.5 million tests, whilst March had the most, at 4.1 million. This reflects a seasonal effect, including the number of weekdays in the month. 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 [NHS England DID website](#).

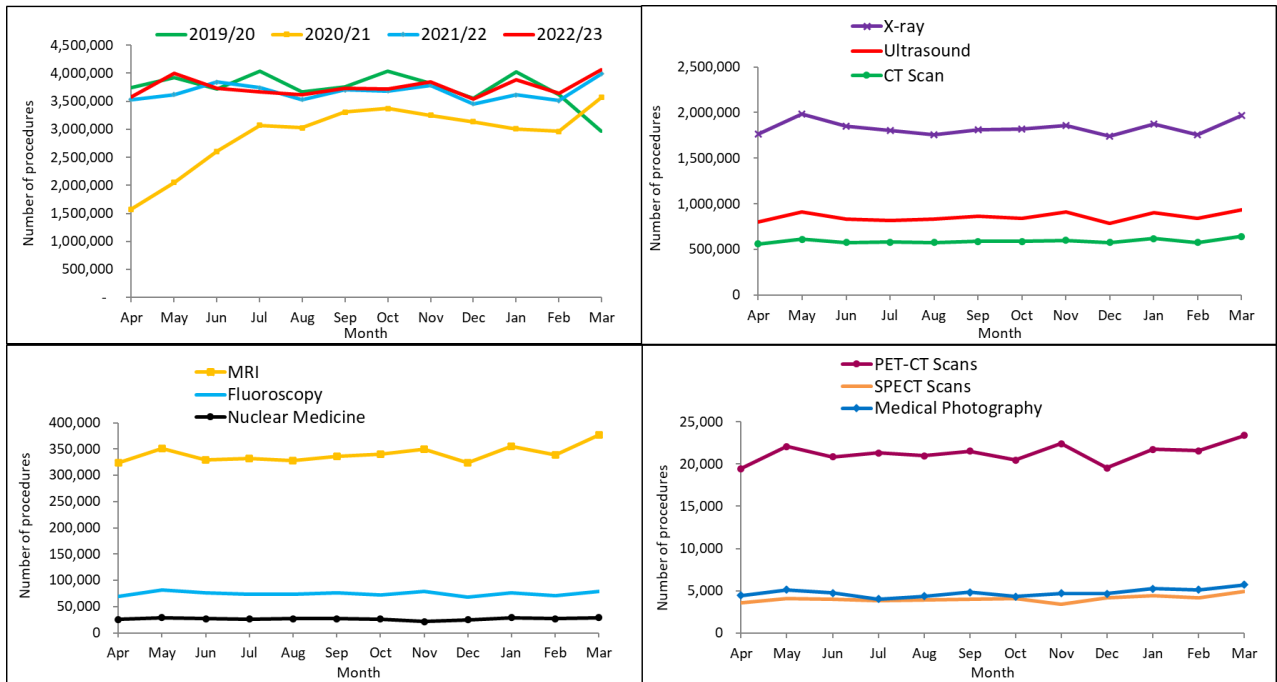
Table 1: Count of NHS imaging activity in England, 2012/13 to 2022/23

	X-ray	Ultrasound	CT Scan	MRI	Fluoro-scropy	Nuclear Medicine	PET-CT Scans	SPECT Scans	Medical Photography	% organisations included	Total <sup>1</sup>
<b>2012/13<sup>2</sup></b>	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
<b>2013/14</b>	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
<b>2014/15</b>	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
<b>2015/16</b>	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
<b>2016/17</b>	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
<b>2017/18</b>	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
<b>2018/19</b>	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
<b>2019/20</b>	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
<b>2020/21</b>	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
<b>2021/22</b>	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
<b>2022/23</b>	21,994,050	10,257,395	7,088,365	4,084,055	894,610	317,520	255,445	48,580	57,330	98.4%	44,997,345
<b>% Change<sup>3</sup></b>	1.0%	1.8%	5.5%	6.2%	-2.4%	-3.3%	6.7%	5.0%	0.7%	-1.5%	2.2%
<b>2022/23</b>											
<b>Apr</b>	1,765,845	799,965	560,880	323,780	69,895	25,225	19,455	3,580	4,435	100.0%	3,573,060
<b>May</b>	1,985,990	909,825	609,085	351,200	82,230	29,250	22,095	4,085	5,110	100.0%	3,998,870
<b>Jun</b>	1,851,175	835,980	576,595	329,020	75,715	26,670	20,855	3,990	4,765	99.4%	3,724,765
<b>Jul</b>	1,803,715	815,605	580,465	331,905	73,720	26,235	21,335	3,875	4,010	98.8%	3,660,865
<b>Aug</b>	1,753,430	828,420	574,430	328,050	73,985	26,765	20,970	3,945	4,375	97.6%	3,614,370
<b>Sep</b>	1,814,540	862,015	585,930	336,215	75,900	26,845	21,545	4,020	4,820	98.2%	3,731,825
<b>Oct</b>	1,823,010	838,825	588,365	340,720	71,580	26,165	20,465	4,090	4,335	97.0%	3,717,560
<b>Nov</b>	1,855,640	908,415	599,100	349,015	78,335	21,185	22,435	3,400	4,705	97.6%	3,842,235
<b>Dec</b>	1,737,045	783,975	576,195	323,195	67,710	24,725	19,565	4,150	4,645	98.8%	3,541,205
<b>Jan</b>	1,876,975	899,000	619,850	355,300	76,215	28,800	21,755	4,390	5,270	98.2%	3,887,555
<b>Feb</b>	1,758,050	837,875	574,600	338,325	70,375	26,685	21,565	4,150	5,130	97.5%	3,636,750
<b>Mar</b>	1,968,635	937,490	642,870	377,325	78,950	28,960	23,400	4,910	5,730	98.1%	4,068,275

Notes:

1. Totals do not always equal the sum of parts due to rounding.
2. 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 2021/22 and 2022/23.

**Graph 1: NHS imaging activity in England, April 2022 to March 2023**



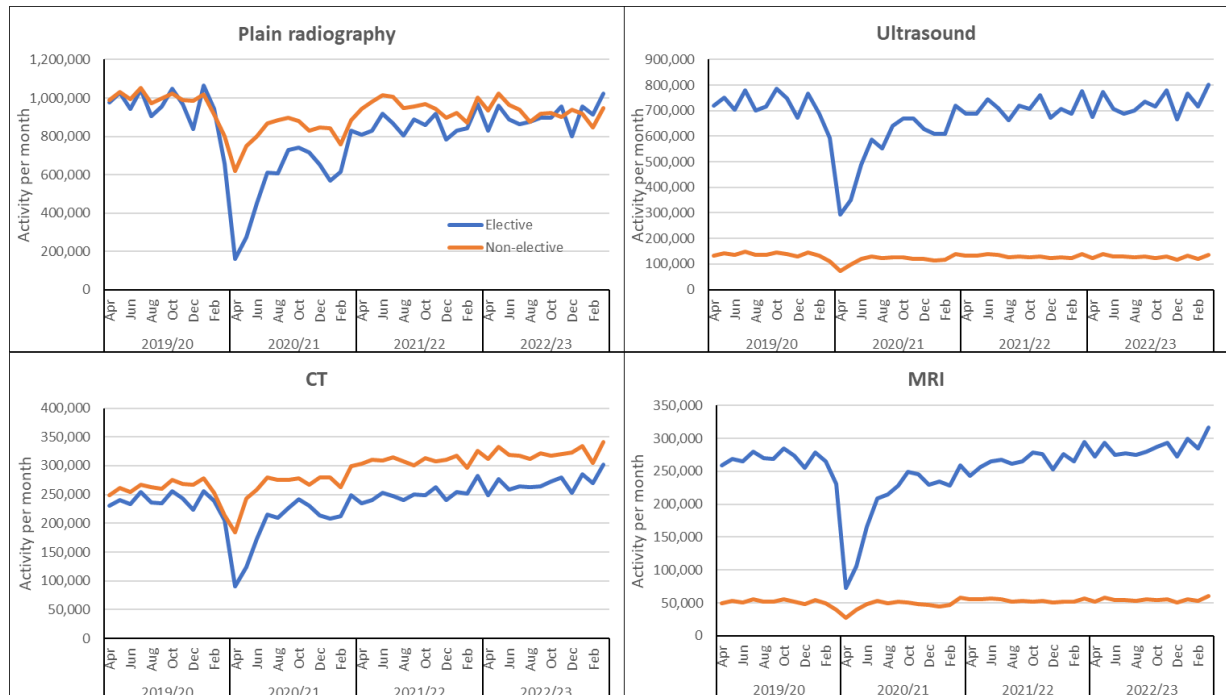
### 3.2 Imaging recovery

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, GP direct access or other healthcare providers. 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. By the end of 2022/23, most services had recovered close to, or above, the level of activity in 2019/20, with Plain radiography slightly lower and CT considerably higher. Graph 2 shows Mar activity by month from 2019/20 to 2022/23 for selected modalities, split by elective and non-elective request sources.

