

Detect Cancer Early Staging Data

Year 4 (1 January 2014 to 31 December 2015)

Publication date – 26 July 2016

Contents

Introduction	2
Main points.....	4
Results and Commentary.....	5
NHS Board Boundary Changes 2014.....	5
Stage Distribution	5
Breast, colorectal and lung cancer combined	6
Breast cancer.....	7
Colorectal Cancer	8
Lung cancer	9
Local Delivery Plan Standard - Year 4.....	10
Trend	12
Trend in cancer stage	12
Trend in percentage change	13
Cancer Stage by Deprivation.....	14
Breast, colorectal and lung cancer combined	14
Breast cancer.....	15
Colorectal cancer	16
Lung cancer	17
Glossary.....	18
List of Tables.....	19
Contact.....	20
Further Information.....	20
Rate this publication.....	20
Appendices	21
A1 – Background Information	21
A2 – Publication Metadata (including revisions details).....	23
A3 – Early Access details (including Pre-Release Access)	26
A4 – ISD and Official Statistics	27

Introduction

Cancer is one of the major causes of death in Scotland. In 2014, nearly 15,800 people died of cancer in Scotland and approximately 31,700 people were diagnosed with cancer. The most common causes of cancer death and diagnosis are lung, breast and colorectal cancer¹.

Cancer staging is the process of determining the extent to which a cancer has developed and spread. For the majority of patients with cancer it is common practice to assign a number from 1 to 4 to a cancer, with 1 indicating the cancer is confined to the original organ in which it occurred and 4 being a cancer which has spread beyond the original organ and its local lymph glands (regional lymph nodes). Patients diagnosed with stage 1 disease tend to have better outcomes and longer survival compared with patients diagnosed with stage 4 disease.

The proportion of patients with cancer diagnosed with stage 1 disease can vary because of a number of factors including the presence and uptake of national screening programmes.

In February 2012 the Cabinet Secretary for Health and Wellbeing formally launched the Detect Cancer Early programme². One aim of the Detect Cancer Early programme is to increase the proportion of people who are diagnosed early in the disease process (with stage 1 disease) by 25% by the end of 2015. A Local Delivery Plan standard (formerly a Health, Efficiency, Access and Treatment target) was developed to monitor performance in meeting this objective^{3,4}. The standard concentrates on breast, colorectal and lung cancers, which collectively account for 43% of all cancers diagnosed in Scotland in 2014¹.

For reporting the performance towards the Local Delivery Plan standard, it was decided that a two-year time period would be more appropriate than using a single year to account for variations between years. This is particularly applicable for smaller NHS Boards which may experience large percentage changes due to small numbers. This also may help mitigate for fluctuations in the numbers seen in more rural NHS Boards where breast screening mobile units do not visit every year. The start of the Detect Cancer Early marketing campaign began in February 2012. The baseline year for the standard was chosen as 2010 and 2011 calendar years combined as these were the latest years before any impact of the marketing campaigns or social interventions arising from the programme could be seen.

This publication presents the numbers and percentages of patients diagnosed during the time period 1 January 2014 and 31 December 2015 by stage at diagnosis for NHS Board of residence, Cancer Network and Scotland for breast, colorectal and lung cancers combined, as well as individually.

To help monitor performance towards the Local Delivery Plan standard, the stage 1 figures for year 4 of the standard (2014 and 2015 combined) are compared against the figures for the baseline (2010 and 2011 combined).

When making comparisons across Scotland for the breast cancer data, it should be noted that the breast screening mobile unit only visits the island NHS Boards once every three years. In other more rural NHS Boards, especially those without a screening centre such as NHS

¹ www.isdscotland.org/Health-Topics/Cancer/Publications/2016-05-17/Cancer_in_Scotland_summary_m.pdf

² www.scotland.gov.uk/Topics/Health/Services/Cancer/Detect-Cancer-Early

³ www.scotland.gov.uk/About/Performance/scotPerforms/partnerstories/NHSScotlandperformance

⁴ www.scotland.gov.uk/About/Performance/scotPerforms/partnerstories/NHSScotlandperformance/DetectCancerEarly

Borders and NHS Dumfries and Galloway, the breast screening mobile unit may not visit every year. This may cause some variability in the staging figures, as well as the total figures and percentages. This will also affect the combined breast, colorectal and lung cancer data but to a lesser degree.

The variability in the percentages may also be exaggerated in some NHS Boards due small numbers involved in the calculations. This can be seen in many cases with the island NHS Boards. For this reason only the mainland NHS boards are used when quoting the range of the percentage staging figures.

Main points

In Scotland, for the two-year period 1 January 2014 to 31 December 2015:

- 25.1% of people were diagnosed with breast, colorectal and lung cancer at the earliest stage (stage 1). This is an 8.0% increase from the baseline (2010 and 2011 combined) and below the Local Delivery Plan standard of 25%, showing that the standard has not been met in its final year.
- For patients diagnosed with breast, colorectal and lung cancer in the most deprived areas of Scotland, the highest proportion were diagnosed at the most advanced stage of disease; stage 4 (29.6%) while for those living in the least deprived areas, the highest proportion were diagnosed at the earliest stage; stage 1 (28.8%).
- There has been an improvement in the recording of the data with fewer patients being recorded with a not known stage of disease – a baseline of 9.0% compared with 5.5% for the latest time period.

Results and Commentary

NHS Board Boundary Changes 2014

On 1 April 2014 NHS Board boundaries were changed to align with those of local authorities with the purpose of helping closer working in the provision of care in the local community. There were various small changes across NHS Boards affecting only a very small number of patients. The most significant change resulted in the transfer of patients from NHS Greater Glasgow & Clyde to NHS Lanarkshire⁵. Patients diagnosed from 1 April 2014 onwards will be in the new 2014 NHS Board structure. Patients diagnosed before this date will be in the previous 2006 NHS Board structure. This should be taken into account when comparing NHS Board figures between different time periods before and after the 2014 boundary change, for example when comparing the baseline (2010 & 2011 combined) and Year 4 (2014 & 2015 combined). This will not affect the Scotland figures and the effect on most NHS boards will be negligible. However, it will have a small effect on NHS Greater Glasgow & Clyde and NHS Lanarkshire figures (see Appendix A1).

Stage Distribution

The variation between NHS Boards and Cancer Networks in the proportion of patients diagnosed at stage 1 (and any other stage), may reflect, at least in part, variation in the proportion recorded with a not known stage. Care should be taken when comparing stages between NHS Boards; large differences in the not known stage are likely to make such comparisons unreliable. It should also be noted that it is not always possible to assign a stage of disease for every cancer patient. There will, therefore, always be a proportion of patients where their stage of disease remains unknown.

NHS Grampian is currently investigating the number of patients diagnosed with breast cancer with a stage recorded as not known. For the latest calendar years (2014 and 2015 combined), the proportion of these patients is 20.3%, which is much higher than the 3.0% national level. The percentage not known figures for NHS Grampian have been higher than the national average since the 2010 and 2011 baseline years.

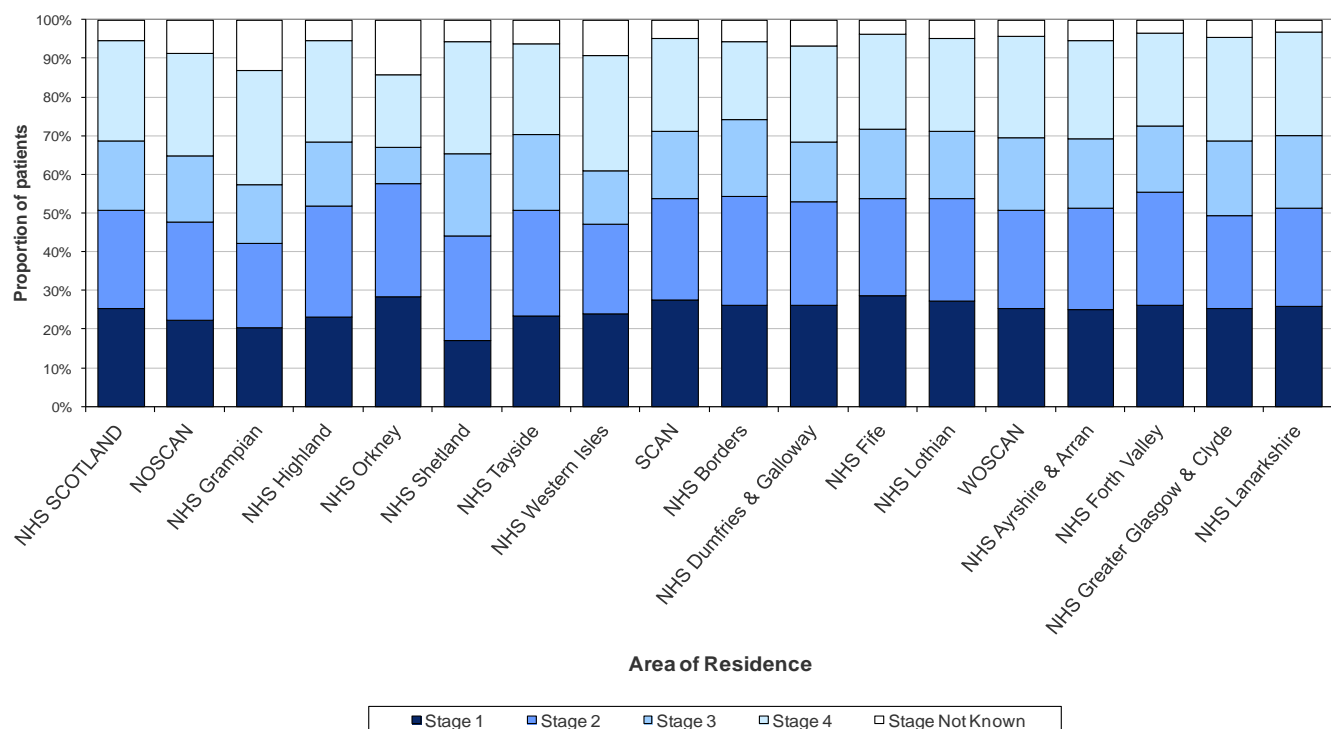
⁵<http://news.scotland.gov.uk/News/Health-board-boundaries-d0.aspx>

