NAoMe
National Audit of Metastatic Breast Cancer

NATCAN
National Cancer Audit Collaborating Centre

# National Audit of Metastatic Breast Cancer State of the Nation Report 2025

An audit of care received by people diagnosed with metastatic breast cancer between 1 January 2020 and 31 December 2022 in England and Wales.

Published September 2025

# NAoMe

National Audit of
Metastatic Breast Cancer

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Royal College of Surgeons of England
ADVANCING SURGICAL CARE

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HQIP
Healthcare Quality Improvement Partnership

The National Cancer Audit Collaborating Centre (NATCAN) is commissioned by the Healthcare Quality Improvement Partnership (HQIP) and funded by NHS England and Welsh Government as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP). NATCAN delivers national audits in bowel, breast (primary and metastatic), kidney, lung, non-Hodgkin lymphoma, oesophago-gastric, ovarian, pancreatic and prostate cancers.

ABS
ASSOCIATION OF BREAST SURGERY

**The Association of Breast Surgery** is a registered charity dedicated to advancing the practice of breast surgery and the management of breast conditions for the benefit of the public. It is a multi-professional membership association, which promotes training, education, clinical trials and guideline composition and adoption. For further information, please refer to the website www.associationofbreastsurgery.org.uk. Registered charity no: 1135699

UKBCG

**The UK Breast Cancer Group (UKBCG)** is a forum for Clinical and Medical Oncologists. The UKBCG acts as a stakeholder to NICE, NHS England and other organisations; and undertakes key pieces of work, at times in collaboration with other bodies, with the overriding endpoint of improving patient care. The Group's objectives include advancing the education of clinical and medical oncologists in the subject of breast cancer, concerning its identification, diagnosis and treatment; promoting research for the public benefit in all aspects of breast cancer and publishing the results; and assisting in the treatment and care of persons suffering from breast cancer, or in need of rehabilitation, by the provision of education for healthcare professionals.
Further information on the work of the UKBCG is communicated via this website on a regular basis https://ukbcg.org. Registered charity no: 1177296

NDRS
NATIONAL DISEASE REGISTRATION SERVICE

This work uses data that has been provided by patients and collected by the NHS as part of their care and support. For patients diagnosed in England, the data is collated, maintained and quality assured by the National Disease Registration Service (NDRS), which is part of NHS England. Access to the data was facilitated by the NHS England Data Access Request Service.

GIG CYMRU NHS WALES
Rhwydwaith Canser Cymru
Wales Cancer Network

NHS Wales is implementing a new cancer informatics system. As a result, the quality and completeness of data from Wales is likely to have been impacted due to implementation of this new system across multiple NHS organisations (Health Boards), which has resulted in data being supplied by both old and new systems. Additionally, and reflecting the uncertainty of data quality, the data submitted to the audit may not have undergone routine clinical validation prior to submission to the Wales Cancer Network (WCN), Public Health Wales.



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# Contents

# 1. Introduction

The aim of the National Audit of Metastatic Breast Cancer (NAoMe) is to evaluate the patterns of care and outcomes for people with metastatic breast cancer (MBC) in England and Wales, and to support services to improve the quality of care for these people. This State of the Nation report publishes information on the care received by women and men diagnosed with MBC during 2020-22 in England and Wales. The breast cancer care described for the period 2020-22 will reflect the changes introduced in the NHS during 2020 because of the COVID-19 pandemic and will be atypical to some degree.

The NAoMe defines MBC as breast cancer that has spread beyond the breast and regional lymph nodes. In this audit, people with MBC have been categorised as either *de novo* or recurrent. People are referred to as *de novo* if metastatic disease was identified at the time of their initial breast cancer diagnosis and recurrent if they were identified to have metastatic disease at least 6 months after their initial diagnosis of primary breast cancer (Figure 1).

The management of people with MBC is informed by various national and international guidelines[1-2]. From these guidelines and in consultation with its professional and patient advisory groups, the NAoMe team has developed five quality improvement (QI) goals and a set of related indicators, details of which are published in the NAoMe Quality Improvement (QI) Plan. Some indicators outlined in the QI Plan remain in development. The indicators included in this report and accompanying Data Dashboard are outlined in Table 1.