<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, April 2019 to March 2023**



**Notes**

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

### 3.3 Imaging Activity by Age and Gender

3.3.1. 7.4 million more tests were performed on females than on males in 2022/23. The largest differences occurred for Ultrasound procedures (4.8 million more on females) and for X-rays (2.3 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 2.3 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 Fluoroscopy and PET-CT scans on males than females. Table 2 shows the age and gender of patients who have received diagnostic tests in 2022/23.



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**Table 2: NHS Imaging activity in England by gender and age, 2022/23**

	X-ray	Ultrasound	CT Scan	MRI	Fluoro- scopy	Nuclear Medicine	PET-CT Scan	SPECT Scan	Medical Photography	Total <sup>1</sup>
Female	12,122,120	7,513,775	3,548,705	2,215,230	420,000	166,150	119,455	25,895	29,600	26,160,930
Male	9,854,760	2,692,340	3,536,840	1,867,695	473,785	151,280	135,855	22,675	27,630	18,762,855
Not known / specified <sup>2</sup>	17,165	61,845	4,435	2,800	825	90	140	15	100	87,410
0 -14	1,902,500	462,390	66,460	162,745	46,835	12,515	610	325	4,770	2,659,165
15 - 44	4,859,175	5,121,280	1,144,310	1,165,745	145,555	46,820	23,220	9,200	8,540	12,523,840
45 - 59	4,390,255	1,916,815	1,360,305	1,074,260	191,495	66,345	52,560	8,695	7,635	9,068,375
60 - 74	5,460,170	1,612,020	2,097,755	1,084,475	280,435	109,525	108,090	16,420	13,470	10,782,355
75+	5,370,055	1,150,855	2,416,530	596,580	229,915	82,280	70,900	13,930	22,820	9,953,870
Not known	11,895	4,595	4,620	1,915	370	30	70	10	90	23,595

Notes:

1. Totals do not always equal the sum of parts due to rounding.
2. "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 2022 and March 2023.

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 up to 21 days for Nuclear Medicine scans. There was also variability within individual tests over the course of the year, see Table 3.

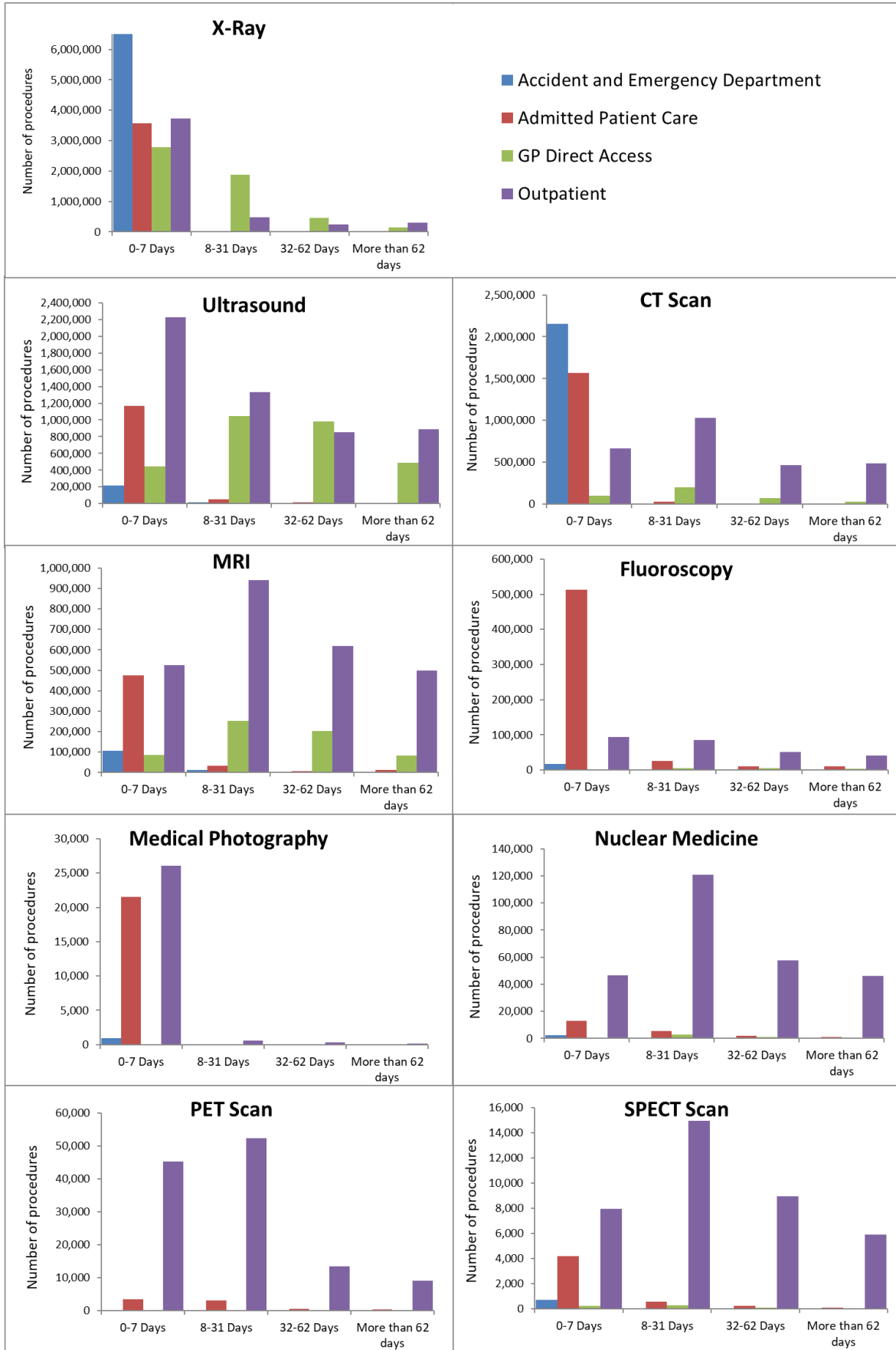
**Table 3: Median number of days between date of test request and date of test, by modality, April 2022 to March 2023**

	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
2022/23	0	14	1	20	0	21	9	19	0
Apr	0	14	1	22	0	21	10	19	0
May	0	14	1	20	0	20	9	18	0
Jun	0	14	1	21	0	22	10	19	0
Jul	0	14	1	20	0	21	9	18	0
Aug	0	14	1	20	0	21	9	18	0
Sep	0	14	1	19	0	21	9	19	0
Oct	0	14	1	18	0	20	9	16	0
Nov	0	14	1	20	0	21	8	18	0
Dec	0	14	1	21	0	22	9	20	0
Jan	0	15	1	25	0	28	11	25	0
Feb	0	14	1	20	0	22	10	20	0
Mar	0	14	1	20	0	22	9	20	0