Breast, colorectal and lung cancer combined

For the two-year period 1 January 2014 to 31 December 2015, the proportion of patients in Scotland diagnosed with breast, colorectal and lung cancer at the earliest stage (stage 1) was 25.1%. In mainland NHS Boards this varied from 20.1% (NHS Grampian) to 28.6% (NHS Fife), see Figure 1 and [Table 1](#).

The proportion of patients in Scotland with a not known stage recorded at diagnosis is 5.5%. In mainland NHS Boards this varied from 3.1% (NHS Lanarkshire) to 13.0% (NHS Grampian).

Figure 1: Stage distribution for breast, colorectal and lung cancer by NHS Board of residence (2014 and 2015 combined).



Source: ISD Detect Cancer Early data

Notes:

1. NHS Grampian - the proportion of patients diagnosed with breast cancer with a not known stage is much higher than the national average and is currently being investigated by the NHS Board.
2. The cancer networks are regional collaborations working together across NHS Boards to improve patient care and cancer services:

NOSCAN North of Scotland Cancer Network – NHS Grampian, NHS Highland, NHS Orkney, NHS Shetland, NHS Tayside and NHS Western Isles.

SCAN South East of Scotland Cancer Network – NHS Borders, NHS Dumfries & Galloway, NHS Fife and NHS Lothian.

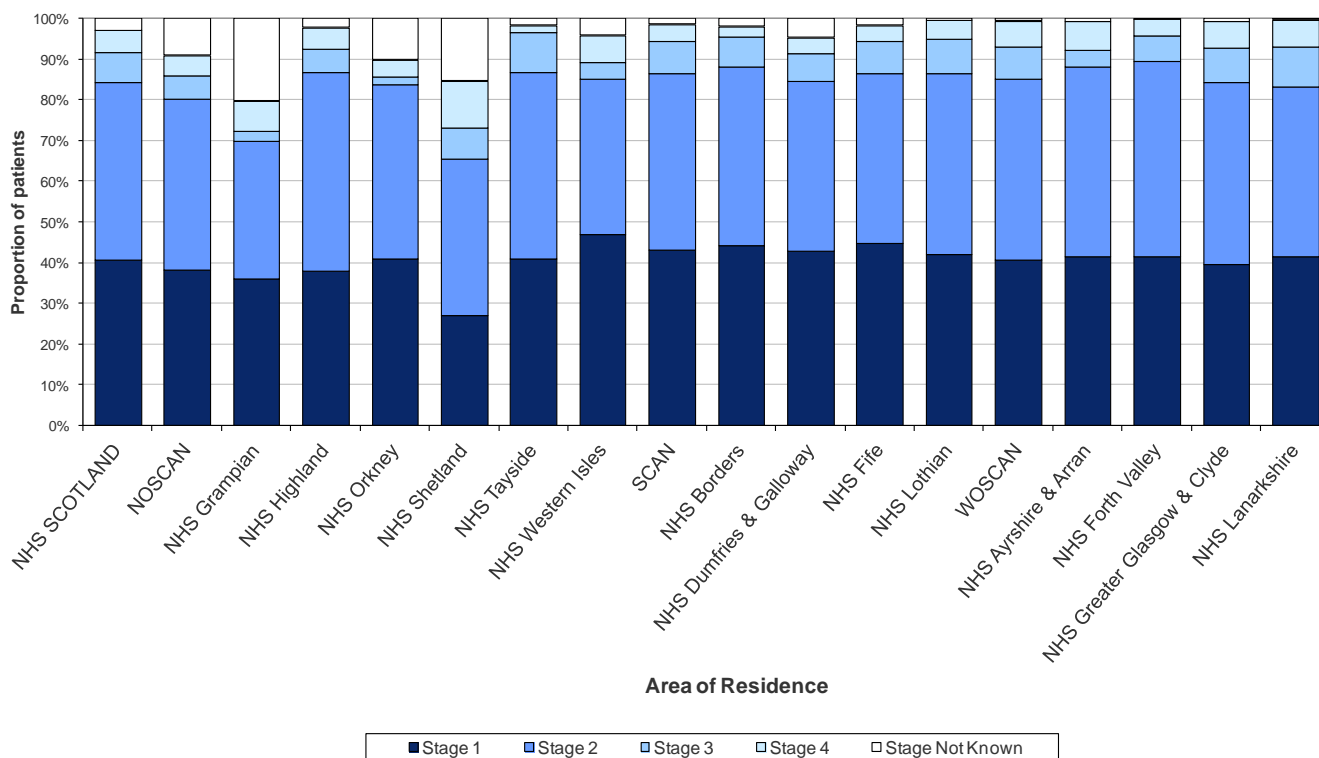
WOSCAN West of Scotland Cancer Network – NHS Ayrshire & Arran, NHS Forth Valley, NHS Greater Glasgow & Clyde and NHS Lanarkshire.

Breast cancer

For the two-year period 1 January 2014 to 31 December 2015, the most common stage of disease at diagnosis for breast cancer in Scotland was stage 2, which accounted for 43.7% of all patients. During this time period the proportion of patients in Scotland diagnosed with stage 1 breast cancer was 40.5%. In the mainland NHS Boards the percentage of patients diagnosed with stage 1 breast cancer varied from 35.9% (NHS Grampian) to 44.6% (NHS Fife), see Figure 2 and [Table 2](#).

The proportion of patients in Scotland with a not known stage recorded at breast cancer diagnosis is 3.0%. In mainland NHS Boards this varied from 0.2% (NHS Forth Valley) to 20.3% (NHS Grampian). The high percentage of patients recorded with a not known stage in NHS Grampian could potentially be a factor in the in the low percentage with stage 1 diagnosis. This is being investigated by the NHS Board.

Figure 2: Stage distribution for breast cancer by NHS Board of residence (2014 and 2015 combined).



Source: ISD Detect Cancer Early data

Notes:

