



# **Breast Cancer Inequalities Insights Tool User Guide**

User Guide

2024

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## Data sources overview

Data within the Breast Cancer Inequalities Insights Tool is focused on the relationship between breast cancer services/outcomes and socioeconomic deprivation at a system level. Data within the tool is restricted to breast cancer.

### Cancer Waiting Times

The national Cancer Waiting Times (CWT) system allows NHS providers to record data derived from patient care activity. This data can be used to monitor cancer waiting times targets or plan service improvements. As a patient moves through the stages of their treatment pathway data on referrals, treatments and diagnosis are derived from care records locally (decisions on how to collect these data from local systems are made locally). NHS England Cancer Waiting Times provides information on the waiting times of people referred by GP with suspected cancer and those subsequently diagnosed with and treated for cancer by the NHS in England. Available from:

<https://www.england.nhs.uk/statistics/statistical-work-areas/cancer-waiting-times/>

### Cancer Stage at Diagnosis

Stage at diagnosis of cancer is an important factor that affects cancer outcomes. Earlier diagnosis, that is, usually when cancers are diagnosed at stages 1 and 2 as opposed to stages 3 and 4, is associated with better prognosis on average. The stage at diagnosis data is critical for the assessment of early cancer diagnosis. The data collected can be used to inform the NHS long term plan including the ambition to diagnose 75% of cancers at stages 1 or 2 by 2028, with the eventual aim that 55,000 more people each year will survive their cancer for at least 5 years after diagnosis. Available from: [https://nhscd-ndrs.shinyapps.io/staging\\_data\\_in\\_england/](https://nhscd-ndrs.shinyapps.io/staging_data_in_england/)

### Cancer Survival

This collection brings together all publications produced by the UK Health Security Agency (UKHSA), relating to the survival of cancer patients diagnosed and registered in England. This release summarises the survival of adults diagnosed with cancer in England between 2015 and 2019 and followed to 2020, and children diagnosed with cancer in England between 2002 and 2019 and followed to 2020. These cancer survival publications include estimates for the 1-year index of cancer survival for Clinical Commissioning Groups (for adults diagnosed in England) and also 1, 5 and 10-year indexes of cancer survival estimates for Cancer Alliances, sustainability and transformation partnerships (STPs) and England. Available from:

<https://www.cancerdata.nhs.uk/survival/home>

### Quality of Life

The Cancer Quality of Life Survey is a national survey run by NHS England. People who have had a cancer diagnosis are being asked to complete the survey round 18 months after diagnosis. With the survey, the NHS has begun for the

first time, routinely measuring quality of life outcomes at a whole-system level, and in a way that influences health policy, professional practice and patient empowerment. Information from the survey is one of a range of resources that will be used to work out where improvements should be made to care, with the goal of improving quality of life for people diagnosed with cancer. The survey is made up of two questionnaires that measure overall health (EQ-5D) and quality of life (EORTC QLQ-C30). EQ-5D can be used for any patient group and the general population and is used to compare scores from the cancer survey respondents and the general population, and between different groups of cancer survey respondents. The EORTC QLQ-C30 is a cancer specific questionnaire and is used to report scores from the cancer survey respondents overall, and to compare different groups of cancer survey respondents. This data allows users to compare overall health and quality of life scores for patients across different areas of England, with different cancer types, and across a range of different patient factor groups, like age group, gender and ethnic groups. Available from:

[https://nhsd-ndrs.shinyapps.io/qol\\_dashboard/](https://nhsd-ndrs.shinyapps.io/qol_dashboard/)

### **Hospital Episode Statistics (HES)**

HES is a curated data product created from data submitted to NHS England. It contains details of NHS hospital admissions and outpatient appointments, including clinical information about diagnoses and operations, patient details such as age, gender and ethnicity, administrative information, and geographical information including where patients are treated and where they live.

### **Index of Multiple Deprivation (IMD)**

The Index of Multiple Deprivation (IMD) is the official measure of relative deprivation in England and is part of a suite of outputs that form the Indices of Deprivation (IoD). It follows an established methodological framework in broadly defining deprivation to encompass a wide range of an individual's living conditions. People may be considered to be living in poverty if they lack the financial resources to meet their needs, whereas people can be regarded as deprived if they lack any kind of resources, not just income. The IoD2019 is based on 39 separate indicators, organised across seven distinct domains of deprivation which are combined and weighted to calculate the Index of Multiple Deprivation 2019. Available from:

<https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019>

## Access and login

The Breast Cancer Inequalities Insights Tool is accessible from the following URL:

[https://tabserv.wilmingtonhealthcare.com/t/NovartisBreastCancerInequalities/views/Novartis-BreastCancerInequalities/LandingPage?iframeSizedToWindow=true&%3Aembed=y&%3AshowAppBanner=false&%3Adisplay\\_count=no&%3AshowVizHome=no&%3Atoolbar=no&%3Aorigin=viz\\_share\\_link#1](https://tabserv.wilmingtonhealthcare.com/t/NovartisBreastCancerInequalities/views/Novartis-BreastCancerInequalities/LandingPage?iframeSizedToWindow=true&%3Aembed=y&%3AshowAppBanner=false&%3Adisplay_count=no&%3AshowVizHome=no&%3Atoolbar=no&%3Aorigin=viz_share_link#1)

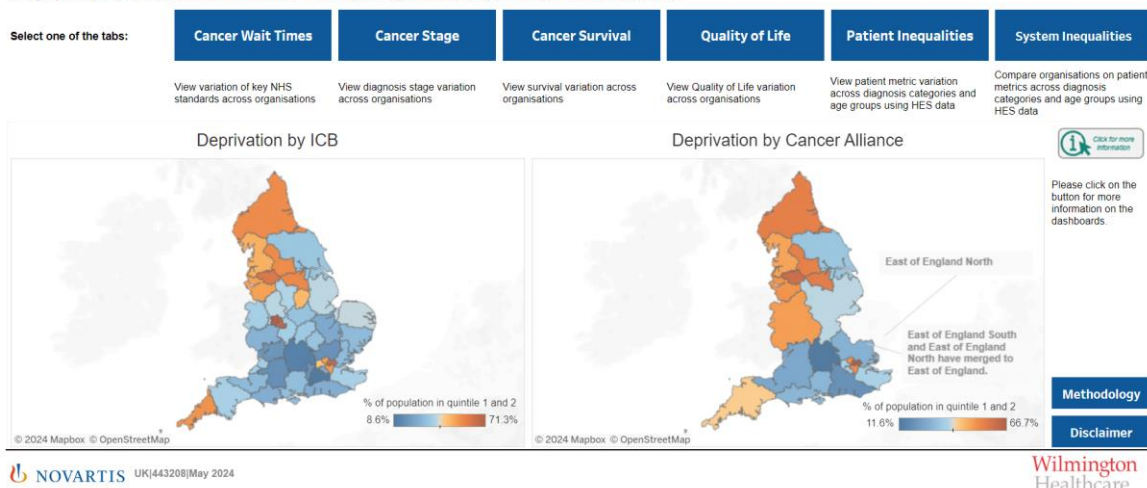
## Home/Landing Page

The home screen/landing contains an overview of the tool, links to each of the dashboards within the tool as well as the methodology and disclaimer sections, and maps outlining the variation of socioeconomic deprivation by ICB and Cancer Alliance nationally in England.

### Breast Cancer Inequalities Insights Tool

This interactive tool brings together a range of datasets to build a greater understanding of the drivers behind the current variation that exists across breast cancer pathways, and in breast cancer patient outcomes. The tool can highlight the relationship between breast cancer and socioeconomic indicators such as deprivation, ethnicity, and rurality, as well as different age groups at a national and local (Cancer Alliance/ ICB) level. Driving awareness of these relationships can help support local planning and decision making around breast cancer services delivery.

This tool showcases a variety of real-world data, such as cancer referrals, stage of diagnosis, survival and quality of life metrics, as well as an in-depth analysis of Hospital Episode Statistics (HES) data, to highlight disparity, variation and unmet need both nationally for England and at a system-level (Cancer Alliance/ICB).