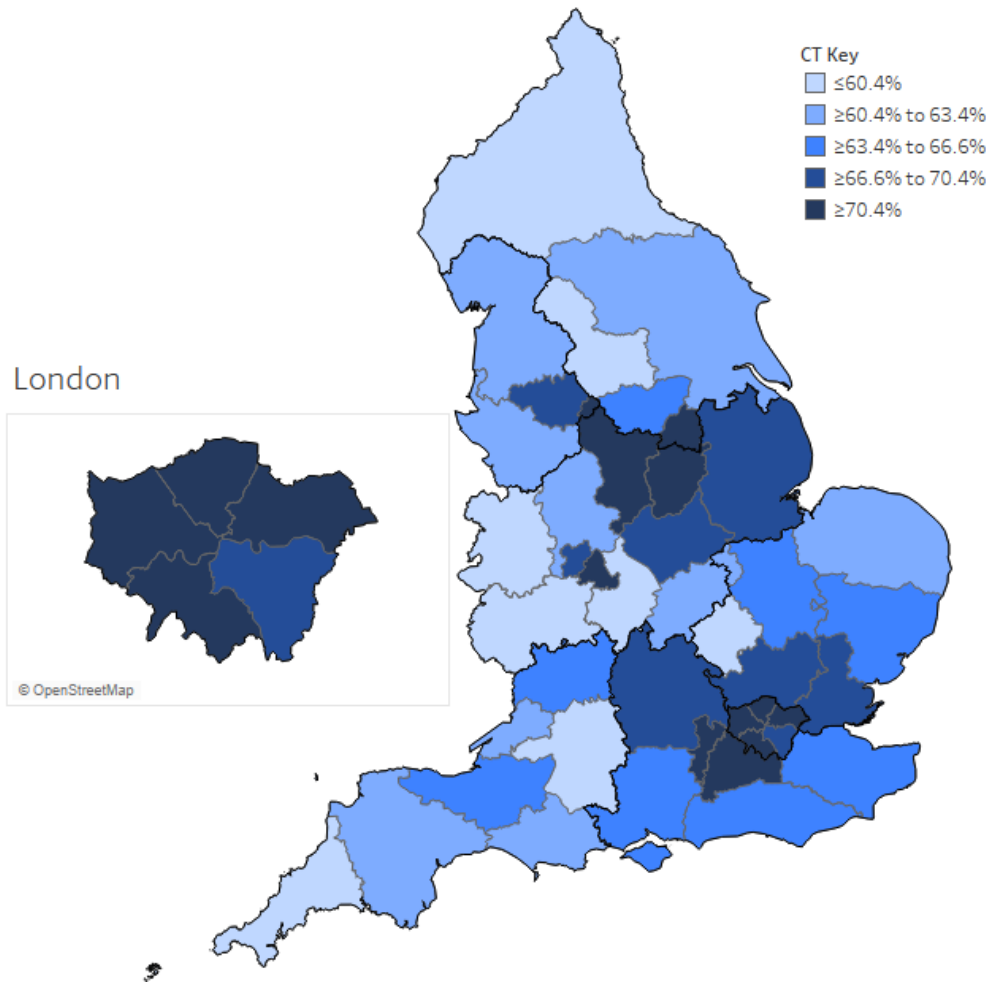
**Note:** Median values of 0 occur where at least 50% of activity has the same day for both 'date of test request' and 'date of test'. Where 'Date of test request' was missing in 2022/23, 'Date of test request received' was used instead. Records where both dates were missing were excluded from the median 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 2022/23 for Nuclear Medicine and SPECT, compared with 2021/22. Both of these have relatively high proportions of activity for elective purposes (over 85% 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 ICB in England (with a fifth of ICBs in each band shown). The underlying data for these charts are given in Table 7a (separate Excel file).

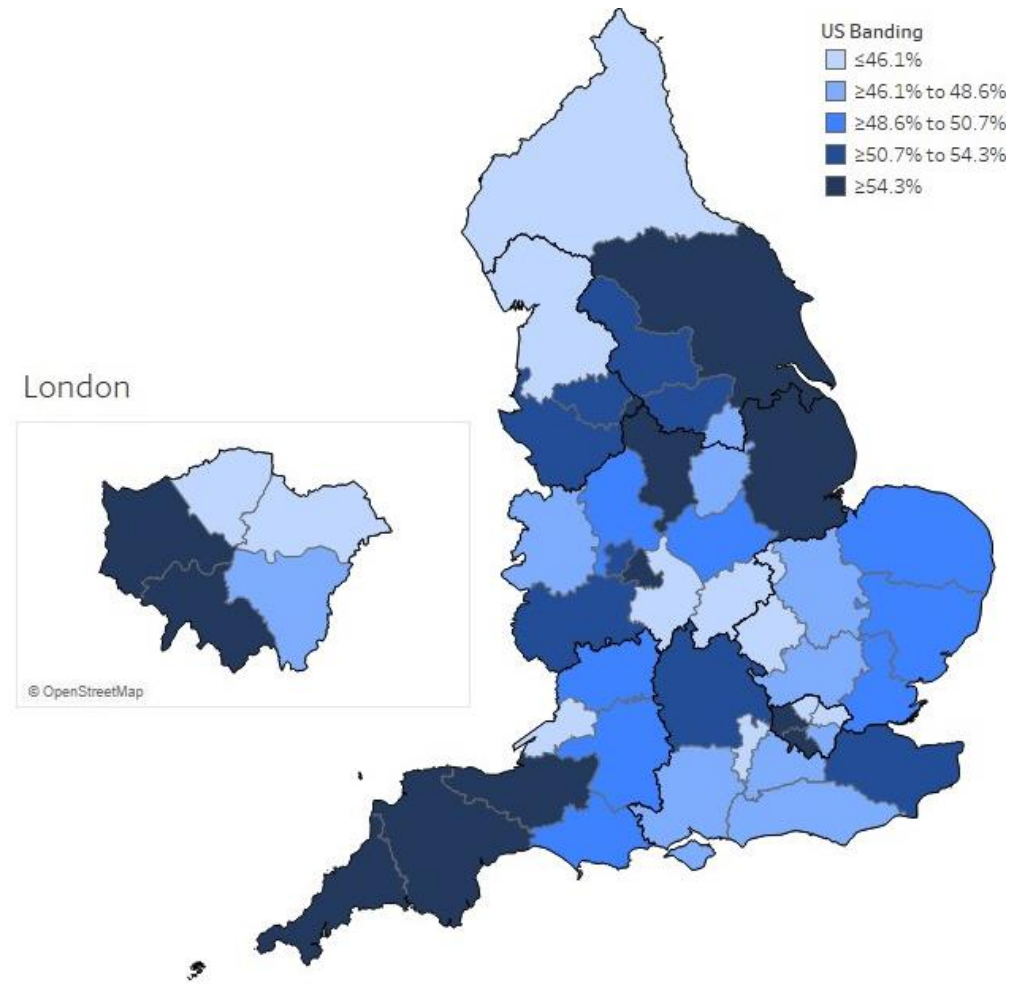
**Graph 3: Imaging activity by number of days from date of test request to date of test, by modality and source of referral, 2022/23**



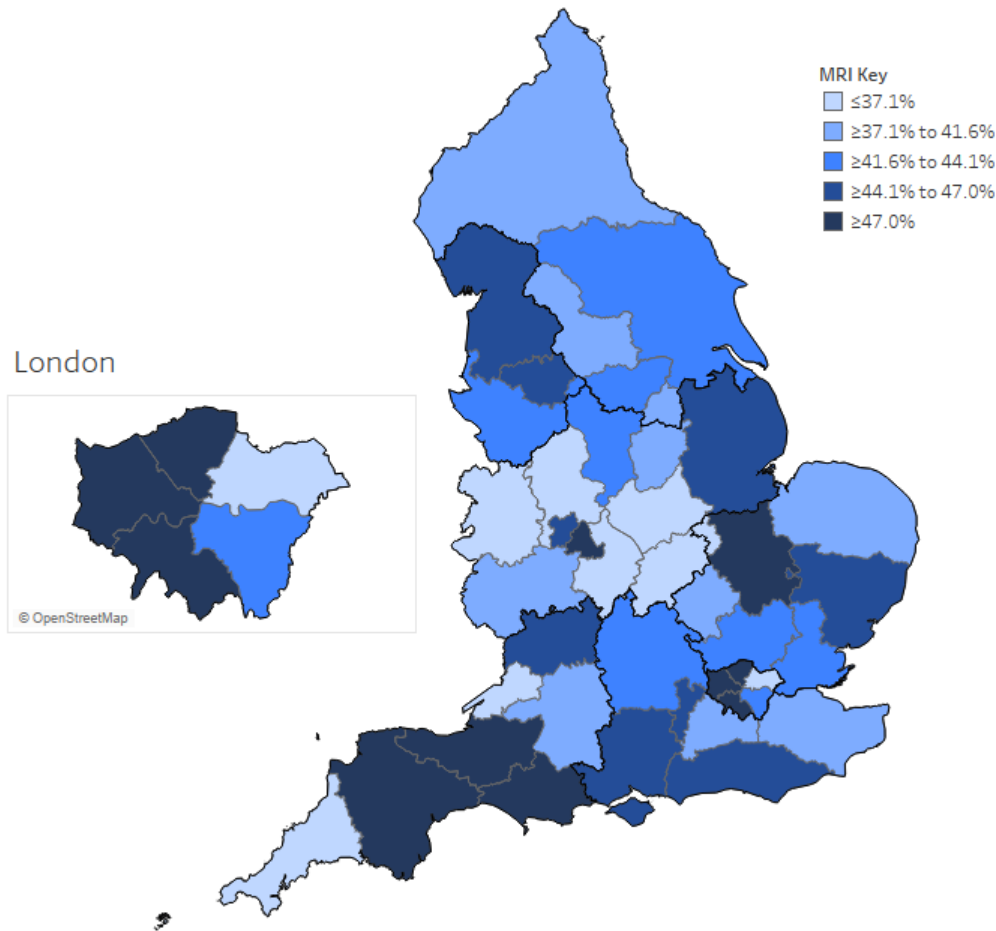
**Map 1: Proportion of CT scans where date of test is up to 7 days after date of referral, for each ICB, 2022/23**



