NATIONAL CANCER DIAGNOSIS AUDIT
SCOTLAND
2014

SUMMARY INFORMATION FROM AN AUDIT OF PATIENTS DIAGNOSED IN 2014

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Users should therefore be aware of the aspects of data quality and caveats surrounding these data, all of which are listed in this document.

ABOUT THE NATIONAL CANCER DIAGNOSIS AUDIT

The National Cancer Diagnosis Audit Scotland is the Scottish part of a UK-wide audit, co-ordinated by Cancer Research UK. The Scottish part of the audit was overseen by a Scottish steering group, which includes representation from the Royal College of General Practitioners, the Scottish Primary Care Cancer Group, Scottish Government, Macmillan Cancer Support, academic GPs and Information Services Division (ISD -part of NHS National Services Scotland). ISD was responsible for the collection of data from GPs, linkage to secondary care data and provision of a pseudonymised dataset to the UK audit team at Public Health England for analysis and reporting.

The purpose of the National Cancer Diagnosis Audit is to support service improvement in relation to cancer diagnosis. The main outputs were in the form of direct, tailored feedback to participating practices and there is evidence that they are actively using this to drive local improvement (for example: identifying ways of speeding up referral processes, improving safety netting and increasing collaboration with secondary care). As well as local improvement work, further analysis of the audit dataset is planned to explore cancer diagnosis pathways.

Participating practices submitted data on 2,014 diagnoses, around 6% of the total diagnoses in Scotland during 2014. This audit information summary is not intended to be a representative summary of results for Scotland; it is being released to increase awareness of the audit and what it covered.

The data collection for the audit took place in spring 2017, followed by analysis and provision of feedback to participating practices in November 2017. The diagnosis timeframe of the audit was 2014, to ensure that fully confirmed diagnoses could be identified from centrally held data and flagged to participating practices.

BACKGROUND INFORMATION

The first National Cancer Diagnosis Audit in primary care was completed in England in 2010. The audit process and results motivated repeatable cycles of quality improvement activities (such as Significant Event Audit activity), generated influential evidence about the size and nature of the challenge of cancer diagnosis in primary care and led to the development of a suite of audit tools.

WHAT IS INCLUDED IN THIS REPORT

This report contains a summary of the data collected across Scotland and within each of the three regional cancer networks (RCN). Coverage varied by region. Around 8% of all Scottish practices participated in the audit.

<table>
<thead>
<tr>
<th>Area</th>
<th>Number of participating practices</th>
<th>Number of diagnoses audited</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCOTLAND</td>
<td>73</td>
<td>2,014</td>
</tr>
<tr>
<td>North RCN</td>
<td>27</td>
<td>718</td>
</tr>
<tr>
<td>South East RCN</td>
<td>10</td>
<td>217</td>
</tr>
<tr>
<td>West RCN</td>
<td>36</td>
<td>1,079</td>
</tr>
</tbody>
</table>

PLEASE NOTE:

• The summary results presented in this report are unlikely to be fully representative of all patients diagnosed with cancer in Scotland in 2014.
• Any comparisons of regions should take into account the variation in coverage and potential differences in the profile of populations served by participating practices in the different regions.
• Not all of the available NCDA data are shown in this report (e.g. presenting symptoms and co-morbidities) but these will be investigated in further analysis and research.
SUMMARY OF RESULTS

The summary provides an overview of the data completed for the NCDA. Please see the individual results sections for more information and for comparisons with the other Regional Cancer Networks in Scotland.

- Cancer Type
- Place of presentation
- Primary Care Interval
- Consultations
- Investigations
- Referrals
- Method of first detection
- Avoidable delays
- Demographics

SUMMARY OF RESULTS FOR NCDA SCOTLAND

CANCER TYPE SUMMARY

Data for the NCDA in Scotland was completed on 2,014 cancer patients diagnosed in 2014. The table below shows the number and percentage of records where data were entered for the top four most common cancers.