**Table 1.** Performance Indicators (PIs) *

| | England^ | Wales# |
|---|---|---|
| **PI 1:** Percentage of patients with newly diagnosed *de novo* metastatic breast cancer (MBC) discussed in a multi-disciplinary team (MDT). | Yes (01/20– 12/22) | Yes (01/20– 12/22) |
| **PI 2:** Percentage of patients with recurrent MBC who had a biopsy to inform care. | Yes (01/20– 12/22) | No (Data not available) |
| **PI 3:** Percentage of patients with ER positive *de novo* MBC who received CDK 4/6 inhibitors. | Yes (01/20– 12/22) | No (Data not available) |
| **PI 4:** Percentage of patients with HER2 positive *de novo* MBC who received anti-HER2 therapy. | Yes (01/20– 12/22) | No (Data not available) |
| **PI 5:** Percentage of patients who received chemotherapy. | Yes (01/20– 12/22) | Yes (01/20– 12/22) |
| **PI 6:** Percentage of patients with bone metastases who received a bisphosphonate or denosumab. | No (Under development) | No (Under development) |
| **PI 7:** Percentage of patients with MBC who received radiotherapy. | No (Under development) | No (Under development) |
| **PI 8:** Percentage of patients with *de novo* MBC with clinical nurse specialist (CNS) contact recorded as "Yes". | Yes (01/20– 12/22) | Yes (01/20– 12/22) |
| **PI 9:** Percentage of patients with death recorded within 30 days of a chemotherapy cycle. | Yes (01/20– 12/22) | Yes (01/20– 12/22) |
| **PI 10:** Percentage of patients with *de novo* MBC who survived for at least 1 or 3 years after diagnosis. | Yes (01/20– 12/22) | Yes (01/20– 12/22) |

See methodology supplement for the definitions of each performance indicator
^England cohort: National Cancer Registration Dataset (NCRD)
#Welsh cohort: Cancer Network Information System Cymru (CaNISC)

The NAoMe is one of ten national cancer audits conducted by the National Cancer Audit Collaborating Centre (NATCAN) and commissioned within the National Clinical Audit and Patient Outcomes Programme (NCAPOP), which is funded by NHS England and the Welsh Government.

These audits include the National Audit of Primary Breast Cancer (NAoPri), which assesses care of people diagnosed with primary breast cancer (stages 0 to 3C), and for which a State of the Nation report is also available. More information about the national cancer audits for England and Wales can be found here.

1 Biganzoli, L., et al., Updated recommendations regarding the management of older patients with breast cancer: a joint paper from the European Society of Breast Cancer Specialists (EUSOMA) and the International Society of Geriatric Oncology (SIOG). Lancet Oncol, 2021. 22(7): p. e327-e340. *Available from: https://pubmed.ncbi.nlm.nih.gov/34000244/*

2 5th ESO-ESMO international consensus guidelines for advanced breast cancer (ABC 5). *Available from: https://pubmed.ncbi.nlm.nih.gov/32979513/*

Throughout this report:

- The term NHS organisations is used to refer to English trusts and Welsh Health Boards collectively.
- We refer to women and men as these correspond to the "sex" categories available in the data supplied. We acknowledge that some people may not identify using these binary categories.
- Indicators are presented for both sexes combined. These overall figures may not apply specifically to men as they make up approximately 1% of the NAoMe cohort. Where numbers permit and/or are clinically relevant, results specifically for men are referred to in the text.

Additional materials that accompany this report include:

- A methodology supplement with details about the Audit's data sources and methods.
- A glossary that explains technical terms used in this report.
- Resources to support local monitoring of practice and quality improvement, such as provider-level results on the Data Dashboard and a local action plan template.
- A summary of this report for people living with metastatic breast cancer and for the public will soon be made available on the Audit's website.

## 1.1 Data sources and cohort definition

The Audit derives its indicators using information that is routinely collected by the NHS as part of the care and support given to people diagnosed with metastatic breast cancer, rather than data that has been collected specifically for the Audit[3]. For people diagnosed or treated in England, the data are collated, maintained and quality assured by NHS England's National Disease Registration Service (NDRS). For people diagnosed or treated in Wales, data are provided by Wales Cancer Network (WCN)[4], using the Cancer Network Information System Cymru (CaNISC) or Cancer Dataset Form (CDF).