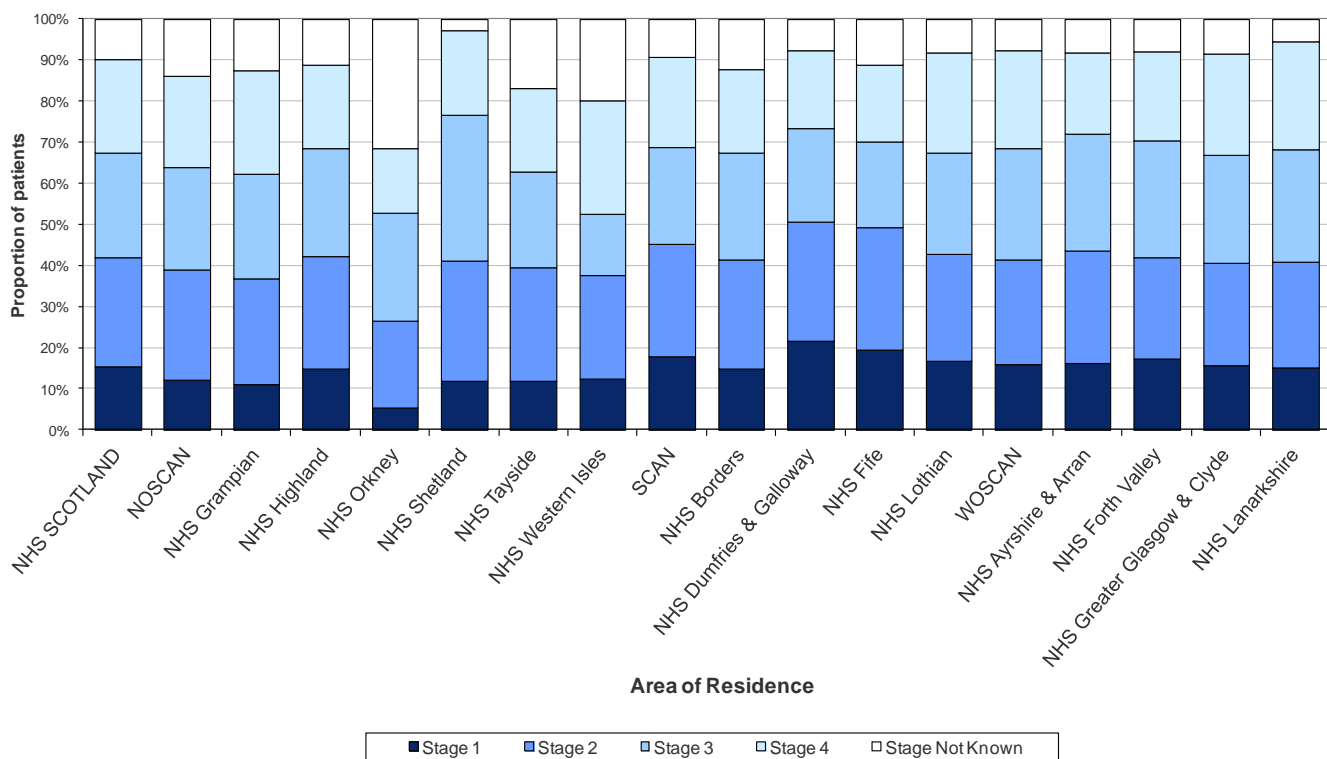
1. NHS Grampian - the proportion of patients diagnosed with breast cancer with a not known stage is much higher than the national average and is currently being investigated by the NHS Board.

Colorectal Cancer

For the two-year period 1 January 2014 to 31 December 2015, the most common stage of disease at diagnosis for colorectal cancer in Scotland was stage 2, which accounted for 26.4% of all patients. During this time period the proportion of patients in Scotland diagnosed with stage 1 colorectal cancer was 15.4%. In the mainland NHS Boards the percentage of patients diagnosed with stage 1 colorectal cancer varied from 10.9% (NHS Grampian) to 21.5% (NHS Dumfries & Galloway), see Figure 3 and [Table 3](#).

The proportion of patients in Scotland with a not known stage recorded at diagnosis is 9.8%. In mainland NHS Boards this varied from 5.6% (NHS Lanarkshire) to 16.9% (NHS Tayside).

Figure 3: Stage distribution for colorectal cancer by NHS Board of residence (2014 and 2015 combined).



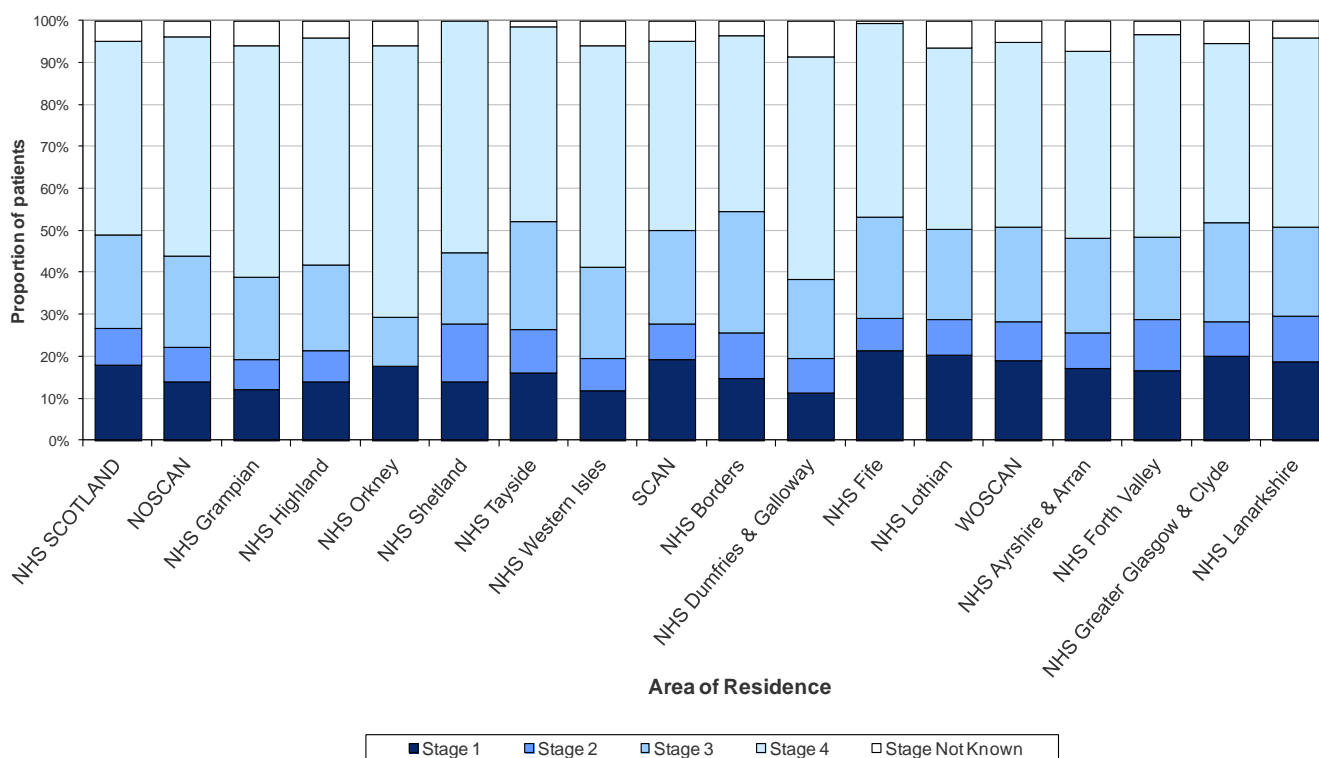
Source: ISD Detect Cancer Early data

Lung cancer

For the two-year period 1 January 2014 to 31 December 2015, the most common stage of disease at diagnosis for lung cancer in Scotland was stage 4, which accounted for 46.2% of all patients. During this period the proportion of patients in Scotland diagnosed with stage 1 lung cancer was 17.9%. In the mainland NHS Boards the percentage of patients diagnosed with stage 1 lung cancer varied from 11.3% (NHS Dumfries & Galloway) to 21.3% (NHS Fife), see Figure 4 and [Table 4](#).

The proportion of patients in Scotland with a not known stage recorded at diagnosis is 4.8%. In mainland NHS Boards this varied from 0.6% (NHS Fife) to 8.5% (NHS Dumfries & Galloway).

Figure 4: Stage distribution for lung cancer by NHS Board of residence (2014 and 2015 combined).



Source: ISD Detect Cancer Early data

Local Delivery Plan Standard - Year 4

The Local Delivery Plan standard for Detect Cancer Early is to increase the proportion of people diagnosed with stage 1 breast, colorectal and lung cancer by 25% by 2015. The latest two-year period 1 January 2014 to 31 December 2015 is the fourth and final year of the Local Delivery Plan standard.

To monitor performance towards the Local Delivery Plan standard, the stage 1 percentage for year 4 (1 January 2014 to 31 December 2015) is compared with the baseline (1 January 2010 to 31 December 2011). The measure used is the percentage change (% change) and is calculated as the difference between the baseline and year 4 figures, relative to the baseline and expressed as a percentage:

$$\% \text{ change (Year 4)} = \frac{\text{Year 4 \%} - \text{Baseline \%}}{\text{Baseline \%}} \times 100$$

The numbers and percentages of patients diagnosed with stage 1 disease for breast, colorectal and lung cancer combined are presented for the baseline and subsequent years in [Table 5](#). The percentage change (% change) in stage 1 from the baseline is also shown. The figures are provided for Scotland, Cancer Network and NHS Board of residence.