<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Scotland number</th>
<th>Scotland %</th>
<th>North RCN number</th>
<th>North RCN %</th>
<th>South East RCN number</th>
<th>South East RCN %</th>
<th>West RCN number</th>
<th>West RCN %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>270</td>
<td>13.4</td>
<td>86</td>
<td>12.0</td>
<td>28</td>
<td>12.9</td>
<td>156</td>
<td>14.5</td>
</tr>
<tr>
<td>Colorectal</td>
<td>263</td>
<td>13.1</td>
<td>89</td>
<td>12.4</td>
<td>31</td>
<td>14.3</td>
<td>143</td>
<td>13.3</td>
</tr>
<tr>
<td>Lung</td>
<td>333</td>
<td>16.5</td>
<td>115</td>
<td>16.0</td>
<td>32</td>
<td>14.7</td>
<td>186</td>
<td>17.2</td>
</tr>
<tr>
<td>Prostate</td>
<td>222</td>
<td>11.0</td>
<td>93</td>
<td>13.0</td>
<td>22</td>
<td>10.1</td>
<td>107</td>
<td>9.9</td>
</tr>
</tbody>
</table>
DEMOGRAPHICS SUMMARY

The demographics for the patients (for whom data were completed) for Scotland are shown below.

- Female; 50.4%
- Median age of 70 years
- White ethnicity; 95.7%

PLACE OF PRESENTATION SUMMARY

The most common place where the patient first presented with symptoms, ultimately considered by the GP to be related to the cancer diagnosis was the GP Surgery for 62.9% patients.

The proportion of patients who first presented at Accident and Emergency with symptoms ultimately considered by the GP to be related to the cancer diagnosis was 3.7% of patients.

PRIMARY CARE INTERVAL SUMMARY

The median primary care interval (time from first presentation of symptoms to referral by any route) was 4 days.

CONSULTATIONS SUMMARY

The proportion of patients who had less than 3 consultations before referral was 65.3%. The median number of consultations, prior to referral by any route, was 1 consultation (range: 0 - 24).

INVESTIGATIONS SUMMARY

The proportion of patients in Scotland who had no primary care led investigations prior to referral was 38%.

For patients who had a primary care led investigation prior to referral, the most common investigation was a blood test for 37.3% patients.

REFERRALS SUMMARY

The most common route of referral for patients was though the urgent suspicion of cancer referral (USC) for 37.4% patients.

In Scotland, 20% of patients were referred by emergency. Of those, 28.4% were referred by the following route: 'Patient was referred to A&E / hospital as an emergency by the GP or OOH service (e.g. emergency A&E or emergency admission to surgical or medical ward) - patient had no prior relevant GP consultations'.

PERCEIVED AVOIDABLE DELAYS SUMMARY

For around a quarter of patients (24.5%) GPs said that in hindsight they perceived there may have been an “avoidable delay” (of unspecified length) in the patient receiving their diagnosis. The audit process has prompted participating practices to reflect further on why this was and they are actively working to identify future improvements, with support from Cancer Research UK.
RESULTS SECTION

The following results section shows more information on the data submitted to the NCDA for patients diagnosed with cancer in 2014 in Scotland. Results from the three Regional Cancer Networks are provided as a comparison to the Scotland data.

NUMBER OF RECORDS COMPLETED IN THE NCDA:

- **Scotland**: 2014
- **North RCN**: 718
- **South East RCN**: 217
- **West RCN**: 1079

CANCER TYPE

The figure below shows the proportion of patients by cancer type, as recorded by ISD Scotland. The most common diagnosis for the NCDA completed in Scotland was lung cancer for 16.5% of patients. To compare these data to the cancer incidence figures for Scotland, please see: [http://www.isdscotland.org/Health-Topics/Cancer/Cancer-Statistics/All-Types-of-Cancer/](http://www.isdscotland.org/Health-Topics/Cancer/Cancer-Statistics/All-Types-of-Cancer/)

Notes

CNS: Central Nervous System (including brain)
The following graphs show the same data as above but focused on the four most common cancer types.

**CANCER STAGE**

The cancer stage at diagnosis, as recorded by ISD, is shown here and the cancer stages have been combined into 'early' (stages 1/2) and 'late' (stages 3/4).