The State of the Nation Report uses the National Cancer Registration Dataset (NCRD) for England. Although this report is being published in September 2025, it includes data on people diagnosed with breast cancer up until the end of December 2022, the latest year of available NCRD registration data. Compared to the more timely Rapid Cancer Registration Dataset (RCRD), which includes diagnoses with a 12-18 month delay, the NCRD has more extensive data available, including hormone receptor status. It is also more complete, with only 13% of patients missing tumour stage in the NCRD, compared with around 30% in the RCRD. This tumour information is crucial to many of our performance indicators and using the NCRD increases the validity of our findings. To further support quality improvement activities, the NAoMe also publishes quarterly reports of a subset of performance indicators (England only), which for RCRD data is suitable. We will continue to work to improve timeliness of our reports in future years. There is more information regarding the timeliness of this data on the NATCAN website.

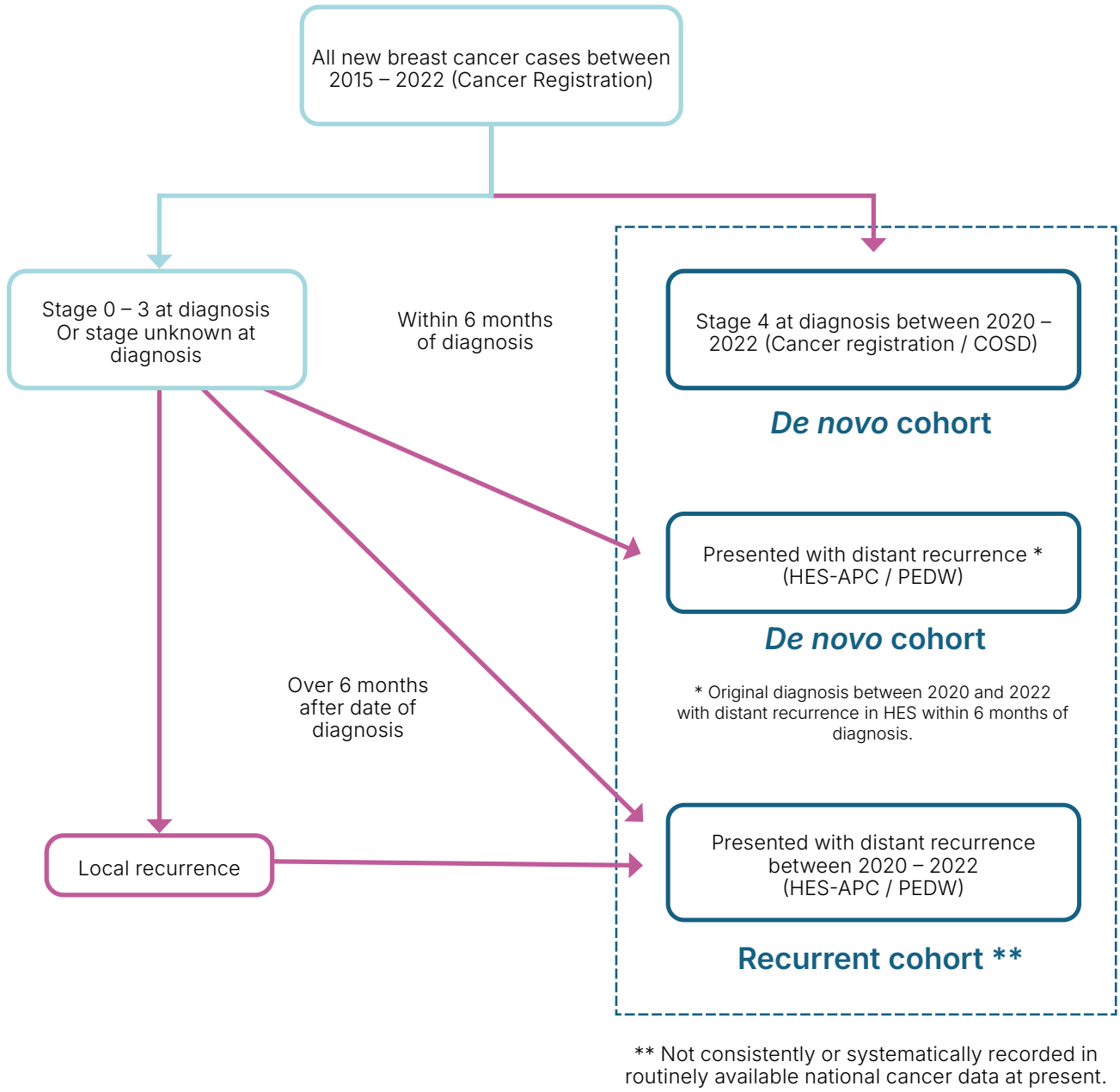
For full details of the data and methods used within this report, please see the NAoMe Methodology Supplement.