There are six separate dashboards within the tool in total, as follows:

**Cancer Wait Times:** Analyse system level (ICB & Cancer Alliance) variation in cancer waiting time performance for the three main standards (28 days, 31 days and 62 days) for breast cancer, and how this correlates with socioeconomic deprivation at a system level.

**Cancer Stage:** Analyse variation in cancer stage at diagnosis data at a system level (ICB & Cancer Alliance) as well as nationally and how this correlates with socioeconomic deprivation at a system level.

**Cancer Survival:** Analyse variation in 3- and 5-year survival in breast cancer patients at a system level (ICB & Cancer Alliance) against the national average and how this correlates with socioeconomic deprivation at a system level.

**Quality of Life:** Analyse variation in quality of life survey results from overall health (EQ-5D) and quality of life (EORTC QLQ-C30) surveys at a system level (ICB & Cancer Alliance), compare this against the national average and explore variation across different patient groups including deprivation, age, ethnicity and stage at diagnosis.

**Patient inequalities:** Analyse inequality within an organisation for a range of patient-specific metrics from HES data segmented by stage at diagnosis and different patient categories including deprivation, ethnicity and rurality.

**System inequalities:** Analyse inequality across an organisation type for a range of patient-specific metrics from HES data segmented by stage at diagnosis and different patient categories in including deprivation, ethnicity and rurality.

Other tabs

**Methodology:** The methodology section provides descriptions of all the value types contained within the tool.

**Disclaimer:** The disclaimer details the sources, references and restrictions around HES data

## General Dashboard Information and Filtering

### Normalisation

The HES dashboards include the opportunity for you to normalise the data by 100,000 of the population. This gives you the number of patients per 100,000 of a population within an area/system and within a relevant category. Normalisation is applied based on the weighting of an area/system population by age, ethnicity or deprivation.

### Suppression

Data suppression is used to prevent identification of a patient. HES data is aggregated with small number suppression applied (where numbers are between 1-7) and values rounded to the nearest 5. Suppressed values are rendered with a \* on the dashboards.

### Filters

Organisation type and organisation name filters are in use across all of the dashboards to allow you to select the organisation you wish to focus on. There are other filters present on dashboards that allow you to refine what metrics/outputs you see, and are specific to the dashboard selected. Common filters available within the tool include:

**Organisation Type:** This filter allows you to switch between organisation types. The three main organisation types in use across the tool are National (England), Cancer Alliance and Integrated Care Board (ICB).

- *Cancer Alliance* - Cancer Alliances bring together clinical and managerial leaders from different hospital trusts and other health and social care organisations, to transform the diagnosis, treatment and care for cancer patients in their local area. These partnerships enable care to be more effectively planned across local cancer pathways.
- *Integrated Care Board (ICB)* - Statutory NHS organisation responsible for developing a plan for meeting the health needs of the population, managing the NHS budget and arranging for the provision of health services in a geographical area.

**Organisation Name:** This filter allows you to switch between specific organisations within a given organisation type to interrogate data for that specific organisation where applicable.

**Region:** There is also a region filter if you want to only view organisations restricted to a specific NHS England region.

**Metric:** Each dashboard has a unique set of quantitative outputs, and the metric filter allows you to select a specific quantitative output for a given dashboard.

**Deprivation Level:** This filter lets you switch between analysing variation according to population in Quintile 1 (20% most deprived) or populations in Quintiles 1 and 2 combined (40% most deprived).

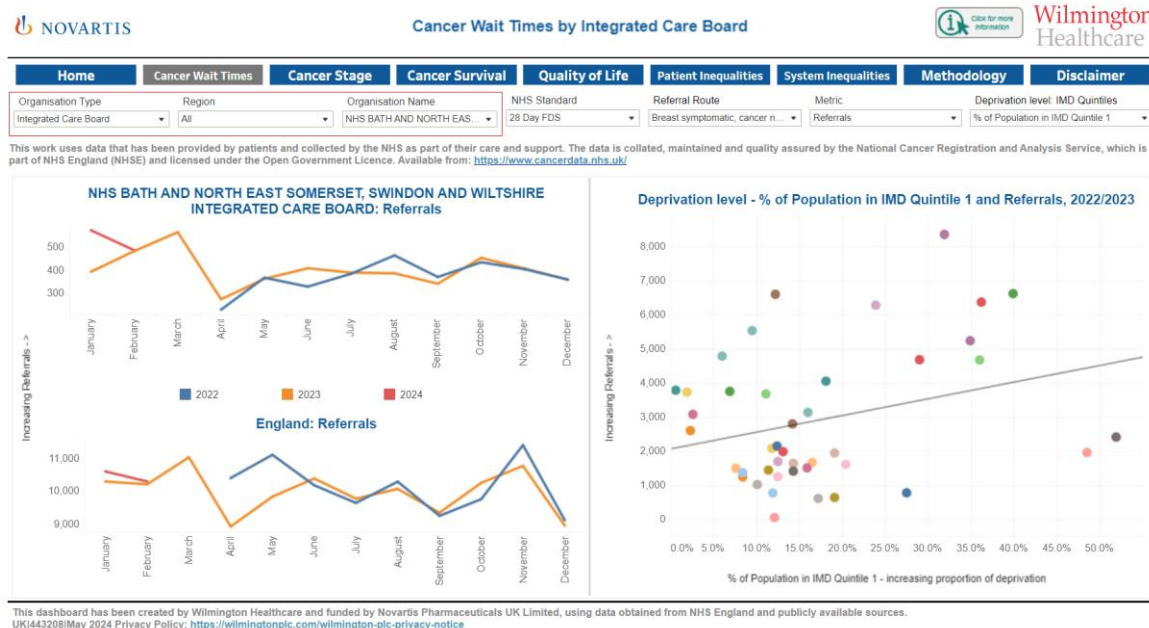
## More Information

Throughout the tool you can find more information either by selecting the 'click for more information' button shown below, which will take you through to reference information for a given dashboard, or by going to the methodology page and filtering to the relevant dashboard.



# Dashboards

## Cancer Wait Times





referred or consultant upgrade. The target for this standard is set at 70%.