In Scotland, 26.4% patients were diagnosed with early stage cancer and 33.4% were diagnosed with late stage cancer (40.2% not known).
The graphs below show the proportion of patients by cancer stage and cancer type, for the four most common cancer diagnoses.
PLACE OF PRESENTATION

The following data shows information on the place where the patient first presented with symptoms ultimately considered by the GP to be related to the diagnosis of cancer.

The most common place where the patient first presented with symptoms was the GP Surgery for 62.9% of patients in Scotland.

The following figures show the proportion of patients and where they presented with symptoms related to cancer.
The following graphs show the place at presentation by the four most common cancer types. No national screening programme exists in Scotland for prostate or lung cancers. A small number of GPs however reported that prostate cancer patients had been identified by “screening”; these may be errors or may relate to patients who were under surveillance.
The results here show the number of days from when the patient first presented with symptoms, which were ultimately considered by the GP to be related to the cancer diagnosis, to the date of first referral from primary care. Results are shown for all places of presentation and all referral types, except for patients who had a screen detected cancer. A primary care interval could only be calculated where there was a date for both presentation and referral.

The median time from first presentation of symptoms to referral was:

- **Scotland**: 4 days
- **North RCN**: 6 days
- **South East RCN**: 6 days
- **West RCN**: 4 days

The dot in each of the plots below represents one patient and the time from first presentation of symptoms to referral. The pattern of the dots show how long it took for cancer patients to be referred after presentation to first referral for all cancers.
CONSULTATIONS

The results show the number of consultations for cancer-related symptoms in the year before the referral that led to the cancer diagnosis. The number includes the consultation that led directly to the referral. A consultation includes email, telephone, nurse practitioner and nurse consultations, in any clinical setting.

The median number of consultations prior to referral was:

- **Scotland**: 1 consultation (range: 0 - 24)
- **North RCN**: 1 consultation (range: 0 - 24)
- **South East RCN**: 1 consultation (range: 0 - 24)
- **West RCN**: 1 consultation (range: 0 - 20)

The proportion of patients who had less than 3 consultations prior to referral was:

- **Scotland**: 65.3%
- **North RCN**: 63.1%
- **South East RCN**: 64.1%
- **West RCN**: 67.1%

The consultation numbers have been grouped into 'less than 3' and '3 or more consultations'. The graphs below show the proportion of patients which were in each consultation group. The data from those patients who had a screen detected cancer are presented separately.
The number of consultations for the four most common cancer types is shown below.

INVESTIGATIONS

The results below show the number of primary care led investigations that were ordered by the GP as part of the diagnostic assessment prior to referral and in response to symptoms complained of, signs elicited, or abnormal test results. These are investigations where the GP receives the result directly and retains responsibility for acting upon the result.

The proportion of patients in Scotland who had no primary care led investigations prior to referral was 38%.

For those patients who did have a primary care led investigation, the most common investigation ordered by the GP at the practices in Scotland was a 'blood test' for 37.3% patients.

More information on the type of investigation that the patient had is shown in the graphs below. The number of investigation type was counted once e.g. the graphs show one blood test per patient even if the patient had more than one blood test. The data from those patients who had a screen detected cancer are presented separately.
The patients whose cancers were detected through screening are shown in the 'Screen detected' group.

**Notes**

Those patients whose cancers were detected through screening are shown in the 'Screen detected' group.
REFERRALS

The results here show the type of referral that led most directly to a diagnosis of cancer. Where a patient was referred multiple times for reasons attributed to cancer the closest referral to diagnosis was specified.

The proportion of patients who had an urgent referral for suspicion of cancer was:

- **Scotland:** 37.4%
- **North RCN:** 37.2%
- **South East RCN:** 41%
- **West RCN:** 36.8%

The graph below shows the proportion of patients who were referred by each route.

### Notes
- **USC:** Urgent suspicion of cancer
- **Urgent:** Any urgent referral that was not for suspected cancer
- **Emergency:** All emergency referrals, including patient self-referral
The following graphs show the proportion of patients who went through each referral route by the four most common cancers.