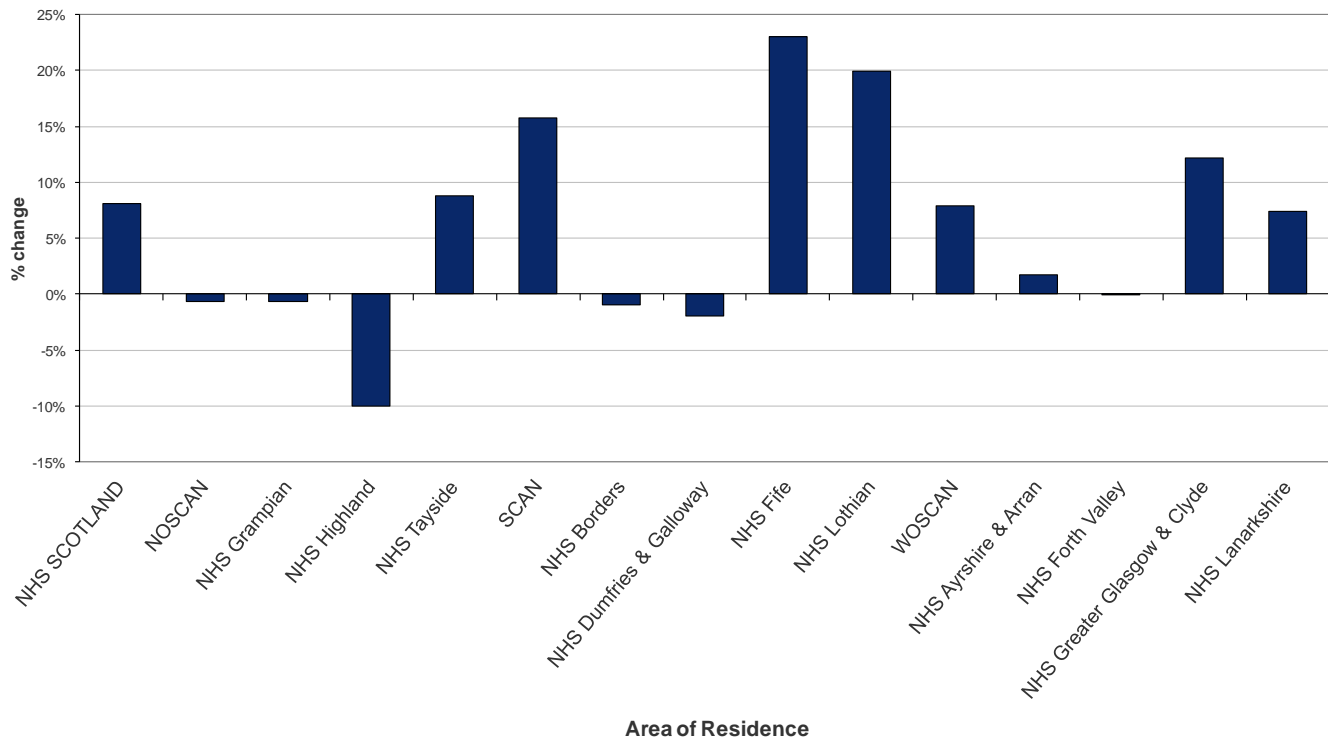
Figure 5 shows the percentage change in stage 1 for year 4 (1 January 2014 to 31 December 2015) compared with the baseline (1 January 2010 to 31 December 2011) for Scotland, Cancer Network and individual mainland NHS Boards. A positive value represents an increase from the baseline while a negative value represents a decrease from the baseline.

In year 4 (1 January 2014 to 31 December 2015) there was an 8.0% increase in stage 1 diagnosis for breast, colorectal and lung cancer compared with the baseline, see [Table 5](#) and Figure 5. This is below the Local Delivery Plan standard of 25% and shows that the standard has not been met in the final year.

Scotland as a whole and 6 of the 11 individual mainland NHS Boards have shown an increase in stage 1 diagnosis since the baseline (a positive % change). For NHS Forth Valley there has been no change (0%) while NHS Grampian, NHS Highland, NHS Borders and NHS Dumfries & Galloway have shown a decrease (a negative % change).

In the mainland NHS Boards the percentage change varied from -10.0% (NHS Highland) to 23.0% (NHS Fife). Of the Cancer Networks; SCAN and WOSCAN show an increase of 15.8% and 7.9%, respectively, while NOSCAN shows a decrease of 0.7%.

Figure 5: Percentage change in patients diagnosed at stage 1 between baseline and year 4 for breast, colorectal and lung cancer by NHS Board of residence.



Source: ISD Detect Cancer Early data

Notes: 1. Excludes Island NHS Boards; small numbers in the calculation of a percentage can be misleading.

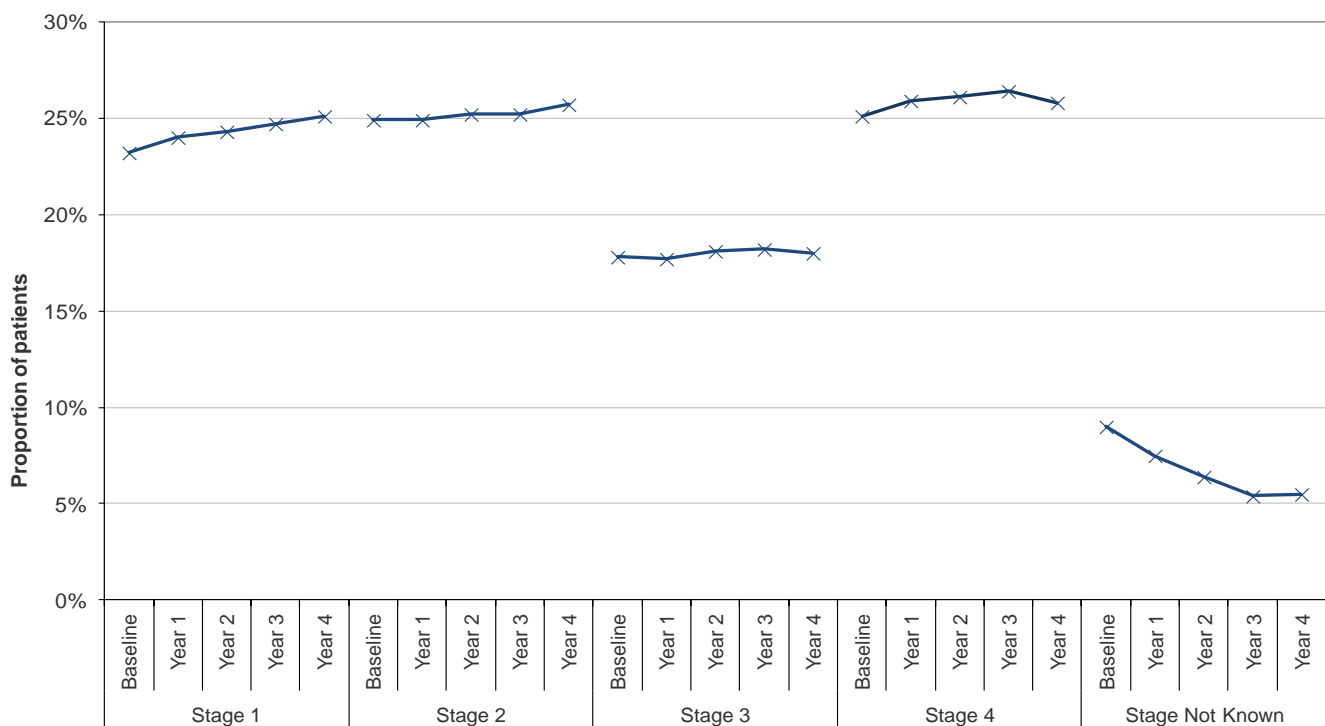
Trend Analysis

Trend in cancer stage

The trend in the percentage of patients diagnosed at each stage of disease for breast, colorectal and lung cancer in Scotland is presented in Figure 6.

The proportion of patients diagnosed with stage 1 disease has increased by 1.9 percentage points from the baseline to year 4 (23.2% to 25.1%). At the same time there has been a slight increase in the proportion of patients diagnosed with stages 2 and 4, with little change in stage 3.

Figure 6: Trend in the proportion of patients diagnosed at each stage for breast, colorectal and lung cancer in Scotland.



Source: ISD Detect Cancer Early data

Notes:

1. LDP standard time periods - combined calendar years: Baseline (2010 & 2011); Year 1 (2011 & 2012); Year 2 (2012 & 2013); Year 3 (2013 & 2014); Year 4 (2014 & 2015).

The proportion of patients with a stage recorded as not known has decreased by 3.5 percentage points from the baseline to year 4 (from 9.0% to 5.5%). This suggests that there has been an improvement in the recording of the data, with fewer patients being recorded with a not known stage.

The data used in Figure 6 can be found in previous publications; [Baseline](#), [Year 1](#), [Year 2](#) and [Year 3](#) data tables, as well as the current [Year 4](#) publication.