**Map 2: Proportion of Ultrasounds where date of test is up to 14 days after date of request, for each ICB, 2022/23**



**Map 3: Proportion of MRI Scans where date of test is up to 14 days after date of request, for each ICB, 2022/23**



## 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 4 days, for PET-CT and SPECT 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 2022/23 increased by one day for MRI and SPECT scans, compared with 2021/22. The overall median test to report times were the same in 2022/23 as in 2021/22 for all modalities.

**Table 4: Median number of days between date of test and date test report issued, by modality, April 2022 to March 2023**

	X-ray	Ultra-sound	CT Scans	MRI	Fluoroscopy	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
2022/23	1	0	0	4	0	1	2	2	0
Apr	2	0	0	4	0	1	2	1	0
May	1	0	0	3	0	1	2	1	0
Jun	1	0	0	3	0	1	2	2	0
Jul	2	0	0	4	0	1	3	2	0
Aug	1	0	0	4	0	1	3	2	0
Sep	1	0	0	4	0	1	3	2	0
Oct	1	0	0	4	0	1	2	2	0
Nov	1	0	0	3	0	1	2	2	0
Dec	1	0	0	4	0	1	2	1	0
Jan	1	0	0	3	0	1	2	1	0
Feb	1	0	0	3	0	1	2	2	0
Mar	1	0	0	4	0	1	2	2	0

4.2.3. Guidance on Diagnostic imaging reporting turnaround times<sup>4</sup>, developed in consultation with and supported by The Royal College of Radiologists and The Society of Radiographers, stresses the importance of reporting images in as short a time as possible for the timely diagnosis and treatment of patients. The guidance suggests turnaround times from 12 hours (<4 hours for Emergency Department requests and the acutely unwell) up to 28 days according to urgency and modality. Whilst the DID cannot currently monitor all these report turnaround times, Table 13 (separate Excel file) provides quarterly turnaround times in relevant numbers of days, by provider.

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 2022/23 than in 2021/22; the exceptions were Ultrasound, Fluoroscopy and Inpatient or A&E X-ray, CT and MRI scans, where there was no change by the next day. Table 10 (separate Excel file) gives this breakdown by provider.

<sup>4</sup> Diagnostic imaging reporting turnaround times, NHS England, first published 9 August 2023, see [NHS England » Diagnostic imaging reporting turnaround times](#)

**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 2022 to March 2023**

**Inpatient and A&E**

Reported by:		X-ray		Ultrasound		CT Scans		MRI		Fluoroscopy		Nuclear Medicine		PET-CT Scans		SPECT Scans		Medical Photography	
		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
<b>Inpatient and A&amp;E</b>	<b>2012/13</b>	25%	50%	91%	94%	81%	92%	64%	81%	70%	79%	58%	76%	23%	54%	75%	84%	20%	59%
	<b>2013/14</b>	25%	51%	92%	96%	84%	94%	65%	81%	71%	80%	59%	78%	28%	52%	73%	84%	48%	76%
	<b>2014/15</b>	26%	53%	93%	96%	85%	95%	66%	82%	72%	81%	60%	78%	29%	57%	67%	87%	49%	73%
	<b>2015/16</b>	28%	55%	94%	96%	88%	96%	67%	83%	72%	82%	62%	77%	35%	61%	72%	85%	52%	74%
	<b>2016/17</b>	29%	55%	94%	96%	88%	96%	65%	80%	73%	82%	64%	77%	39%	64%	76%	85%	48%	66%
	<b>2017/18</b>	28%	53%	95%	97%	88%	97%	66%	80%	73%	82%	66%	79%	36%	61%	80%	88%	52%	65%
	<b>2018/19</b>	28%	53%	95%	97%	89%	97%	69%	83%	73%	81%	66%	79%	33%	62%	78%	87%	51%	62%
	<b>2019/20</b>	28%	53%	96%	98%	90%	97%	70%	83%	75%	82%	65%	79%	28%	58%	80%	88%	52%	62%
	<b>2020/21</b>	36%	64%	97%	98%	91%	98%	75%	89%	77%	85%	69%	83%	35%	67%	83%	91%	54%	68%
	<b>2021/22</b>	28%	53%	97%	98%	91%	98%	74%	87%	79%	86%	68%	81%	30%	63%	79%	89%	49%	60%
	<b>2022/23</b>	29%	53%	97%	98%	91%	98%	74%	87%	79%	86%	65%	78%	26%	53%	78%	87%	47%	56%
	<b>Apr</b>	27%	49%	97%	98%	91%	98%	75%	87%	80%	86%	68%	78%	26%	55%	82%	89%	45%	52%
	<b>May</b>	28%	53%	96%	98%	91%	98%	75%	88%	79%	86%	65%	79%	27%	57%	83%	91%	50%	59%
	<b>Jun</b>	29%	52%	96%	98%	91%	98%	75%	87%	79%	86%	67%	78%	27%	54%	75%	84%	54%	61%
	<b>Jul</b>	29%	52%	97%	98%	90%	97%	73%	85%	80%	86%	64%	76%	24%	40%	74%	83%	47%	54%
	<b>Aug</b>	29%	53%	97%	98%	91%	98%	74%	87%	80%	87%	65%	78%	23%	48%	75%	88%	43%	53%
	<b>Sep</b>	28%	51%	97%	98%	90%	98%	73%	86%	79%	85%	66%	78%	30%	54%	80%	88%	49%	57%
	<b>Oct</b>	29%	53%	97%	98%	91%	98%	74%	87%	79%	85%	67%	79%	24%	54%	80%	88%	45%	48%
	<b>Nov</b>	31%	56%	97%	98%	91%	98%	74%	87%	79%	86%	63%	77%	23%	58%	78%	87%	45%	55%
	<b>Dec</b>	29%	51%	97%	98%	91%	98%	74%	86%	78%	85%	68%	81%	28%	54%	78%	85%	46%	58%
<b>Jan</b>	31%	55%	97%	98%	91%	98%	74%	87%	78%	85%	65%	78%	28%	54%	78%	86%	43%	50%	
<b>Feb</b>	31%	55%	96%	98%	90%	98%	73%	87%	79%	85%	65%	79%	27%	54%	79%	88%	53%	61%	
<b>Mar</b>	31%	55%	97%	98%	91%	98%	74%	87%	78%	85%	63%	76%	27%	57%	76%	86%	48%	58%	