Referral number: The median number of referrals prior to diagnosis for patients referred by primary care was:

- **Scotland**: 1 referral (range: 1 - 12)
- **North RCN**: 1 referral (range: 1 - 12)
- **South East RCN**: 1 referral (range: 1 - 5)
- **West RCN**: 1 referral (range: 1 - 6)

(The referral includes those to different specialties, or multiple referrals to the same specialty)
Of those patients referred through emergency in Scotland (20%), the most common route was - 'Patient was referred to A&E / hospital as an emergency by the GP or OOH service (e.g. emergency A&E or emergency admission to surgical or medical ward) - patient had no prior relevant GP consultations' for 28.4% of emergency referrals. The following graphs show the proportion of patients referred by emergency.

**Key of emergency referrals:**

0. Patient self-referred to A&E / hospital, without any prior relevant GP consultations
1. Patient self-referred to A&E / hospital while waiting for referral / investigation arranged by GP previously (e.g. sudden deterioration of patients' symptoms while waiting to be assessed in hospital electively)
2. Patient self-referred to A&E / hospital having previously consulted the GP during the same episode of illness but not awaiting a previously arranged test or referral
3. Patient was referred to A&E / hospital as an emergency by the GP or OOH service (e.g. emergency A&E or emergency admission to surgical or medical ward) - patient had no prior relevant GP consultations
4. Patient was referred to A&E / hospital as an emergency by the GP or OOH service (e.g. emergency A&E or emergency admission to surgical or medical ward) - patient was awaiting to be assessed in hospital following prior referral
5. Patient was referred to A&E / hospital as an emergency by the GP or OOH service having previously consulted the GP during the same episode of illness but not awaiting a previously arranged test or referral
6. Other
7. Unknown / circumstances leading to emergency presentation cannot be verified

**All cancers**

- 402 emergency referrals in NCDA Scotland

![Graph showing proportion of patients referred by emergency]

**Notes**

Only patients who had an emergency referral are shown in the graph above.
METHOD OF FIRST DETECTION

The method of first detection describes how the patient's cancer was first detected and provides additional information to the referral type.

The most common method of first detection in Scotland was 'Clinical presentation' for 86.9% patients.

The following graphs show the proportion of patients who were diagnosed through each route by all cancers combined and by the four most common cancers.
All cancers
2014 patients in NCDA Scotland

Breast cancer
270 patients in NCDA Scotland

Colorectal cancer
263 patients in NCDA Scotland

Lung cancer
333 patients in NCDA Scotland

Prostate cancer
222 patients in NCDA Scotland
PERCEIVED AVOIDABLE DELAYS

The following results show information about where the GP perceived that there may have been an avoidable delay (of unspecified length) in the patient receiving their diagnosis.

The proportion of patients with a perceived avoidable delay was 24.5% in Scotland (Not known: 12.1%).

For the Regional Cancer Networks, avoidable delays were considered to have occurred in the following proportion of patients:

- **North RCN**: 24.8% (Not known: 11.7%)
- **South East RCN**: 23.5% (Not known: 20.7%)
- **West RCN**: 24.5% (Not known: 10.6%)

An avoidable delay could have occurred in pre-consultation, primary care or secondary/tertiary care.

Where the GP considered there to be an avoidable delay in the patient receiving their diagnosis, the most common location for patients in Scotland was in 'Primary care' for 39.6% patients who had a delay.

Data in the graphs below show in which health care setting the perceived delay chiefly originated, where there was a delay only.
Data in the graphs below show in which health care setting the perceived delay chiefly originated, where there was a delay only.
Stage in the pathway where the perceived avoidable delay occurred

Where there was a perceived avoidable delay, the graphs below show the information on which stage in the diagnostic pathway this occurred. If there were multiple delays, details for the delay that was considered to have had the greatest impact on the time to reach a diagnosis was given.

For avoidable delays from the Scotland data, the most common stage in the patient journey where this occurred was 'Test request/performance' for 25.4% patients who had a delay.

Only patients who had a perceived avoidable delay are shown in the graphs below.

![Graph showing the distribution of avoidable delays across different stages of the diagnostic pathway.]

**Notes**

Clinical appraisal includes primary and secondary care

Delayed follow-up is of abnormal investigation findings
Only patients who had a perceived avoidable delay are shown in the graphs below.