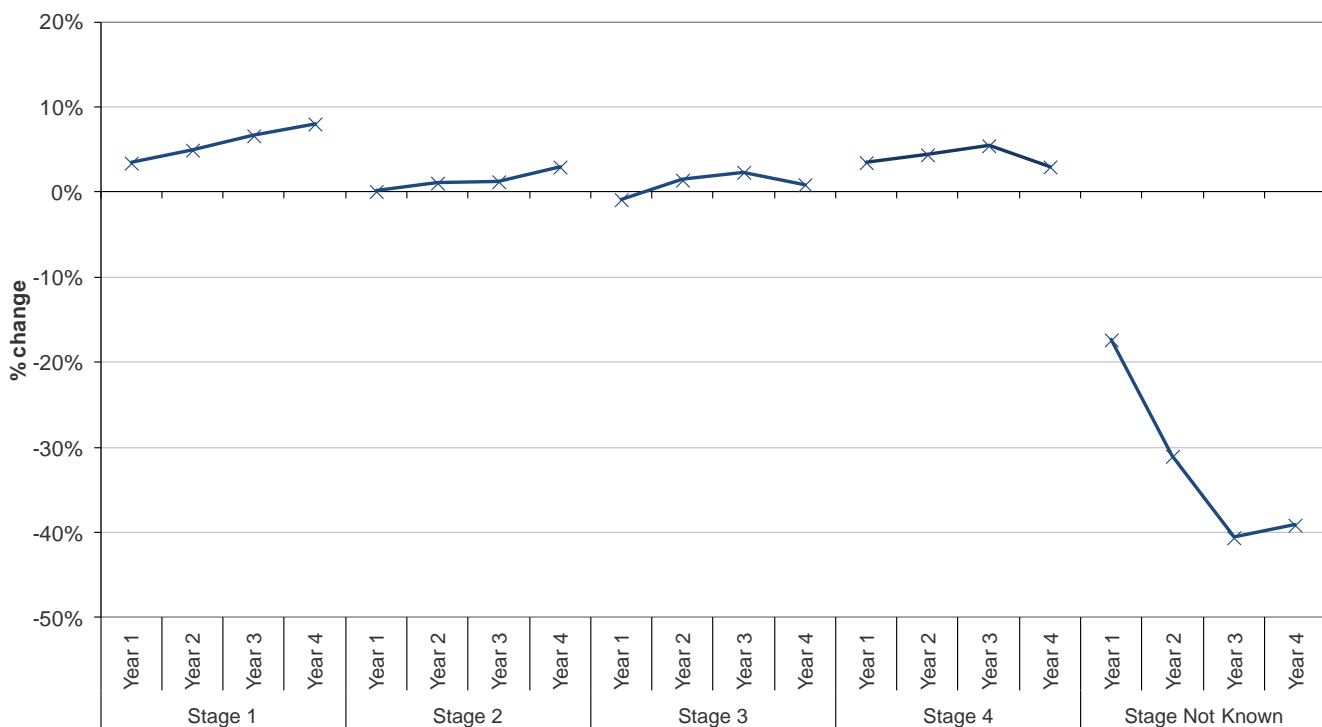
Trend in percentage change

For the purpose of monitoring the Local Delivery Plan standard, it can be useful to look at the trend in the percentage change from the baseline. The trend in the percentage change from the baseline at each stage of disease in Scotland is shown in Figure 7.

For stage 1 there has been an increase in the percentage change for each year compared with the baseline. The percentage change in year 4 was 8.0%. For the latest year (year 4) there has been an increase in stage 2 whereas there has been little change for stage 3. For stage 4 there has been an increase from the baseline for each year, however the percentage change has decreased slightly for the latest year.

The percentage change in patients recorded with a not known stage from the baseline shows a large reduction. The percentage change from the baseline to year 4 for stage not known is -39.1% (a negative % change). This suggests that at least some of the increase in stage 1, and any other stage, is most likely due to better recording of the data.

Figure 7: Trend in percentage change from baseline for each stage for breast, colorectal and lung cancer in Scotland.



Source: ISD Detect Cancer Early data

The data used in Figure 7 can be found in previous publications; [Baseline](#), [Year 1](#), [Year 2](#) and [Year 3](#) data tables, as well as the current [Year 4](#) publication.

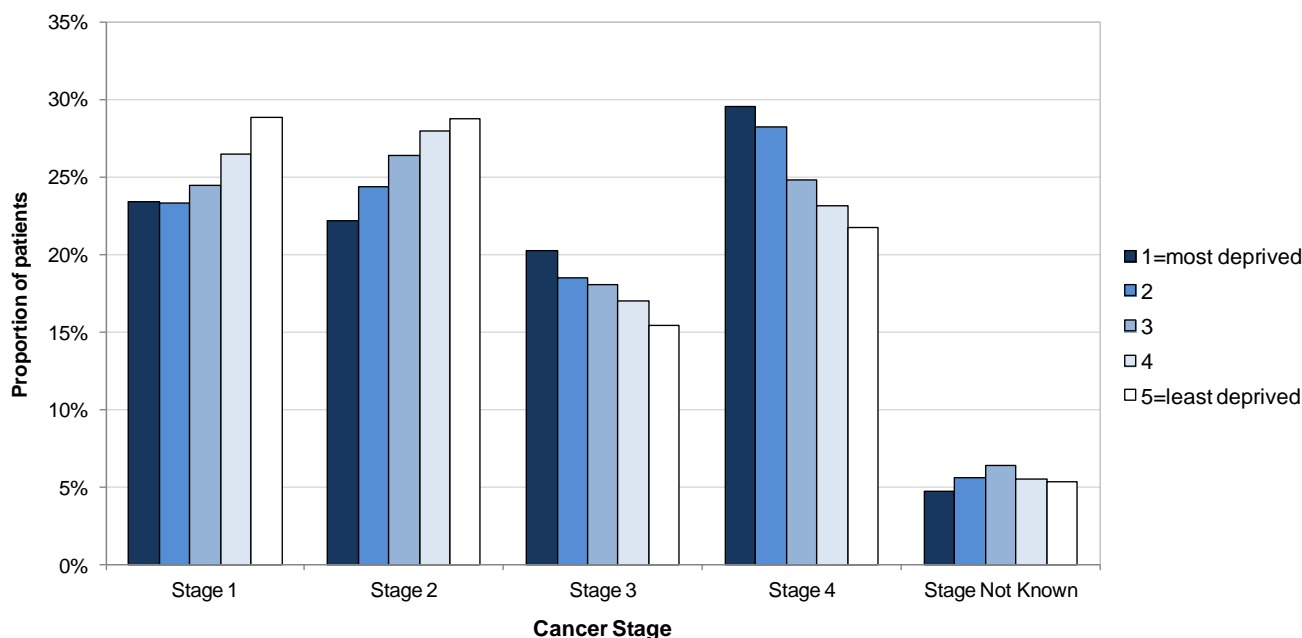
Cancer Stage by Deprivation

Breast, colorectal and lung cancer combined

The percentages of patients diagnosed with breast, colorectal and lung cancer in Scotland at each stage of disease by deprivation category are presented in Figure D1.

For the two-year period 1 January 2014 to 31 December 2015, of those patients diagnosed with breast, colorectal and lung cancer in the most deprived areas of Scotland (deprivation category 1), the highest proportion were diagnosed at the most advanced stage of disease; stage 4 (29.6%). For those patients living in the least deprived areas (deprivation category 5), the highest proportion were diagnosed at the earliest stage; stage 1 (28.8%), see Figure D1 and [Table D1](#).

Figure D1: Proportion of patients in Scotland diagnosed with breast, colorectal and lung cancer by stage and deprivation category (2014 and 2015 combined).



Source: ISD Detect Cancer Early data

Notes:

1. Deprivation category shown is the Scottish Index of Multiple Deprivation (SIMD) quintiles for 2012

A higher proportion of patients were diagnosed at the more advanced stages of disease (stage 3 and 4) in the most deprived areas (deprivation category 1) with 49.8% compared with 37.1% in the least deprived areas (deprivation category 5).