Outpatient and GP Direct Access

Reported by:		X-ray		Ultrasound		CT Scans		MRI		Fluoroscopy		Nuclear Medicine		PET-CT Scans		SPECT Scans		Medical Photography	
		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
Outpatient and GP Direct Access	2012/13	37%	53%	84%	90%	34%	50%	20%	35%	54%	68%	23%	45%	9%	39%	23%	46%	25%	70%
	2013/14	38%	53%	87%	91%	32%	47%	19%	34%	56%	70%	25%	46%	9%	35%	22%	43%	66%	90%
	2014/15	38%	54%	88%	93%	29%	45%	18%	33%	59%	72%	26%	47%	10%	38%	20%	44%	70%	86%
	2015/16	39%	54%	89%	93%	27%	42%	17%	32%	61%	73%	29%	50%	13%	38%	23%	44%	57%	76%
	2016/17	38%	54%	90%	94%	27%	40%	17%	31%	63%	74%	30%	50%	16%	41%	24%	44%	58%	72%
	2017/18	39%	54%	91%	94%	25%	37%	16%	29%	65%	76%	31%	51%	14%	43%	23%	43%	60%	71%
	2018/19	39%	54%	92%	95%	23%	36%	15%	29%	64%	74%	30%	49%	12%	39%	24%	42%	62%	70%
	2019/20	38%	53%	93%	95%	21%	33%	14%	28%	63%	74%	30%	50%	11%	37%	23%	43%	62%	71%
	2020/21	47%	64%	94%	96%	26%	43%	19%	36%	67%	78%	37%	58%	17%	50%	28%	49%	74%	83%
	2021/22	39%	53%	94%	96%	19%	32%	14%	28%	67%	77%	35%	54%	15%	44%	25%	44%	72%	81%
	2022/23	37%	50%	94%	96%	18%	29%	13%	24%	67%	77%	34%	52%	11%	36%	24%	41%	65%	74%
	Apr	36%	49%	94%	96%	17%	28%	12%	23%	67%	77%	34%	53%	12%	38%	26%	43%	65%	73%
	May	36%	50%	93%	96%	18%	30%	13%	25%	67%	78%	34%	53%	13%	40%	25%	46%	65%	75%
	Jun	36%	49%	94%	96%	17%	29%	13%	25%	66%	77%	34%	53%	12%	40%	23%	40%	69%	79%
	Jul	35%	47%	94%	96%	17%	27%	13%	24%	66%	76%	33%	50%	11%	30%	23%	38%	61%	70%
	Aug	36%	48%	94%	96%	18%	27%	13%	24%	66%	77%	33%	51%	11%	34%	22%	38%	58%	73%
	Sep	36%	48%	94%	96%	18%	28%	13%	23%	67%	77%	34%	52%	11%	33%	23%	40%	65%	76%
	Oct	37%	49%	94%	96%	18%	29%	12%	24%	68%	78%	32%	52%	11%	38%	22%	40%	61%	65%
	Nov	39%	53%	94%	96%	19%	31%	13%	26%	67%	78%	35%	54%	8%	35%	24%	41%	60%	72%
	Dec	40%	53%	94%	96%	18%	29%	12%	24%	68%	78%	34%	54%	10%	33%	24%	43%	71%	78%
Jan	40%	54%	93%	96%	20%	33%	12%	25%	67%	78%	35%	54%	10%	37%	25%	44%	67%	73%	
Feb	38%	51%	93%	95%	18%	30%	13%	25%	66%	77%	33%	52%	10%	36%	23%	41%	69%	78%	
Mar	37%	49%	94%	96%	18%	29%	12%	24%	67%	77%	32%	51%	11%	37%	23%	40%	67%	72%	

## 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 2022/23, 11.1 million of these tests that may have been used to diagnose or discount cancer were performed, up 2.9% from 10.8 million in 2021/22. Chest X-ray referrals were up 2.2% from 2021/22 and Pelvic and Kidney Ultrasound were up 2.4% and 4.2% respectively, but none of these returned to 2019/20 pre-pandemic levels and GP referrals were still lower for Pelvic and Kidney Ultrasound. However, Chest or abdomen CT and Brain MRI activity exceeded 2019/20 pre-pandemic levels, especially for direct GP

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referrals, and were up 8.7% and 5.3% respectively compared with 2022/23. 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.

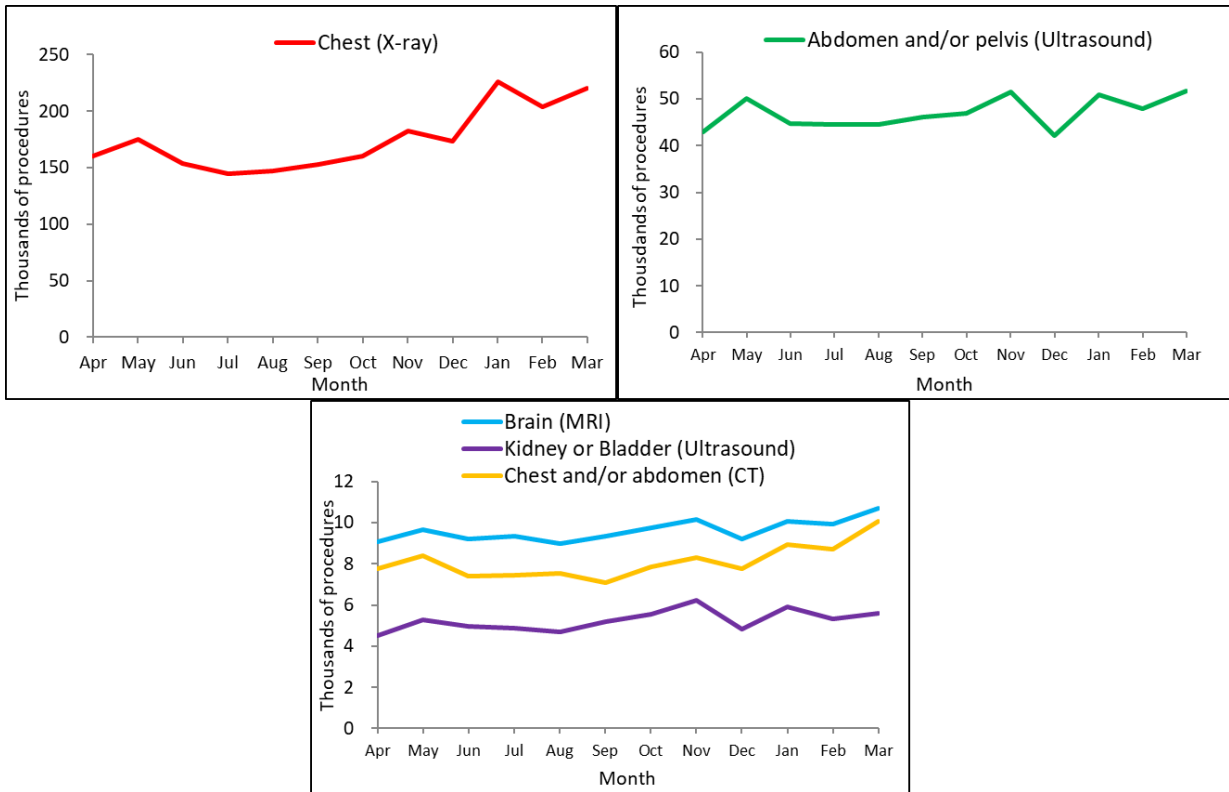
**Table 6: Imaging activity for groups of tests suitable for diagnosing cancer, for all patients referred and for those directly referred by a GP, April 2022 to March 2023**