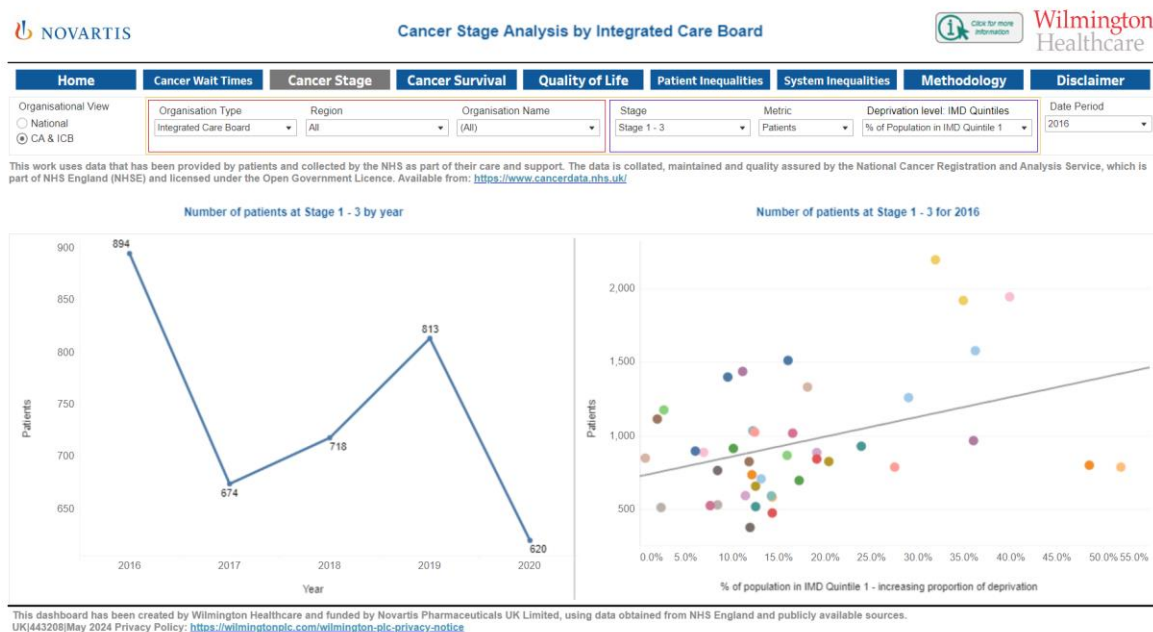
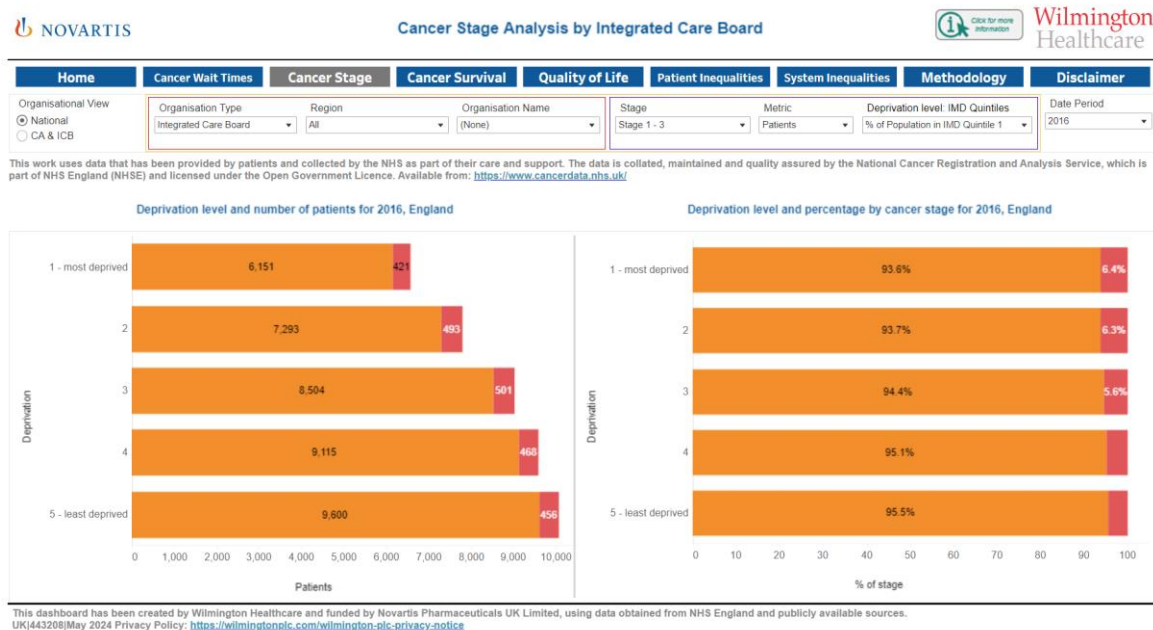
**Referral route:** This filter allows you to select the referral route for the different standards, as follows:

- **28 day FDS:** All/Breast symptomatic, cancer not suspected/National screening programme/Urgent suspected cancer
- **31 day:** All/First Treatment/Subsequent Treatment
- **62 day:** All/Breast symptomatic/Consultant upgrade/Screening/Urgent suspected cancer

**Metrics** on this dashboard are as follows:

- **Referrals:** Number of referrals for a given NHS standard
- **Breaches:** Number of breaches for a given NHS standard, i.e. how many referrals fell outside of the 28/31/62 day time limit
- **% within NHS standard:** how many referrals were within the time limit for a given standard

## Cancer Stage



This dashboard allows you to analyse variation in cancer stage at diagnosis data at a system level (ICB & Cancer Alliance) as well as nationally and how this correlates with socioeconomic deprivation. You can use these dashboards to explore the relationship between stage at diagnosis and socioeconomic deprivation.

There are two distinct views based on organisation type, which you can toggle between:

**National View:** this view shows both the number and percentage of breast cancer patients by stage at diagnosis across IMD quintiles nationally in England.

**Cancer Alliance & ICB View:** this view shows stage data at a system level, showing you stage at diagnosis data over time for a given organisation or stage at diagnosis data for all organisations within a given organisation type, correlated against how deprived populations are at a system level.

Data can be analysed for individual years or a five year total (2016-2020).

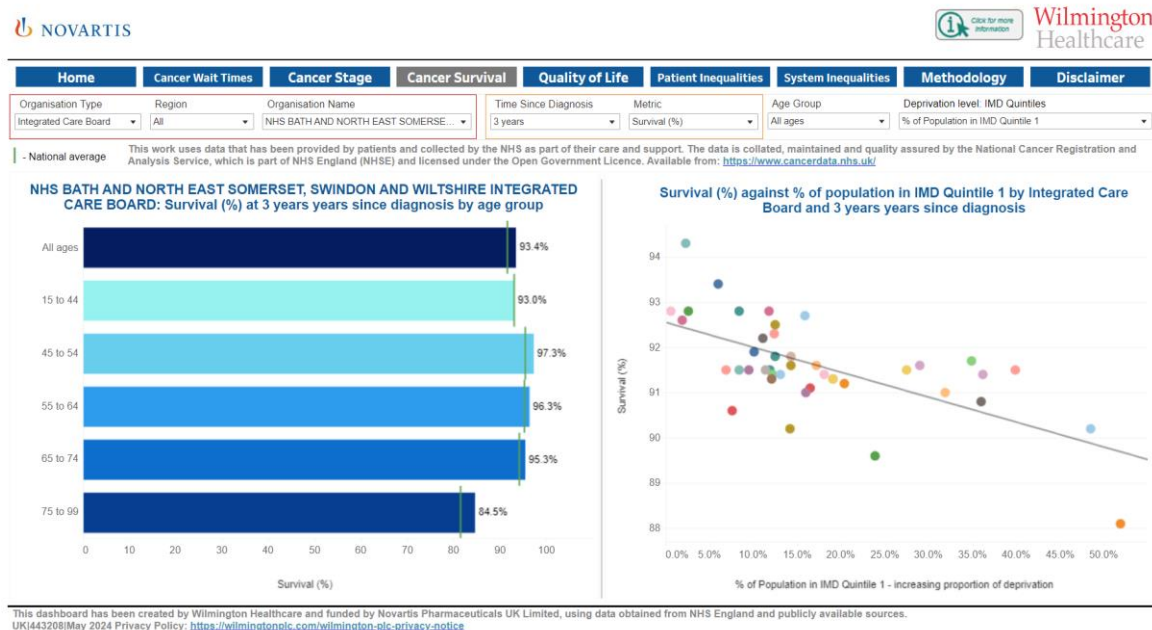
The Stage filter is the only unique filter on this dashboard and only applies to the Cancer Alliance/ICB view, and specifies whether you wish to analyse stage at diagnosis at Stages 1-3 (early stage) or Stage 4 (late stage).

**Metrics on this dashboard are as follows:**

Patients – patient count for specified stage at diagnosis

% of stage – the percentage of overall patients with a breast cancer diagnosis at a particular stage

## Cancer Survival



This dashboard allows you to analyse variation in 3- and 5-year survival in breast cancer patients at a system level (ICB & Cancer Alliance) against the national average and how this correlates with socioeconomic deprivation at a system level.

There are two views within this dashboard, the first allowing you to view 3-year or 5-year survival broken down by age group for a given organisation and how it compares to the national average, while the second view allows you to correlate system-level performance either by ICB or cancer alliance with socioeconomic deprivation.

Unique filters within the survival dashboard are as follows:

**Time since diagnosis:** this filter allows you to switch between 3-year and 5-year survival, i.e. patients alive 3 or 5 years following diagnosis.