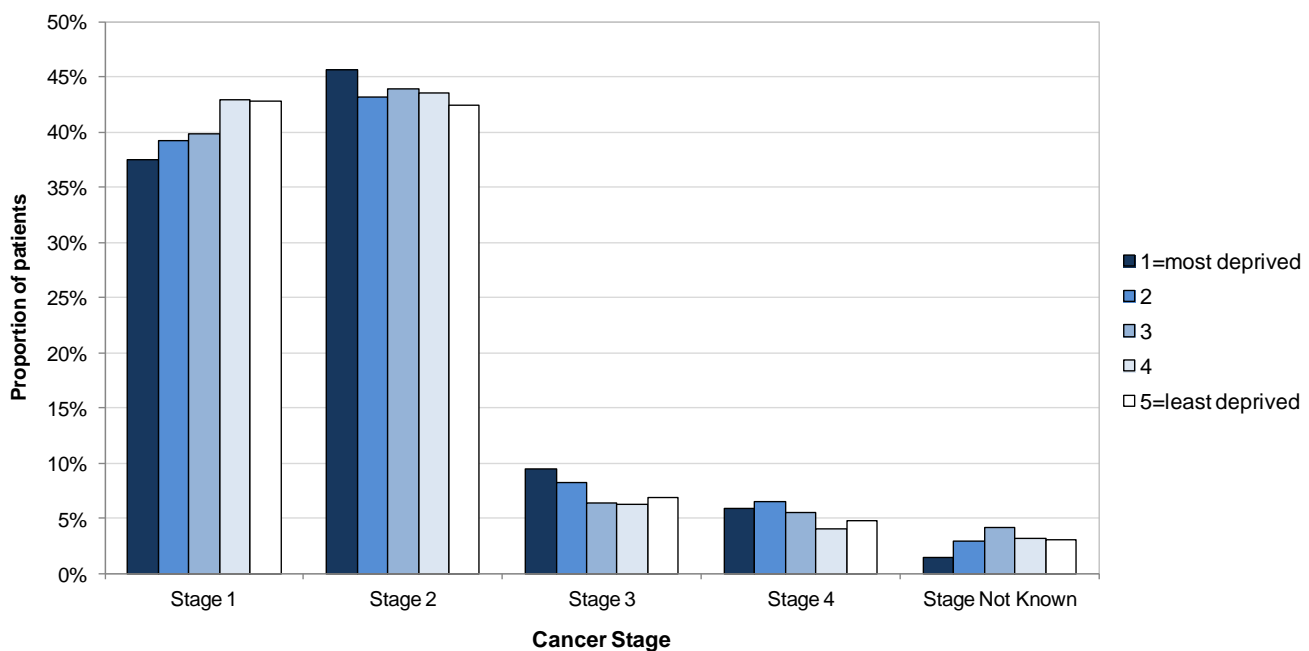
Breast cancer

For the two-year period 1 January 2014 to 31 December 2015, of those patients diagnosed with breast cancer in the most deprived areas of Scotland (deprivation category 1), the highest proportion were diagnosed with stage 2 (45.6%). For those patients living in the least deprived areas (deprivation category 5), the highest proportion were diagnosed at the earliest stage; stage 1 (42.8%), see Figure D2 and [Table D2](#).

At the same time, a higher proportion of patients were diagnosed at the more advanced stages of breast cancer (stage 3 and 4) in the most deprived areas (deprivation category 1) than in the least deprived areas (deprivation category 5); 15.4% compared with 11.7%, see Figure D2 and [Table D2](#).

The incidence of breast cancer, however, tends to be higher in less deprived areas⁶. This is thought to be due partly to higher rates of attendance for breast screening in less deprived areas⁷. Patients who attend breast screening are more likely to be diagnosed at the earlier stages of disease. This would result in a higher number of patients being diagnosed in the least deprived areas and also a higher proportion being diagnosed at an earlier stage.

Figure D2: Proportion of patients in Scotland diagnosed with breast cancer by stage and deprivation category (2014 and 2015 combined).



Source: ISD Detect Cancer Early data

Notes:

1. Deprivation category shown is the Scottish Index of Multiple Deprivation (SIMD) quintiles for 2012

⁶<https://www.isdscotland.org/Health-Topics/Cancer/Publications/2015-11-17/2015-11-17-CancerMortality-Report.pdf>

⁷www.isdscotland.org/Health-Topics/Cancer/Publications/2016-04-19/brstscreen_depcat1yr.xls

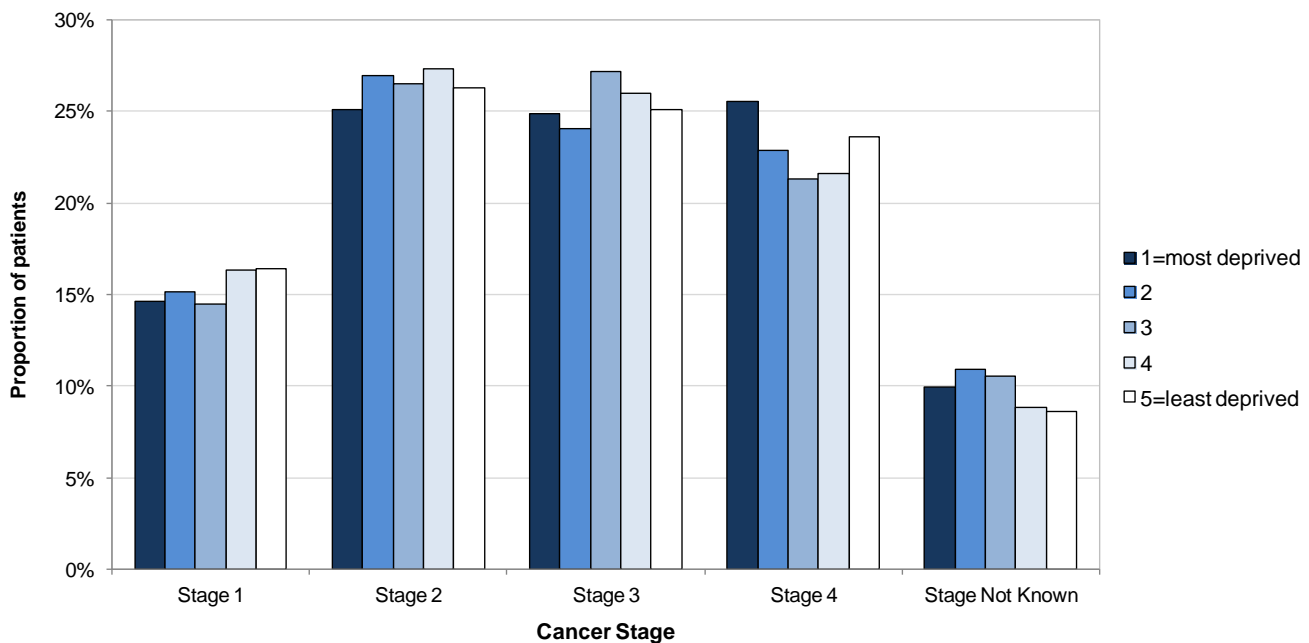
Colorectal cancer

For the two-year period 1 January 2014 to 31 December 2015, of those patients diagnosed with colorectal cancer in the most deprived areas of Scotland (deprivation category 1), the highest proportion were diagnosed at the most advanced stage of disease; stage 4 (25.5%). For those patients living in the least deprived areas (deprivation category 5), the highest proportion were diagnosed at stage 2 (26.3%), see Figure D3 and [Table D3](#). However, the distribution of stage was fairly similar across stages 2 to 4 for both deprivation categories.

For the same time period, a higher proportion of patients were diagnosed at the earliest stages of colorectal cancer (stage 1 and 2) in the least deprived areas of Scotland (deprivation category 5) than in the most deprived areas (deprivation category 1); 42.7% compared with 39.7%.

The incidence of colorectal cancer tends to be higher in more deprived areas⁸ where the risk factors, thought to include poor diet, lack of physical activity and long-term smoking, tend to be more common. There are lower rates of participation in bowel screening in more deprived areas which may contribute to the lower proportion being diagnosed at an early stage of disease⁹.

Figure D3: Proportion of patients in Scotland diagnosed with colorectal cancer by stage and deprivation category (2014 and 2015 combined).



Source: ISD Detect Cancer Early data

Notes:

1. Deprivation category shown is the Scottish Index of Multiple Deprivation (SIMD) quintiles for 2012

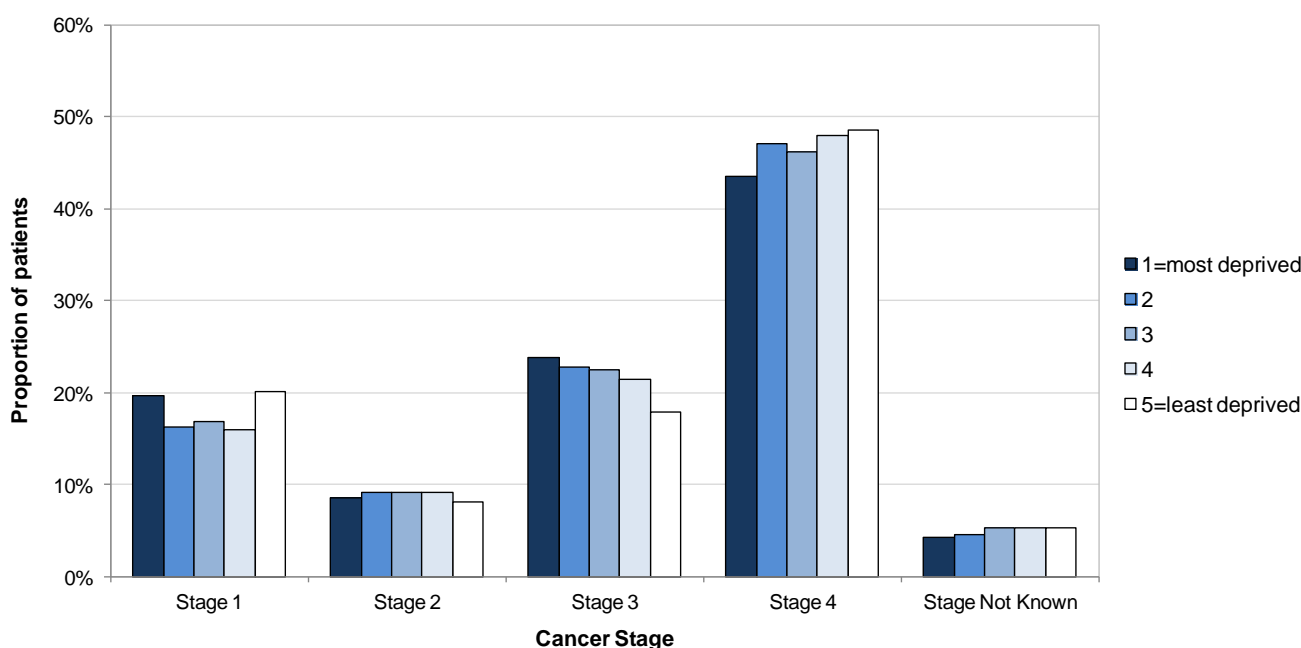
⁸ www.isdscotland.org/Health-Topics/Cancer/Publications/2015-11-17/dim_cancer_colorectal.xls