	Brain (MRI)		Kidney or bladder (Ultrasound)		Chest and/or abdomen (CT)		Chest (X-ray)		Abdomen and/or pelvis (Ultrasound)	
	All	GP	All	GP	All	GP	All	GP	All	GP
<b>2012/13</b>	472,820	31,035	220,270	67,455	388,640	32,210	7,728,945	1,993,455	1,165,540	536,945
<b>2013/14</b>	529,285	39,540	220,045	65,390	438,190	39,180	7,694,255	1,931,255	1,246,130	570,170
<b>2014/15</b>	584,755	50,150	228,810	67,060	490,140	46,680	8,170,075	2,128,450	1,303,945	600,390
<b>2015/16</b>	629,050	68,325	222,740	65,920	512,825	50,995	8,070,205	2,019,280	1,312,635	600,365
<b>2016/17</b>	686,365	76,925	233,440	65,990	539,405	58,875	8,253,310	2,167,875	1,286,845	576,665
<b>2017/18</b>	717,650	82,115	228,970	62,700	566,610	63,790	8,332,405	2,161,805	1,264,240	559,955
<b>2018/19</b>	774,845	87,320	240,255	65,745	611,620	68,105	8,280,540	2,051,840	1,312,270	586,075
<b>2019/20</b>	802,490	90,970	237,355	63,870	638,905	75,910	8,347,800	2,079,920	1,290,100	581,370
<b>2020/21</b>	689,780	75,280	176,455	43,665	561,555	52,775	6,723,690	1,090,125	947,380	390,705
<b>2021/22</b>	837,395	103,735	203,270	57,415	684,040	82,115	7,906,825	1,818,905	1,179,865	537,275
<b>2022/23</b>	882,125	115,460	211,845	62,995	743,400	97,280	8,080,450	2,099,550	1,208,240	563,815
<b>Change</b>	5.3%	11.3%	4.2%	9.7%	8.7%	18.5%	2.2%	15.4%	2.4%	4.9%
<b>2022/23</b>										
<b>Apr</b>	70,485	9,070	15,880	4,520	58,570	7,765	651,925	160,130	93,555	42,885
<b>May</b>	76,045	9,645	17,965	5,280	64,370	8,385	684,210	175,045	107,575	50,190
<b>Jun</b>	70,935	9,225	16,855	4,945	60,015	7,395	634,510	153,770	97,105	44,655
<b>Jul</b>	70,530	9,360	16,895	4,885	60,405	7,455	618,705	144,920	96,130	44,595
<b>Aug</b>	70,205	8,970	16,810	4,680	58,080	7,550	594,350	147,390	96,490	44,455
<b>Sep</b>	72,880	9,360	17,600	5,200	57,910	7,100	626,180	152,715	100,215	46,045
<b>Oct</b>	71,950	9,730	17,855	5,555	60,100	7,865	661,260	160,190	99,885	46,940
<b>Nov</b>	74,935	10,160	19,560	6,245	62,670	8,290	683,355	182,380	108,555	51,540
<b>Dec</b>	70,035	9,190	16,540	4,810	59,135	7,760	743,275	173,200	90,540	42,105
<b>Jan</b>	78,105	10,080	19,270	5,935	66,750	8,940	759,335	225,770	107,335	50,795
<b>Feb</b>	73,520	9,950	17,760	5,325	63,345	8,710	675,120	203,875	101,250	48,000
<b>Mar</b>	82,500	10,715	18,870	5,620	72,050	10,065	748,230	220,170	109,600	51,610

1. Totals do not always equal the sum of parts due to rounding.
2. % Change is between 2021/22 and 2022/23.

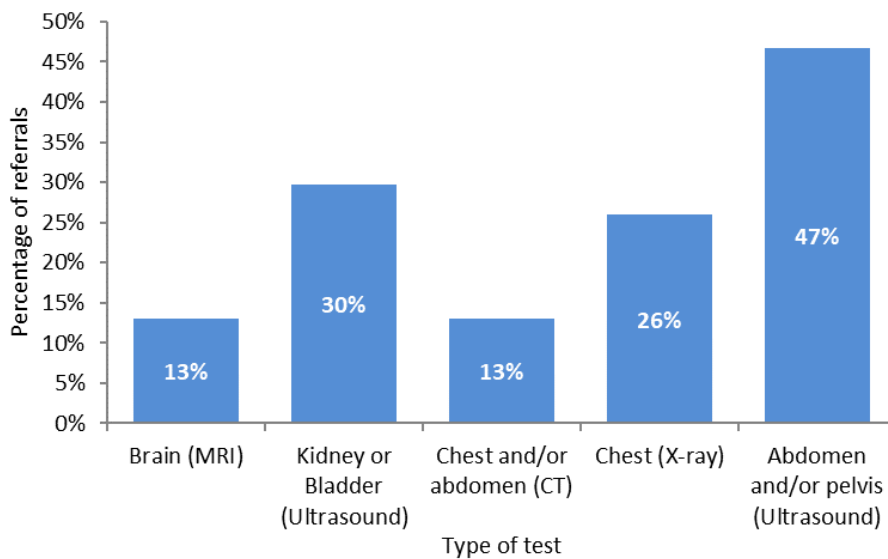
5.2.2. Chest X-ray remained the most common of these tests, with 8.1 million tests being requested through all source settings in 2022/23. This was also the most common test requested by GPs, at 2.1 million (up 15.4% on 2021/22). Next most common were tests that may have been used to diagnose ovarian cancer (Abdominal or Pelvic Ultrasound, 1.2 million), with 47% of such tests being requested by a GP. Imaging activity for patients referred by a GP increased for all modalities in 2022/23 compared with 2021/22. 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 2022 to March 2023**



5.2.3. Of the 11.1 million tests suitable for diagnosing cancer requested in 2022/23, 26.4% were requested by GPs under direct access arrangements, compared with 24.0% in 2021/22. This increase in the proportion referred by GPs was seen for all tests. 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 (13%) and Brain MRI (13%).

**Graph 4.2: Percentage of referrals made by GPs by type of test, 2022/23**



### 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 for groups of tests suitable for diagnosing cancer, overall and for GP Direct Access, April 2022 to March 2023**

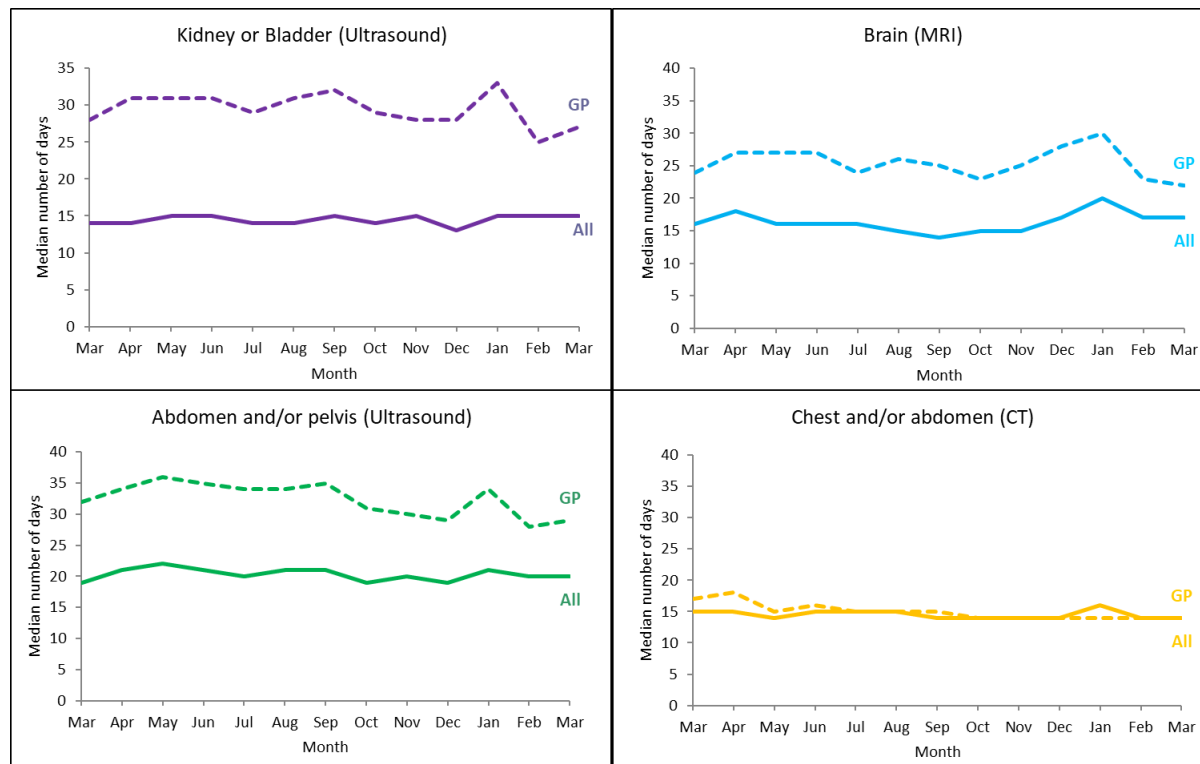
	Brain (MRI)		Kidney or bladder (Ultrasound)		Chest and/or abdomen (CT)		Chest (X-ray)		Abdomen and/or pelvis (Ultrasound)	
	All	GP	All	GP	All	GP	All	GP	All	GP
2012/13	21	25	13	23	13	17	0	0	14	22
2013/14	21	25	13	23	13	16	0	0	15	24
2014/15	21	26	13	24	14	17	0	0	17	26
2015/16	19	21	11	26	14	16	0	0	17	27
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
2022/23	16	25	15	30	14	15	0	5	20	32
Apr	18	27	14	31	15	18	0	7	21	34
May	16	27	15	31	14	15	0	6	22	36
Jun	16	27	15	31	15	16	0	7	21	35
Jul	16	24	14	29	15	15	0	6	20	34
Aug	15	26	14	31	15	15	0	5	21	34
Sep	14	25	15	32	14	15	0	5	21	35
Oct	15	23	14	29	14	14	0	4	19	31
Nov	15	25	15	28	14	14	0	4	20	30
Dec	17	28	13	28	14	14	0	3	19	29
Jan	20	30	15	33	16	14	0	3	21	34
Feb	17	23	15	25	14	14	0	4	20	28
Mar	17	22	15	27	14	14	0	4	20	29

Note: 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 2022/23, 'Date of test request received' was used instead. Records where both dates were missing were excluded from the median calculation.