**Breast cancer**
31 patients had an avoidable delay in NCDA Scotland

**Colorectal cancer**
90 patients had an avoidable delay in NCDA Scotland

**Lung cancer**
81 patients had an avoidable delay in NCDA Scotland

**Prostate cancer**
67 patients had an avoidable delay in NCDA Scotland

**Notes**
Clinical appraisal includes primary and secondary care
Delayed follow-up is of abnormal investigation findings
DEMOGRAPHICS

The results shown here provide a summary of the patient demographics for the NCDA data completed at practices in Scotland on those patients diagnosed with cancer in 2014.

SEX

The patients diagnosed with cancer in Scotland were mostly female (50.4%), as recorded by ISD. The figures below show the proportion of patients by sex.

**All cancers**

2014 patients in NCDA Scotland

**Colorectal cancer**

263 patients in NCDA Scotland

**Lung cancer**

333 patients in NCDA Scotland
The age group that most patients in Scotland were was 65-74 years (28%), as recorded by ISD. The figures below show the proportion of patients by age group.
The patients in Scotland were mostly white ethnicity (95.7%), as recorded in the GP notes. The figures below show the proportion of patients by ethnicity.
The majority of patients included in the audit Scotland were in the deprivation quintile 1 (1=most deprived, 5=least deprived). The proportion of patients in the most deprived group in Scotland was 23% and 19.1% in the least deprived group. The graphs below show the proportion of patients by deprivation quintile.
USEFUL RESOURCES


Scotland-wide data from the Scottish Cancer Registry; including information on incidence and mortality across Scotland, and cancer screening uptake locally: [http://www.isdscotland.org/Health-Topics/Cancer/](http://www.isdscotland.org/Health-Topics/Cancer/)


The RCGP QI Ready resource: [http://www.rcgp.org.uk/QI-Ready](http://www.rcgp.org.uk/QI-Ready)


The Macmillan Cancer Decision Support Tool: [https://www.macmillan.org.uk/ecds](https://www.macmillan.org.uk/ecds)

Links to further resources, toolkits, infographics and more: [http://www.cruk.org/ncdaresults](http://www.cruk.org/ncdaresults)
GLOSSARY

- **Avoidable delay**: Instances where the GP considered there to be an avoidable delay in the patient receiving their diagnosis. The location where the delay was deemed to have occurred could be pre-consultation, primary care, secondary / tertiary care or not known.

- **Consultations**: The number of consultations for cancer-related symptoms up to one year before the referral that led to the cancer diagnosis, including the consultation that led directly to the referral. This includes email, telephone, nurse practitioner and nurse consultations, in any clinical setting.

- **Deprivation Score**: The deprivation group of the patient was determined from the patient's postcode using the Scottish Index of Multiple Deprivation Quintiles (further information is available at: http://www.isdscotland.org/Products-and-Services/GPD-Support/Deprivation/SIMD/)

- **Ethnicity**: Patient ethnicity as recorded in GP records.

- **Investigations**: The primary care led (ordered) investigations that were ordered as part of the diagnostic assessment decided by the GP and in response to symptoms complained of, signs elicited, or abnormal test results. These are investigations that are carried out prior to referral where the GP receives the results directly and retains responsibility for acting upon them. The number of investigation type was counted e.g. the graphs show one blood test per patient even if the patient had more than one blood test.

- **Median**: When all values are ranked low to high, this is the middle value. The median is displayed because the data are skewed and providing the mean average could be misleading.

- **Method of first detection**: Method of first detection indicates how the tumour was first detected.

- **Multiple referrals**: Number of specialty referrals made by the GP surgery (including referrals to different specialties, or multiple referrals to the same specialty).

- **Place of presentation**: The place at which the patient first presented with symptoms, which the GP considered to be related to the diagnosis of cancer.

- **Referral**: The type of referral that led most directly to a diagnosis of cancer. Where a patient was referred multiple times for reasons attributed to cancer, the closest referral to diagnosis was used. The same applied for emergency referrals.

- **USC**: Urgent suspicion of cancer referral.