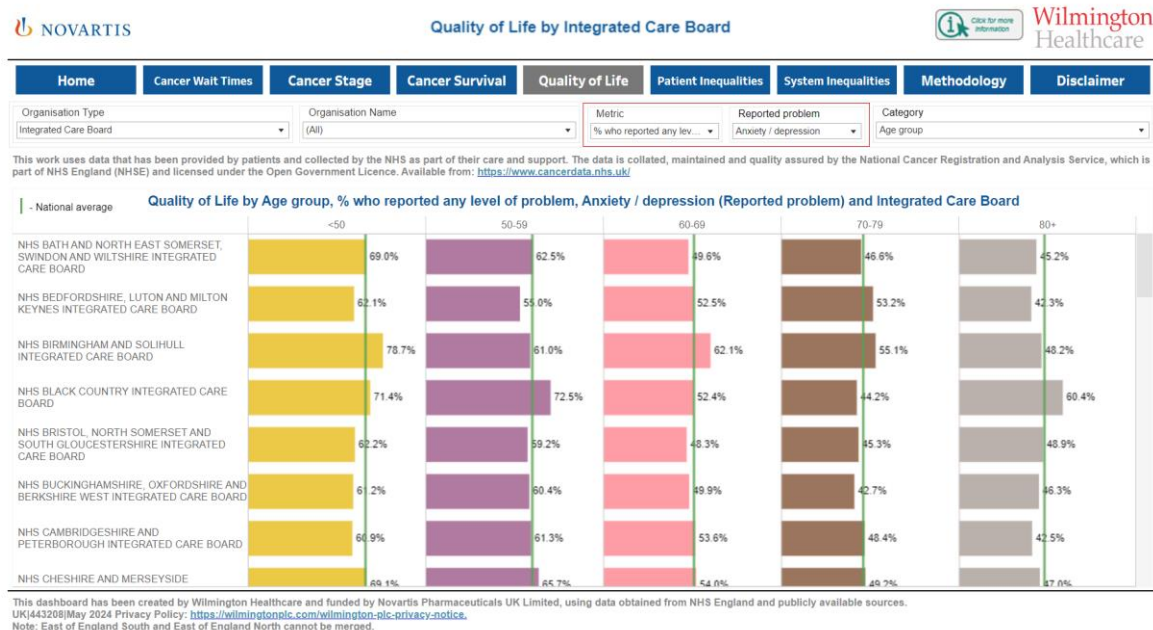
**Age Group:** this filter allows you to select a specific age group for the right-hand side chart showing survival correlation with deprivation at a system-level.

Metrics within the survival dashboard are as follows:

**Patients** – total number of patients recorded for the purpose of survival analysis

**Survival %** - percentage of patients who was still recorded as being alive 3-years or 5-years following initial diagnosis

## Quality of Life



This dashboard allows you to analyse variation in quality of life survey results from overall health (EQ-5D) and quality of life (EORTC QLQ-C30) surveys at a system level (ICB & Cancer Alliance), compare this against the national average and explore variation across different patient groups including deprivation, age, ethnicity and stage at diagnosis.

The only view in this dashboard is an organisation benchmark view that looks at survey results across organisations for a given organisation type (either ICB or Cancer Alliance) and across a given patient category (Age/Deprivation/Ethnicity/Stage at Diagnosis).

The green line indicates the national average for a given survey metric and patient category.

There are two unique filters in this dashboard:

**Reported problem:** this filter is only applicable when % who reported any level of problem has been selected in the metric filter and it relates to what percentage of respondents to the EQ-5D survey has reported a problem. The options for this filter are 'Any', 'Anxiety/Depression', 'Mobility', 'Pain/discomfort', 'Self care' or 'Usual activities'.

**Category:** this filter relates to patient category with which the data is viewed by. There are a number of patient categories with which the quality of life survey data can be viewed, including Age Group, Deprivation Quintile, Ethnicity and Stage at Diagnosis.

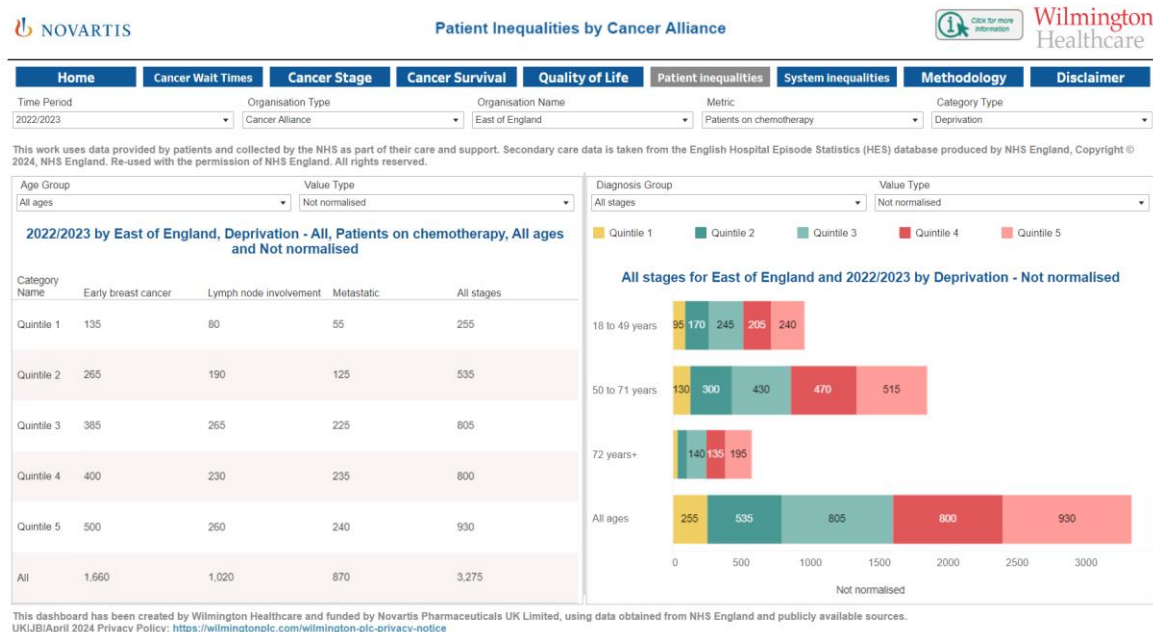
Metrics within this dashboard relate to the specific survey outputs and are as follows:

**EQ 5D index score:** A survey score where the higher the number equates to a higher quality of life. EQ-5D is an instrument which evaluates the generic quality of life developed in Europe and widely used. The EQ-5D descriptive system is a preference-based HRQL measure with one question for each of the five dimensions that include mobility, self-care, usual activities, pain/discomfort, and anxiety/depression.

**EORTC QLQ-C30 global health score:** The mean EORTC QLQ-C30 Global Health score. This combines two final questions from the survey - one about overall health, the other about quality of life. A high scale score represents a higher response level. A high score for the global health score represents a high quality of life.

**% who reported any level of problem:** From the EQ 5D survey, this represents the number of respondents who reported any level of problem (slight/moderate or severe/unable) for a given item or any item.

## Patient Inequalities



This is the first of two HES-based dashboards that uses HES to analyse variation across a number of metrics either in terms of stage of disease or age group across different patient categories, namely deprivation, ethnicity and rurality.

There are two views in this dashboard, firstly a table which shows the breakdown of patients for a given metric by both stage of disease and patient category (i.e. deprivation/ethnicity/rurality) for a given age group, and secondly a chart which shows the breakdown of patients for a given metric by age group and patient category, for a given stage of disease.

There is a total of four NHS financial years (running April to March) of data included in this dashboard and data can be viewed either by individual financial year or by a four-year total for these financial years.

### Metrics:

There are a range of different metrics by which variation in breast cancer patients across an organisation can be analysed in this dashboard, with descriptions as follows:

**Patients on IV chemotherapy:** Number of patients that have received intravenous/injectable treatment (note chemotherapy includes immunotherapy)

**Patients on chemotherapy:** Number of patients that have received any form of pharmacological/biological treatment (note chemotherapy includes immunotherapy)

**Patients on oral chemotherapy:** Number of patients that have received an oral treatment

**Patients on urgent/two week wait referral:** Number of patients that were referred to breast cancer specialist on an urgent or two week wait referral

**Patients referred via GP:** Number of patients that were referred to breast cancer specialist by their GP

**Patients referred via screening programme:** Number of patients that were referred to breast cancer specialist following screening via a screening programme

**Patients with comorbid anxiety/depression:** Number of patients coded as having a secondary diagnosis of anxiety or depression

**Patients with non-elective admission within 30 days of chemotherapy:** Number of patients that have had a non-elective admission within 30 days of receiving treatment

**Patients with obesity:** Number of patients coded as having as secondary diagnosis of obesity

**Total patients – initial presentation:** Number of patients at initial presentation (i.e. de novo diagnosis)

**Total patients at any time:** Number of patients at any time

### ***Category Type:***

There are three category types included within this dashboard with which variation in patient metrics can be analysed/viewed.