5.3.2. The median period from request to test was unchanged or lower in 2022/23 than in 2021/22 for most key tests under GP direct access arrangements, but remained higher than the pre-pandemic levels seen in 2019/20 for all except Chest CT. However, the overall median number of days between request to test in 2022/23 was comparable to pre-pandemic levels for most tests that 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 2022/23 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 2023 for all modalities except Chest X-ray.

**Graph 5: Median number of days between date of test request and date of test for groups of tests suitable for diagnosing cancer, overall and for GP Direct Access, March 2022 to March 2023**



**Patient test times – Test to report**

5.3.4. The overall period between the date of test and the date the report was issued was similar to pre-pandemic 2019/20 levels for most tests suitable for diagnosing cancer in 2022/23. Compared with 2021/22, the median period from test to report for Chest CT rose from 3 days to 4 days, whilst the median turnaround time for Brain MRI and Chest X-Ray remained at 2 days and for Pelvic and Kidney Ultrasound remained at 0 days, as shown in Table 8.

5.3.5. For GP direct access referrals, there is generally a slightly lower percentage of tests suitable for diagnosing cancer reported the same day than overall; the exception is Chest X-ray. The difference for Ultrasound tests were small, as over 90% were reported on the same day. For Brain MRI, the median period from test to report was 2 days longer for GP-referred cases than the overall median.

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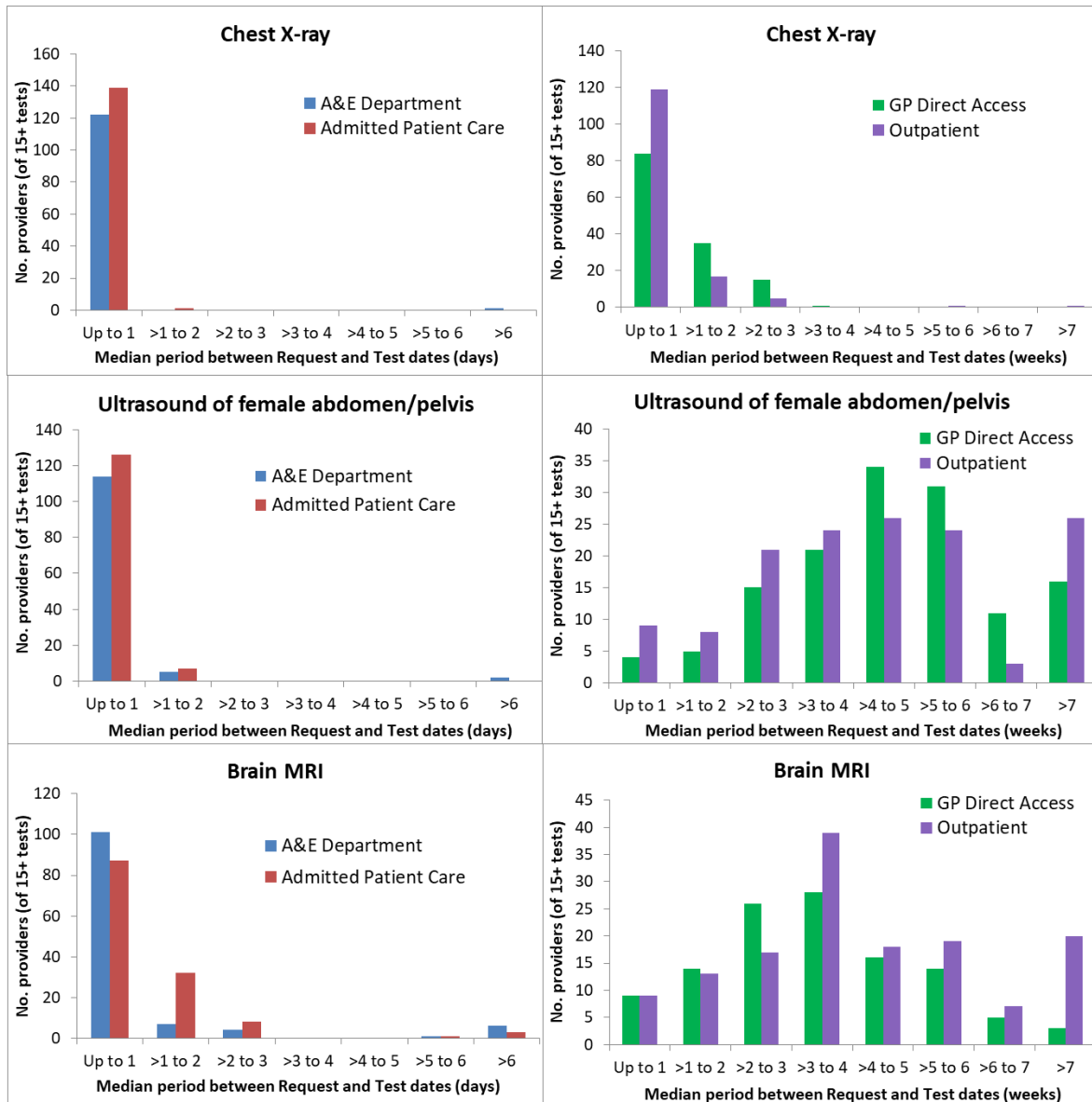
**Table 8: Median number of days between date of test and date test report issued and Percentage of records where report issued on day of test, for groups of tests suitable for diagnosing cancer, All referrals and GP Direct Access, April 2022 to March 2023**