⁹ www.isdscotland.org/Health-Topics/Cancer/Publications/2015-08-04/2015-08-04-Bowel-Screening-Report.pdf

Lung cancer

For the two-year period 1 January 2014 to 31 December 2015, the proportion of patients diagnosed at the most advanced stage of lung cancer (stage 4) is greater in the least deprived areas of Scotland (deprivation category 1) than in the most deprived areas (deprivation category 5); 48.5% compared with 43.6%, see Figure D4 and [Table D4](#). The proportion of patients diagnosed at the earliest stages (stage 1 and 2) in the most and least deprived areas are similar at 28.3 % and 28.2%, respectively. Previous studies in Scotland and England have found no convincing evidence that deprived patients with lung cancer present with a less favourable stage distribution^{10,11,12,13}

Figure D4: Proportion of patients in Scotland diagnosed with lung cancer by stage and deprivation category (2014 and 2015 combined).



Source: ISD Detect Cancer Early data

Notes:

1. Deprivation category shown is the Scottish Index of Multiple Deprivation (SIMD) quintiles for 2012

¹⁰Brewster DH, Thomson CS, Hole DJ, Black RJ, Stroner PL, Gillis CR. Relation between socioeconomic status and tumour stage in patients with breast, colorectal, ovarian, and lung cancer: results from four national, population based studies. *BMJ* 2001 Apr 7;322:830-1.

¹¹Berglund A, Lambe M, Lichtenborg M, Linklater K, Peake MD, Holmberg L, Møller H. Social differences in lung cancer management and survival in South East England: a cohort study. *BMJ Open* 2012;2:e001048.

¹²Lyratzopoulos G, Abel GA, Barbiere JM, Brown CH, Rous BA, Greenberg DC. Variation in advanced stage at diagnosis of lung and female breast cancer in an English region 2006-2009. *Br J Cancer* 2012;106:1068-75.

¹³Lyratzopoulos G, Abel GA, Brown CH, Rous BA, Vernon SA, Roland M, Greenberg DC. Socio-demographic inequalities in stage of cancer diagnosis: evidence from patients with female breast, lung, colon, rectal, prostate, renal, bladder, melanoma, ovarian and endometrial cancer. *Ann Oncol* 2013;24:843-50.

Glossary

HEAT	HEAT stands for Health Improvement, Efficiency, Access to Services and Treatment. It is an internal NHS performance management system that includes targets that support National Outcomes. NHS Boards are accountable to the Scottish Government for achieving HEAT targets.
LDP standard	Local Delivery Plan (LDP) standards are priorities that are set and agreed between the Scottish Government and NHS Boards.
ICD-10	The 10th revision of the International Classification of Diseases produced by the World Health Organisation (WHO). It assigns codes to particular diseases and conditions.
Imaging	Examination of organs or tissue using a variety of techniques including x-ray, CT (Computerised Tomography) scan, MRI (Magnetic Resonance Imaging) scan etc.
Mainland NHS Boards	Health Boards in Scotland excluding the three Island Health Boards (Orkney, Shetland and Western Isles)
NOSCAN	North of Scotland Cancer Network – NHS Grampian, NHS Highland, NHS Orkney, NHS Shetland, NHS Tayside and NHS Western Isles.
Pathological Information	This information is obtained when a sample of tissue is examined by a pathologist.
Percentage	A rate, number or amount in each hundred. This is calculated by dividing the number of patients with each stage by the total number of patients, and multiplying by 100.
SCAN	South East of Scotland Cancer Network – NHS Borders, NHS Dumfries & Galloway, NHS Fife and NHS Lothian.
WOSCAN	West of Scotland Cancer Network – NHS Ayrshire & Arran, NHS Forth Valley, NHS Greater Glasgow & Clyde and NHS Lanarkshire.

List of Tables

Table No.	Name	Time period	File & size
1	Number and percentage of patients by stage at diagnosis for Breast, Colorectal and Lung cancer by NHS Board of residence for 2014 and 2015 combined.	2014 and 2015	Excel [193kb]
2	Number and percentage of patients by stage at diagnosis for Breast cancer by NHS Board of residence for 2014 and 2015 combined.	2014 and 2015	Excel [193kb]
3	Number and percentage of patients by stage at diagnosis for Colorectal cancer by NHS Board of residence for 2014 and 2015 combined.	2014 and 2015	Excel [193kb]
4	Number and percentage of patients by stage at diagnosis for Lung cancer by NHS Board of residence for 2014 and 2015 combined.	2014 and 2015	Excel [193kb]
5	Number and percentage of stage 1 patients for breast, colorectal and lung cancer by NHS Board of residence, with percentage change from baseline to subsequent year.	Baseline: 2010 and 2011 Year 1: 2011 and 2012 Year 2: 2012 and 2013 Year 3: 2013 and 2014 Year 4: 2014 and 2015	Excel [193kb]
D1	Number and percentage of patients in Scotland diagnosed with breast, colorectal and lung cancer by stage and deprivation category for 2014 and 2015 combined.	2014 and 2015	Excel [47kb]
D2	Number and percentage of patients in Scotland diagnosed with breast cancer by stage and deprivation category for 2014 and 2015 combined.	2014 and 2015	Excel [47kb]
D3	Number and percentage of patients in Scotland diagnosed with colorectal cancer by stage and deprivation category for 2014 and 2015 combined.	2014 and 2015	Excel [47kb]
D4	Number and percentage of patients in Scotland diagnosed with lung cancer by stage and deprivation category for 2014 and 2015 combined.	2014 and 2015	Excel [47kb]

Contact

Gary King

Principal Information Analyst

nss.isdDetectCancerEarly@nhs.net

0141 282 2024

John Quinn

Senior Information Analyst

nss.isdDetectCancerEarly@nhs.net

0131 275 6573

Further Information

Information Services Division published a wide range of cancer statistics. You can find more Detect Cancer Early information at www.isdscotland.org/Health-Topics/Cancer/Detect-Cancer-Early/. You can find all of our cancer information at www.isdscotland.org/Health-Topics/Cancer/.

Rate this publication

Please [provide feedback](#) on this publication to help us improve our services.

Appendices

A1 – Background Information

Data collection

Data to support the Detect Cancer Early (DCE) initiative are collected by Cancer Audit staff across NHS Scotland and are part of the Scottish National Prospective Cancer Audit data sets, which are recorded onto the NHS Boards' prospective cancer audit systems.

These data are collected locally by individual NHS Boards using national data standards. The information is collected as patients progress through their pathway of care from initial referral, investigations and diagnosis, to staging, treatments and follow-up. Further information on prospective cancer audit data definitions can be found under [QPI data sets](#) in the Cancer Audit section of the website.

Quarterly data are submitted to ISD before being validated and loaded onto the Detect Cancer Early database to allow interrogation and reporting.

Data completeness

When the number of tumours recorded by National Prospective Cancer Audit in 2010 and 2011 were compared with an equivalent period in the Scottish Cancer Registry they were found to be approximately 90% complete.

Data Quality

The quality of these statistics are considered fit for publication. The data received were validated against the national data definitions to ensure that codes were consistent.

By utilising both clinical and pathological information from across the patient record all attempts have been made to produce the most accurate staging information possible. However, some patients will legitimately never be staged, and it will not be possible to derive a stage category for some other patients owing to the complexities around data capture. Both these categories of patients will have their stage recorded as not known.

The number and percentage of not known stage should be taken into account when comparing stage distribution figures for individual cancers across geographical areas.