**Deprivation:** This is a measure of socioeconomic deprivation with patients assigned to one of five deprivation quintiles where Quintile 1 is the 20% most deprived and Quintile 5 is the 20% least deprived. Deprivation is measured by mapping the lower layer super output area (LSOA) of a patient's resident address to an LSOA in the index of multiple deprivation (IMD) and identifying where this LSOA sits on the national benchmark of deprivation. The IMD is based on 39 separate indicators, organised across seven distinct domains of deprivation which are combined and weighted to calculate the Index of Multiple Deprivation (IMD).

**Ethnicity:** Ethnicity is based on the recorded ethnicity of a patient at patient level in HES and subsequently aggregated up to ethnic group according to the established taxonomy within HES.

**Rurality:** Rurality is a binary classification of either Rural or Urban dependent upon where a patient lives (output area) and subsequent mapping to the ONS 2011 Rural-Urban classification. Output areas are treated as urban if they were allocated to an area with a population of 10,000 people or more, while all remaining OAs are classed as rural.



**Value Type:**

There are four different value types included within this dashboard with which variation in patient metrics can be analysed/viewed.

**Not normalised:** This is a distinct count of breast cancer patients within the relevant category/stage/age band.

**Normalised per 100,000:** This is a distinct count of breast cancer patients within the relevant category/stage/age band which is then weighted per 100,000 population of that organisation. Normalisation is applied based on the weighting of an organisation across age/gender/ethnicity/deprivation of that organisation.

**Percentage of total patients:** This is the % of total patients within the relevant category/stage/age band are included within that metric.

**Percentage of total stage:** This is the % distribution of total patients within a relevant category/age band across that stage of diagnosis.

**Diagnosis Group/Stage:**

There are four different stages included within this dashboard with which variation in patient metrics can be analysed/viewed. Diagnosis is based on ICD-10 coding within HES (additional detail overleaf).

**Early breast cancer:** Patients with a breast cancer (ICD-10: C50 & D05) diagnosis that don't have lymph node involvement (ICD-10: C77) or metastatic (ICD-10: C78/C79) disease

**Lymph node involvement:** Patients with a breast cancer (ICD-10: C50) diagnosis (ICD-10: C77) that also have lymph node involvement – excluding patients with metastatic disease (ICD-10: C78/C79)

**Metastatic:** Patients with a breast cancer diagnosis (ICD-10: C50) that also have a secondary neoplasm/cancer diagnosis using the relevant metastatic cancer codes (ICD-10: C78/C79)

**HES Diagnosis coding:**

ICD-10 coding was used in the development of breast cancer patient cohorts as follows:

Please note, ICD-10 codes available from: <https://icd.who.int/browse10/2010/en>

**Early Stage Breast Cancer***Inclusion criteria:*

C50 - Malignant neoplasm of breast

D05 - Carcinoma in situ of breast

*Exclusion criteria:*

C77 - Secondary and unspecified malignant neoplasm of lymph nodes

C78 - Secondary malignant neoplasm of respiratory and digestive organs

C79 - Secondary malignant neoplasm of other and unspecified sites

**Lymph node involvement***Inclusion criteria:*

C50 - Malignant neoplasm of breast

C77 - Secondary and unspecified malignant neoplasm of lymph nodes

*Exclusion criteria:*

C78 - Secondary malignant neoplasm of respiratory and digestive organs

C79 - Secondary malignant neoplasm of other and unspecified sites

**Metastatic***Inclusion criteria:*

C50 - Malignant neoplasm of breast

C77 - Secondary and unspecified malignant neoplasm of lymph nodes

C78 - Secondary malignant neoplasm of respiratory and digestive organs

C79 - Secondary malignant neoplasm of other and unspecified sites

**Example views:**

There are a number of ways you can view and interpret data on the Patient Inequalities dashboard.

The first view is a table by category and stage for a given age group.

Age Group

All ages

Value Type

Not normalised

4 year total by England, Deprivation - All, Patients with obesity, All ages and Not normalised

| Category Name | Early breast cancer | Lymph node involvement | Metastatic | All stages |
|---------------|---------------------|------------------------|------------|------------|
| Quintile 1    | 5,435               | 1,765                  | 750        | 7,430      |
| Quintile 2    | 5,870               | 1,765                  | 800        | 7,930      |
| Quintile 3    | 6,035               | 1,765                  | 670        | 8,040      |
| Quintile 4    | 5,830               | 1,625                  | 635        | 7,680      |
| Quintile 5    | 5,270               | 1,505                  | 585        | 7,000      |
| All           | 28,280              | 8,350                  | 3,385      | 37,760     |

Here we are viewing patient counts for breast cancer patients with comorbid obesity, viewed by stage of disease and deprivation quintile.

| Age Group  |                     | Value Type             |            |            |
|--|---------------------|------------------------|------------|------------|
| All ages   |                     | Normalised per 100,000 |            |            |
| 4 year total by England, Deprivation - All, Patients with obesity, All ages and Normalised per 100,000 |                     |                        |            |            |
| Category Name  | Early breast cancer | Lymph node involvement | Metastatic | All stages |
| Quintile 1   | 127                 | 41                     | 17         | 173        |
| Quintile 2   | 127                 | 38                     | 17         | 172        |
| Quintile 3   | 129                 | 38                     | 14         | 172        |
| Quintile 4   | 127                 | 35                     | 14         | 167        |
| Quintile 5   | 117                 | 33                     | 13         | 156        |
| All  | 118                 | 35                     | 14         | 157        |

If we switch Value Type to Normalised per 100,000 we can view the same but with patient counts normalised per 100,000 of the population. We can see comorbid obesity is more prevalent on a per population basis in Quintile 1 (20% most deprived) than in other deprivation quintiles.

Age Group

All ages

Value Type

Percentage of total category

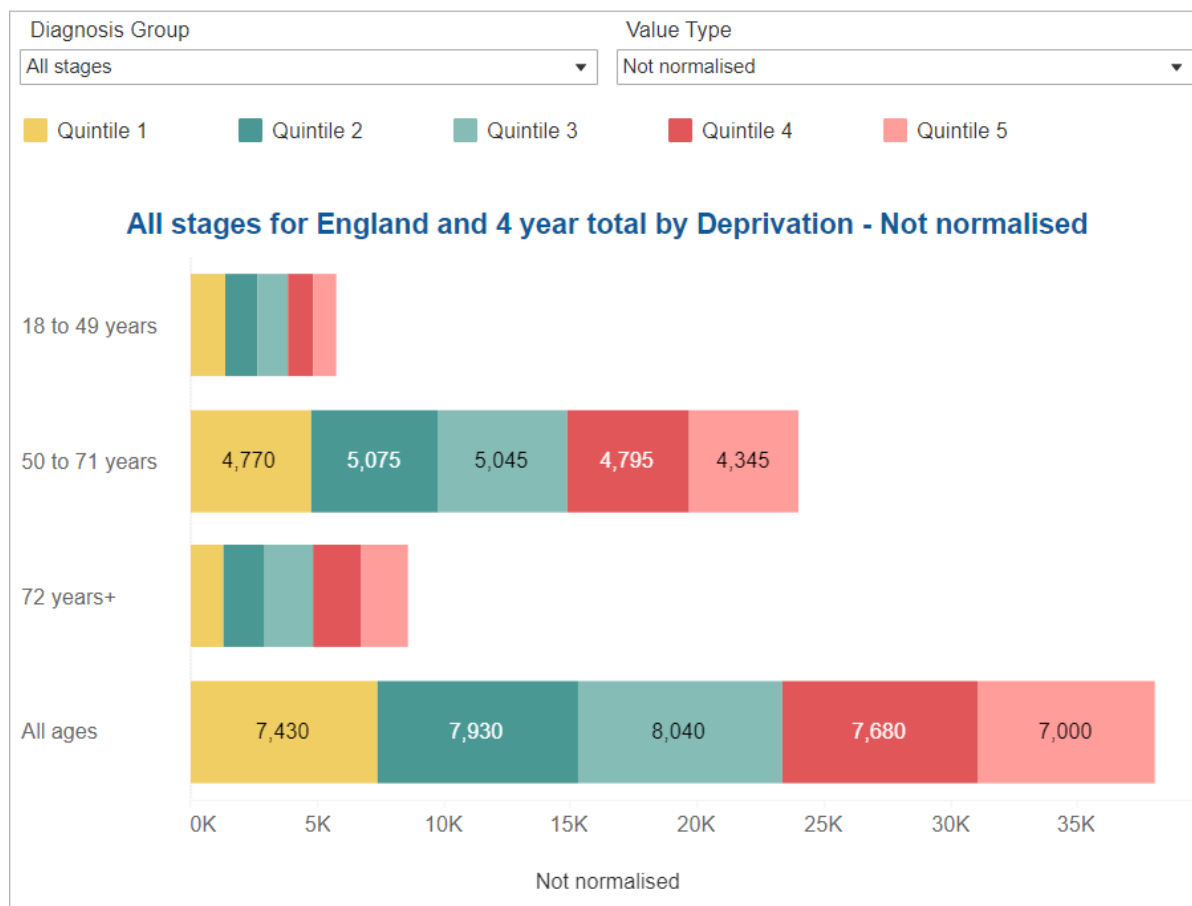
4 year total by England, Deprivation - All, Patients with obesity, All ages and Percentage of total category