	Brain (MRI)				Kidney or bladder (Ultrasound)				Chest and/or 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	All Median	All % Same day	GP Median	GP % Same day	All Median	All % Same day	GP Median	GP % Same day
<b>2012/13</b>	2	32%	3	17%	0	85%	0	80%	1	42%	2	32%	2	25%	2	29%	0	86%	0	84%
<b>2013/14</b>	2	34%	3	18%	0	89%	0	85%	1	40%	2	29%	2	25%	2	28%	0	89%	0	88%
<b>2014/15</b>	2	33%	3	18%	0	91%	0	88%	1	38%	2	27%	2	25%	2	28%	0	90%	0	89%
<b>2015/16</b>	2	35%	3	21%	0	92%	0	89%	1	36%	2	25%	2	26%	2	29%	0	92%	0	90%
<b>2016/17</b>	2	33%	3	19%	0	93%	0	89%	2	36%	3	23%	2	26%	2	27%	0	93%	0	91%
<b>2017/18</b>	2	32%	3	16%	0	94%	0	90%	2	34%	4	19%	2	24%	2	28%	0	94%	0	92%
<b>2018/19</b>	2	33%	3	17%	0	95%	0	92%	3	32%	4	19%	2	24%	1	29%	0	95%	0	93%
<b>2019/20</b>	2	33%	3	17%	0	95%	0	92%	3	30%	4	16%	2	24%	2	28%	0	95%	0	94%
<b>2020/21</b>	1	39%	2	23%	0	95%	0	92%	1	39%	2	23%	1	35%	1	43%	0	96%	0	93%
<b>2021/22</b>	2	35%	3	18%	0	95%	0	91%	3	30%	4	18%	2	24%	1	30%	0	95%	0	93%
<b>2022/23</b>	2	34%	4	16%	0	95%	0	92%	4	28%	4	17%	2	23%	2	29%	0	95%	0	93%
<b>Apr</b>	2	34%	5	12%	0	95%	0	91%	4	28%	4	17%	3	22%	2	27%	0	95%	0	93%
<b>May</b>	2	34%	4	15%	0	95%	0	92%	4	28%	4	17%	2	23%	2	28%	0	95%	0	93%
<b>Jun</b>	2	35%	4	14%	0	95%	0	91%	4	28%	5	16%	2	23%	2	29%	0	95%	0	93%
<b>Jul</b>	2	34%	4	18%	0	94%	0	90%	4	27%	5	17%	3	22%	2	27%	0	95%	0	93%
<b>Aug</b>	2	35%	4	16%	0	95%	0	92%	5	28%	5	18%	2	23%	2	27%	0	95%	0	93%
<b>Sep</b>	2	35%	4	17%	0	94%	0	92%	4	28%	4	18%	3	21%	2	27%	0	95%	0	93%
<b>Oct</b>	2	34%	3	17%	0	95%	0	93%	4	27%	5	17%	2	22%	2	28%	0	95%	0	93%
<b>Nov</b>	2	35%	3	15%	0	95%	0	93%	3	28%	4	16%	2	25%	1	32%	0	95%	0	93%
<b>Dec</b>	2	35%	4	15%	0	95%	0	93%	4	28%	4	17%	3	24%	2	31%	0	95%	0	93%
<b>Jan</b>	2	33%	4	16%	0	95%	0	92%	3	28%	3	18%	2	25%	1	32%	0	95%	0	93%
<b>Feb</b>	2	34%	4	14%	0	94%	0	91%	4	27%	4	16%	2	25%	2	30%	0	95%	0	92%
<b>Mar</b>	2	34%	4	16%	0	95%	0	92%	4	26%	4	16%	2	25%	2	30%	0	95%	0	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. Chest X-ray has least variation by provider in the median period from request to test, with the median for A&E and admitted patients generally up to a day and those for GP referrals and outpatients generally up to a week, but with more spread over a week than was usual pre-COVID. The median from request to test was also generally up to one day for Ultrasound of female abdomen/pelvis and Brain MRI for A&E and admitted patients, but with more variability for Brain MRI for admitted patients. 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, 2022/23**

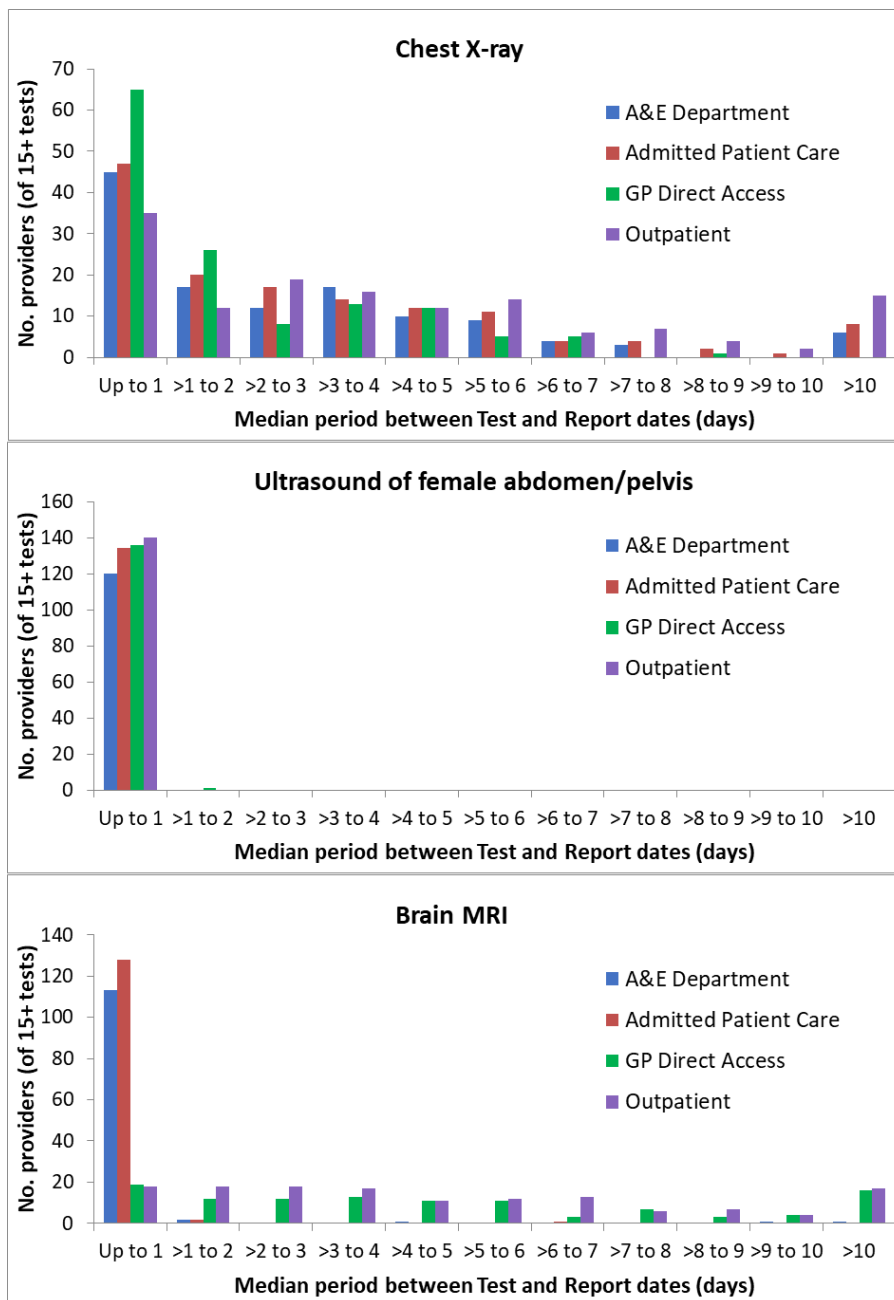


Note: Median period from 'date of test request' or, where missing, 'date of test request received' to 'date of test'.



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 some 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. 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. Longer median test to report periods did not necessarily appear in the same providers as longer median request to test periods, nor in those with higher or lower activity (no significant correlations were found).

**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, 2022/23**



## 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 has reduced in 2022/23, with 19 providers failing to submit all or any records for at least one month. The overall shortfall from these missing submissions is estimated to be around 1.1 million imaging records, or 2.5% of the total submitted. In addition, some data submissions may be incomplete. The biggest shortfalls are listed below (see Section 4 of the Technical Report for further details):
- 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.
  - 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.
  - 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.
  - 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.
  - Buckinghamshire Healthcare NHS Trust (RXQ) did not report any activity from January to March 2023, resulting in an estimated shortfall of 75,000 records.
- 6.1.4. In addition to shortfalls from missing submissions, absent or misleading data in individual fields may affect analysis of the data. Examples are listed below, with more given in Section 4 of the Technical Report:
- 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 under the 'Other' patient source setting.
  - Gateshead Health NHS Foundation Trust (RR7) used the 'Other' patient source setting instead of GP Direct access from April to December 2022.

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- 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.
- Whittington Health NHS Trust (RKE) submitted no Test request dates or Test report issued dates during 2022/23.
- Wye Valley NHS Trust (RLQ) submitted no Test report issued dates in 2022/23.

6.1.5. Other providers missing certain data fields for all or part of the year include 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.

6.1.6. 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;
- The patient is currently admitted to a hospital bed and is waiting for a diagnostic test/procedure as part of their inpatient treatment.

6.1.7. For the data published here, 98.3% of tests had a date of test request or date of test request received included (up from 97.9% in 2021/22). In addition, 94.3% of tests had a date of test report issue included (up from 93.1% in 2021/22).

6.1.8. Some patient records have no known commissioner as this is derived from patient registered GP practice which is not a mandatory field. In 2022/23, where this was missing, ICB and Sub-ICB Location were derived from Lower Super Output Area (LSOA) based on patient postcode instead. Data shortfalls by provider also affect their commissioner data.

6.1.9. 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 [NHS England DID website](#).

## 6.2 Revisions

In the provisional publications, several Trusts did not provide data on time and their figures were shown as blank. Many 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 real-time 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](mailto:england.did@nhs.net).

### 6.4.2. Websites

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 [submission website](#).

The DID Additional Tables and Technical Report can be found on [NHS England DID website](#).

### 6.4.3. 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)

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