ISD routinely seeks clarification from NHS Boards on their data where there may be large changes in numbers, unusual patterns in the data or changes in trends. These changes may be influenced by a variety of factors including service changes/reconfiguration or data recording changes. NHS Boards are given the opportunity to review their submitted records during a quality assurance stage prior to publication. There are several quality assurance reports built in the DCE datamart where NHS Boards can assess the data quality after uploading.

Staging definitions

The method of defining stage can vary depending on the type of cancer. While the detail of the methods used here are different for breast, colorectal and lung cancer, in general they use a combination of the clinical and pathological information recorded for each patient. Clinical may include information about the cancer obtained by physical examination, imaging, and endoscopy, while pathological information is obtained when a sample of tissue is examined by a pathologist.

It should also be noted that it is not always possible to assign a stage of disease for every cancer patient. There will, therefore, always be a proportion of patients where their stage of disease remains unknown.

NHS Board Boundary Changes

On 1 April 2014 NHS Board boundaries were changed to align with those of local authorities with the purpose of helping closer working in the provision of care in the local community. There were various small changes across NHS Boards affecting only a very small number of patients. The most significant change resulted in the transfer of patients from NHS Greater Glasgow & Clyde to NHS Lanarkshire. Patients diagnosed from 1 April 2014 onwards will be in the new 2014 NHS Board structure. Patients diagnosed before this date will be in the previous 2006 NHS Board structure. This change will not affect the Scotland figures and the effect on most NHS boards will be negligible. However, it will have a small effect on NHS Greater Glasgow & Clyde and NHS Lanarkshire figures

The effect on the NHS Boards was assessed as part of the Detect Cancer Early Staging Data - Year 3 (2013 and 2014 combined) publication¹⁴. The data was presented in both the previous 2006 NHS Board structure and the new 2014 NHS Board structure for comparison.

For all cancers combined, the proportion of patients diagnosed at stage 1 decreased by 0.2 percentage points (24.6% to 24.4%) for NHS Greater Glasgow & Clyde when comparing the previous 2006 NHS Board structure to the new 2014 NHS Board structure. At the same time, the proportion of patients diagnosed at stage 1 in NHS Lanarkshire increased by 0.3 percentage points (24.7% to 24.9%).

This should be taken into account when comparing NHS Board figures between different time periods before and after the 2014 boundary change, for example when comparing the baseline (2010 & 2011 combined) and Year 4 (2014 & 2015 combined).

¹⁴www.isdscotland.org/Health-Topics/Cancer/Detect-Cancer-Early/Statistics/.

A2 – Publication Metadata (including revisions details)

Metadata Indicator	Description
Publication title	Detect Cancer Early Staging Data
Description	Two years of data (2014 and 2015 combined) presented for three cancers (breast, colorectal and lung) by stage of disease at diagnosis. Comparison between baseline and year 4 figures for monitoring the Local Delivery Plan standard (formerly HEAT target).
Theme	Health and Social Care.
Topic	Conditions and Diseases.
Format	Excel workbooks and PDF.
Data source(s)	Prospective Cancer Audit data collected by Cancer Audit staff across NHS Scotland. Data are collected as the patient progresses through their pathway from referral, investigations, staging, treatment and follow-up. Quarterly data are submitted to ISD before being validated and loaded onto the Detect Cancer Early database to allow interrogation and reporting.
Date that data are acquired	Quarterly data submission files for the individual cancers were submitted to ISD up to 8 May 2015 for 2014 data and up to 2 May 2016 for 2015 data. Some resubmissions occur during quality assurance up to 21 June 2016 prior to publication.
Release date	26 July 2016.
Frequency	Annual.
Timeframe of data and timeliness	Data on patients diagnosed from 1 January 2014 to 31 December 2015.
Continuity of data	While the national prospective cancer audit data sets for the individual cancers have changed since 2010 every effort has been made to ensure that the specific data items used to report on Detect Cancer Early have remained stable. For example the guidance around the approach to coding Dukes' stage for polyp colorectal cancers has been revised to align with the recent Scottish Bowel Screening guidance. This change was applied retrospectively to the 2010 and 2011 data and NHS Boards were given the opportunity to revisit their audit records and, where appropriate, update information prior to submitting their data to ISD.
Revisions statement	Figures contained within each publication may also be subject to change in future publications. See ISD Statistical Revisions Policy.
Revisions relevant to this publication	None.

Concepts and definitions	See Glossary and Appendix A1 contained within this report.
Relevance and key uses of the statistics	The DCE team, within ISD, will work in partnership with the SG Cancer Delivery Team and NHS Boards to collate data to facilitate the monitoring of NHSScotland's performance against the Detect Cancer Early Local Delivery Plan standard (formerly Health, Efficiency, Access and Treatment target). Other uses of the data include support of NHS Boards, researchers, charities, media, and public, and to fulfil Freedom of Information requests and Parliamentary Questions.
Accuracy	The quality of these statistics are considered fit for publication. Data was validated against the national data definitions to ensure that codes were consistent. NHS Boards were given the opportunity to review and amend all codes which did not appear in the national definitions. By utilising both clinical and pathological information from across the patient record all attempts have been made to produce the most accurate staging information possible. However, some patients will legitimately never be staged, and it will not be possible to derive a stage category for some other patients owing to the complexities around data capture. Both these categories of patients will have their stage recorded as not known.
Completeness	When the number of tumours recorded by Prospective Cancer Audit in 2010 and 2011 were compared with an equivalent period in the Scottish Cancer Registry they were found to be approximately 90% complete.
Comparability	Owing to the pragmatic approach taken for deriving stage based on a combination of clinical and pathological information it may not be possible to directly compare these results with other cancer staging data.
Accessibility	It is the policy of ISD Scotland to make its web sites and products accessible according to published guidelines .
Coherence and clarity	<p>Statistics are presented within Excel spreadsheets and PDF. Data are reported on a national, NHS Board and Regional Cancer Network level, broken down by cancer type. The distribution of stage at diagnosis is reported on for the three cancers combined and by individual cancers. For completeness the number and percentage of patients with a not known stage at diagnosis are also included.</p> <p>Further features to aid clarity:</p> <ol style="list-style-type: none"> 1. All tables are printer friendly. 2. Figures for the three cancers combined and the three individual cancers are available in separate tables to enable users to select a single cancer

Value type and unit of measurement	Distribution of stage (number and %) for NHS Scotland, Regional Cancer Network and NHS Board level, broken down by cancer type. The percentage change (% change) used is the relative percentage change - more specifically this is the difference in the percentage between a particular year and the baseline relative to the baseline, expressed as a percentage. For example: $\% \text{ change (Year 4)} = \frac{\text{Year 4 \%} - \text{Baseline \%}}{\text{Baseline \%}} \times 100$
Disclosure	The ISD protocol on Statistical Disclosure Protocol is followed.
Official Statistics designation	Official statistics.
UK Statistics Authority Assessment	Not currently put forward for assessment.
Last published	18 August 2015
Next published	25 July 2017
Date of first publication	28 May 2013
Help email	nss.isdDetectCancerEarly@nhs.net
Date form completed	July 2016

A3 – Early Access details (including Pre-Release Access)

Pre-Release Access

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ISD are obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access.

Standard Pre-Release Access:

- Scottish Government Health Department
- NHS Board Chief Executives
- NHS Board Communication leads

Early Access for Management Information

These statistics will also have been made available to those who needed access to 'management information', ie as part of the delivery of health and care:

- Scottish Government Health Department (Cancer Access Delivery Team)

Early Access for Quality Assurance

These statistics will also have been made available to those who needed access to help quality assure the publication:

- NHS Board Detect Cancer Early Executive Leads and Cancer Audit staff.

A4 – ISD and Official Statistics

About ISD

Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up.

Information Services Division (ISD) is a business operating unit of NHS National Services Scotland and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

Purpose: To deliver effective national and specialist intelligence services to improve the health and wellbeing of people in Scotland.

Mission: Better Information, Better Decisions, Better Health

Vision: To be a valued partner in improving health and wellbeing in Scotland by providing a world class intelligence service.

Official Statistics

Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of 'Official Statistics'. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. The Code of Practice is produced and monitored by the UK Statistics Authority which is independent of Government. Under the Code of Practice, the format, content and timing of statistics publications are the responsibility of professional staff working within ISD.

ISD's statistical publications are currently classified as one of the following:

- National Statistics (ie assessed by the UK Statistics Authority as complying with the Code of Practice)
- National Statistics (ie legacy, still to be assessed by the UK Statistics Authority)
- Official Statistics (ie still to be assessed by the UK Statistics Authority)
- other (not Official Statistics)

Further information on ISD's statistics, including compliance with the Code of Practice for Official Statistics, and on the UK Statistics Authority, is available on the [ISD website](#).

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics. Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.