| Category Name | Early breast cancer | Lymph node involvement | Metastatic | All stages |
|---------------|---------------------|------------------------|------------|------------|
| Quintile 1    | 19.2%               | 21.1%                  | 22.2%      | 19.7%      |
| Quintile 2    | 20.8%               | 21.1%                  | 23.6%      | 21.0%      |
| Quintile 3    | 21.3%               | 21.1%                  | 19.7%      | 21.3%      |
| Quintile 4    | 20.6%               | 19.5%                  | 18.7%      | 20.3%      |
| Quintile 5    | 18.6%               | 18.0%                  | 17.3%      | 18.5%      |
| All           | 100.0%              | 100.0%                 | 100.0%     | 100.0%     |

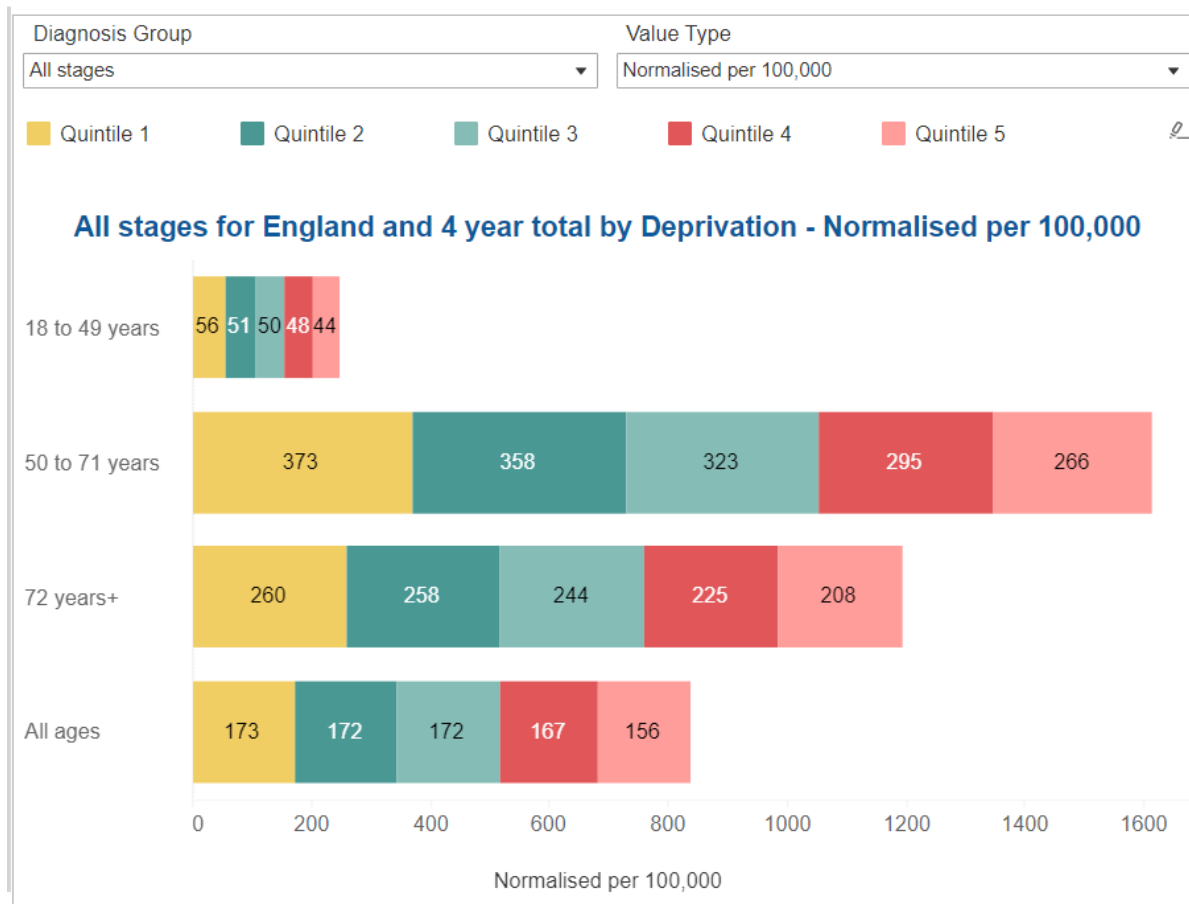
If we switch value type to percentage of total category we can see what percentage of total patients within a given stage and deprivation quintile have comorbid obesity. We can see that patients in Quintile 1 (20% most deprived) and Quintile 2 (20-40% most deprived) and with either lymph node involvement or metastatic disease have the highest percentage of comorbid obesity, meaning obesity is more common in these patient groups than in other patient groups. Conversely, patients in Quintile 5 (20% least deprived) have the lowest obesity rates across all stages of breast cancer.

| Age Group   |                     | Value Type                |            |            |
|---|---------------------|---------------------------|------------|------------|
| All ages  |                     | Percentage of total stage |            |            |
| 4 year total by England, Deprivation - All, Patients with obesity, All ages and Percentage of total stage |                     |                           |            |            |
| Category Name   | Early breast cancer | Lymph node involvement    | Metastatic | All stages |
| Quintile 1  | 73.2%               | 23.8%                     | 10.1%      | 100.0%     |
| Quintile 2  | 74.0%               | 22.3%                     | 10.1%      | 100.0%     |
| Quintile 3  | 75.0%               | 21.9%                     | 8.3%       | 100.0%     |
| Quintile 4  | 75.9%               | 21.2%                     | 8.2%       | 100.0%     |
| Quintile 5  | 75.3%               | 21.5%                     | 8.3%       | 100.0%     |
| All   | 74.9%               | 22.1%                     | 9.0%       | 100.0%     |

Finally, if we switch value type to percentage of total stage, we can see the distribution of breast cancer patients with comorbid obesity for a given deprivation quintile across the different stages of disease. Here we can see that for Quintile 1, patients with comorbid obesity have higher rates of advanced breast cancer (lymph node involvement/metastases) than in other deprivation quintiles.

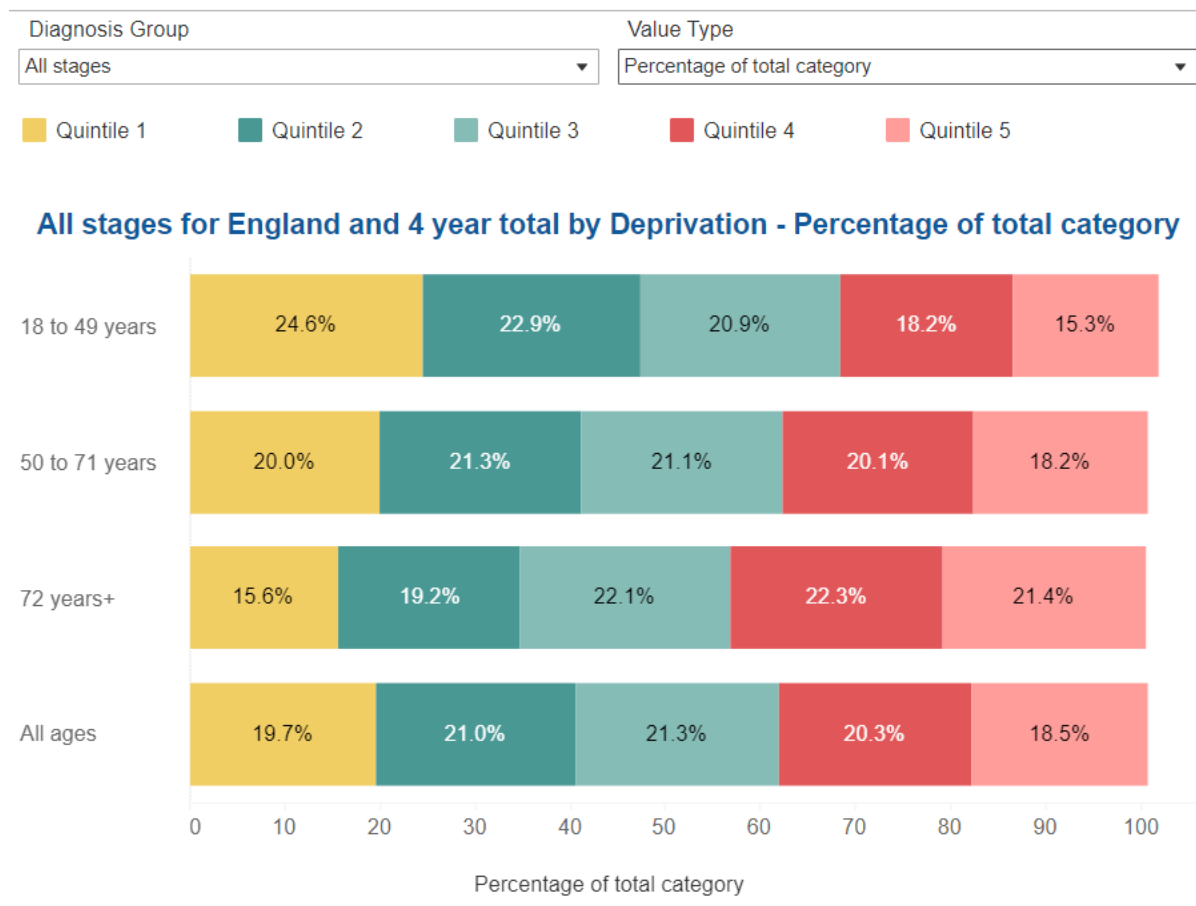


The chart on the right hand side achieves the same outputs, but instead of viewing the distribution/variation across deprivation quintiles by stage of disease, it looks at distribution/variation across age groups. In the above we see counts of patients with comorbid obesity across different age groups and deprivation quintiles.

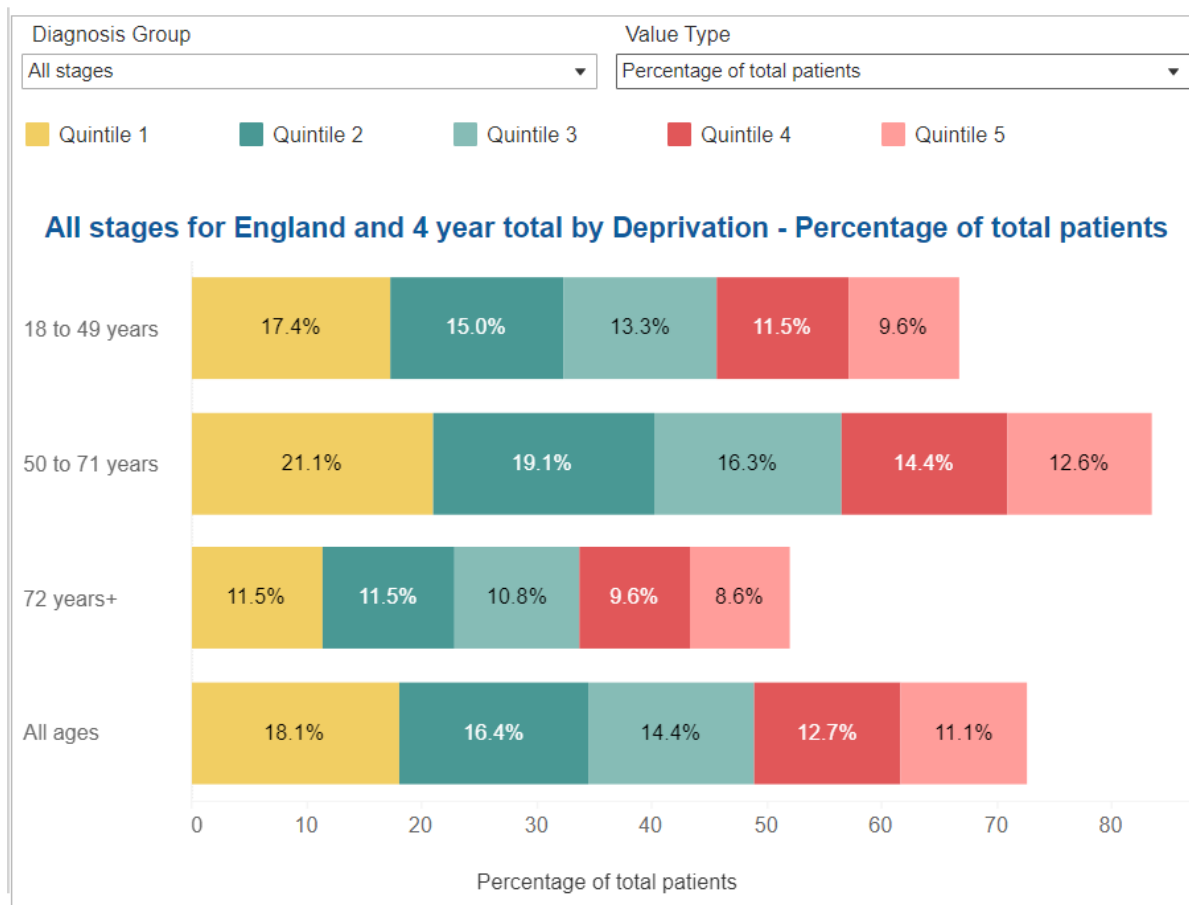


We can also normalise this data to show that the 50-71 age group has the highest per population rates of breast cancer patients with comorbid obesity, with the highest such rates shown in patients in Quintile 1 (20% most deprived) in the 50-71 year age group.





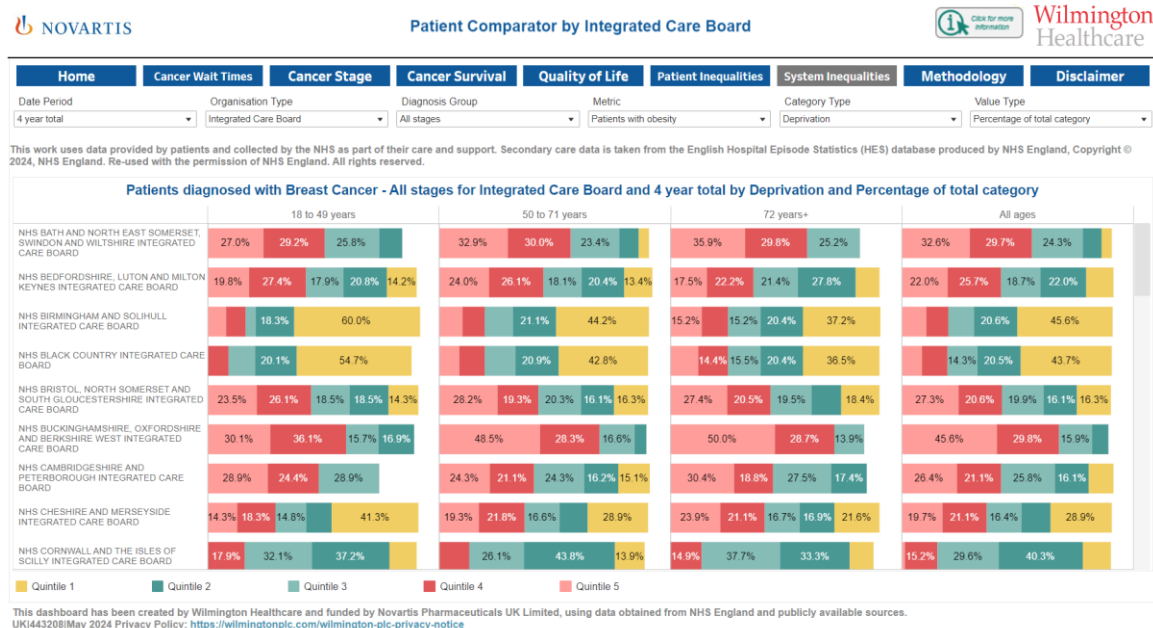
Changing value type to percentage of total category gives you the distribution of patients across a given category. The above shows that for all ages, the highest number of overall patients with comorbid obesity is in Quintile 3 (21.3% of total breast cancer patients with comorbid obesity), and the lowest number of overall breast cancer patients with comorbid obesity is in Quintile 5 (18.5% of total breast cancer patients with comorbid obesity).



Finally, changing value type to percentage of total patients reveals the percentage of total patients within a given category fall within a given metric, in this case patients with obesity. Here we can see the deprivation quintile and age group with the highest rates of comorbid obesity is patients in Quintile 1 (20% most deprived) and in the 50-71 age group, with 21.1% of total breast cancer patients in this group being diagnosed with comorbid obesity.

Across all age groups, obesity rates among breast cancer patients are highest in Quintile 1 (18.1% of total patients) and lowest in Quintile 5 (11.1%).

## System Inequalities




The system inequalities dashboard provides the same outputs as the patient inequalities dashboard, but rather than viewing data for a single organisation, the system inequalities dashboard allows you to compare variation across organisations for a given organisation type across different age groups.

Please refer to the details outlined above for the Patient Inequalities dashboard for how to view/interpret data on this dashboard.

## Methodology

Methodology

| Home         | Cancer Wait Times                       | Cancer Stage                            | Cancer Survival   | Quality of Life                                       | Patient Inequalities | System Inequalities | Methodology | Disclaimer | Data Source<br>(All) |
|--------------|---|---|---|---|----------------------|---------------------|-------------|------------|----------------------|
| Data Source  | Value Type                              | Date Label                              | Link  | Value Type Description                                |                      |                     |             |            |                      |
| Cancer Stage | % of population in IMD Quintile 1       | 2019                                    | <a href="https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019">https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019</a> | The percentage of population in IMD Quintile 1.       |                      |                     |             |            |                      |
|              | % of population in IMD Quintile 1 and 2 | 2019                                    | <a href="https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019">https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019</a> | The percentage of population in IMD Quintile 1 and 2. |                      |                     |             |            |                      |
|              | % of stage                              | 2016,2017,2018,2019, 2020, 5 year total | <a href="https://www.cancerdata.nhs.uk/">https://www.cancerdata.nhs.uk/</a>   | The percentage of patients in a particular stage.     |                      |                     |             |            |                      |

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The Methodology page contains detail on all the metrics and value types used across the tool. Please use the data source filter in the top right-hand corner to filter to the relevant dashboard if you wish to view the value types and their descriptions for a given dashboard.

## Disclaimer

### HES Disclaimer

| Home   | Cancer Wait Times | Cancer Stage | Cancer Survival | Quality of Life | Patient Inequalities | System Inequalities | Methodology | Disclaimer |
|--|-------------------|--------------|-----------------|-----------------|----------------------|---------------------|-------------|------------|
| <p>1. This work uses data provided by patients and collected by the NHS as part of their care and support. Secondary care data is taken from the English Hospital Episode Statistics (HES) database produced by NHS England. Copyright © 2024, NHS England. Re-used with the permission of NHS England. All rights reserved.</p> <p>2. HES Data must be used within the licensing restrictions set by NHS England, which are summarised below. Wilmington Healthcare accept no responsibility for the inappropriate use of HES data by your organisation.</p> <p>2.1 One of the basic principles for the release and use of HES data is to protect the privacy and confidentiality of individuals. All users of HES data must consider the risk of identifying individuals in their analyses prior to publication/release.</p> <p>2.1.1. Data should always be released at a high enough level of aggregation to prevent others being able to 'recognise' a particular individual. To protect the privacy and confidentiality of individuals, Wilmington Healthcare have applied suppression to the HES data - '-' or '-1' represents a figure between 1 and 7. All other potentially identifiable figures (e.g. patient numbers, spell counts) have been rounded to the nearest 5.</p> <p>2.1.2. On no account should an attempt be made to decipher the process of creating anonymised data items.</p> <p>2.2. You should be on the alert for any rare and unintentional breach of confidence, such as responding to a query relating to a news item that may add more information to that already in the public domain. If you recognise an individual while carrying out any analysis you must exercise professionalism and respect their confidentiality.</p> <p>2.3. If you believe this identification could easily be made by others you should alert a member of the Wilmington Healthcare team using the contact details below. While appropriate handling of an accidental recognition is acceptable, the consequences of deliberately breaching confidentiality could be severe.</p> <p>2.4. HES data must only be used exclusively for the provision of outputs to assist health and social care organisations.</p> <p>2.5. HES data must not be used principally for commercial activities. The same aggregated HES data outputs must be made available, if requested, to all health and social care organisations, irrespective of their value to the company.</p> <p>2.6 HES data must not be used for, including (but not limited to), the following activities:</p> <p>2.6.1. Relating HES data outputs to the use of commercially available products. An example being the prescribing of pharmaceutical products</p> <p>2.6.2. Any analysis of the impact of commercially available products. An example being pharmaceutical products</p> <p>2.6.3. Targeting and marketing activity</p> <p>2.7. HES data must be accessed, processed and used within England or Wales only. HES data outputs must not be shared outside of England or Wales without the prior written consent of Wilmington Healthcare.</p> <p>2.8. If HES data are subject to a request under the Freedom of Information Act, then Wilmington Healthcare and NHS England must be consulted and must approve any response before a response is provided.</p> <p>3. 2023/24 HES data are provisional and may be incomplete or contain errors for which no adjustments have yet been made. Counts produced from provisional data are likely to be lower than those generated for the same period in the final dataset. This shortfall will be most pronounced in the final month of the latest period, e.g. September from the April to September extract. It is also probable that clinical data are not complete, which may in particular affect the last two months of any given period. There may also be errors due to coding inconsistencies that have not yet been investigated and corrected.</p> <p>4. ICD-10 codes, terms and text © World Health Organization, 1992-2024</p> <p>5. The OPCS Classification of Interventions and Procedures, codes, terms and text is Crown copyright (2024) published by NHS England, licensed under the Open Government Licence.</p> <p>6. This work uses data that has been provided by patients and collected by the NHS as part of their care and support. The data is collated, maintained and quality assured by the National Cancer Registration and Analysis Service, which is part of NHS England (NHSE) and licensed under the Open Government Licence.</p> <p>7. Contains public sector information licensed under the Open Government Licence v3.0. A copy of the Open Government Licence is available at <a href="http://www.nationalarchives.gov.uk/doc/open-government-licence/open-government-licence.htm">www.nationalarchives.gov.uk/doc/open-government-licence/open-government-licence.htm</a></p> <p>8. No part of this database, report or output shall be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of Wilmington Healthcare Ltd. Information in this database is subject to change without notice. Access to this database is licensed subject to the condition that it shall not, by way of trade or otherwise, be lent, resold, hired out, or otherwise circulated in any form without prior consent of Wilmington Healthcare Ltd.</p> <p>9. 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The disclaimer page details the sources, references and restrictions around HES data



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