Within the report, we distinguish between people with *de novo* MBC and recurrent MBC (Figure 1). The NDRS is attempting to improve collection of data about recurrence in individuals with an existing primary breast cancer record. However, for the years covered in this report, the data on distant recurrence is not of sufficient quality or completeness to be included. As an interim solution, while the data quality is being improved, we have used diagnosis codes for metastatic breast cancer in inpatient hospital records to identify the recurrent cohort. This approach does not identify all people diagnosed with recurrent MBC. In particular, those who have not been admitted to hospital will not be captured, thereby limiting the representation of this population.

3 The audits in NATCAN do not 'collect' clinical data. The cancer audits utilise the nationally mandated flows of data from hospitals to the National Disease Registration Service (NDRS) in NHSE and the Wales Cancer Network in Public Health Wales, thereby minimising the burden of data collection on provider teams.

4 NHS Wales is part way through a cancer informatics implementation programme which is designed to improve the data capture and reporting capabilities of NHS Wales. This ongoing implementation is impacting the data quality within NHS Wales in the short term with multiple systems being used and different implementation dates across cancer sites and organisations resulting in a complex data landscape. NHS Wales has committed to continue to submit audit data annually until data submissions are sourced exclusively from the new cancer informatics solution. This will be from 2026 onwards that NHS Wales will be able to supply quarterly data using this new integrated, and more accessible digital platform.

**Figure 1.** Definition of the *de novo* and recurrent cohorts of people with MBC used within this report




**Notes**: People who initially present with stage 0-3C disease but develop metastasis within 6 months of diagnosis are included in NAoMe *de novo* and excluded from the National Audit of Primary Breast Cancer (NAoPri). People who initially present with stage 0-3C and develop metastasis 6 months or more after their initial diagnosis are included in NAoPri and NAoMe recurrent, using different diagnosis dates for each cohort. COSD: Cancer Outcomes and Services Data set (England). HES – APC: Hospital Episode Statistics Admitted Patient Care (England). PEDW: Patient Episode Database for Wales.

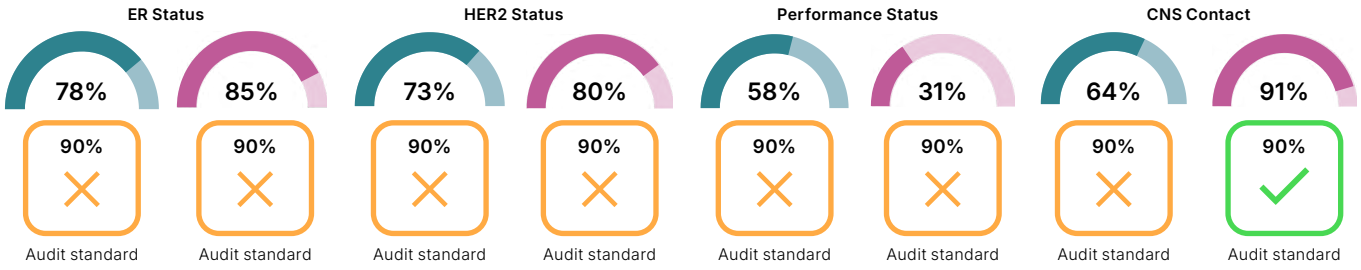
# 2. Infographic

NAoMe
National Audit of Metastatic Breast Cancer

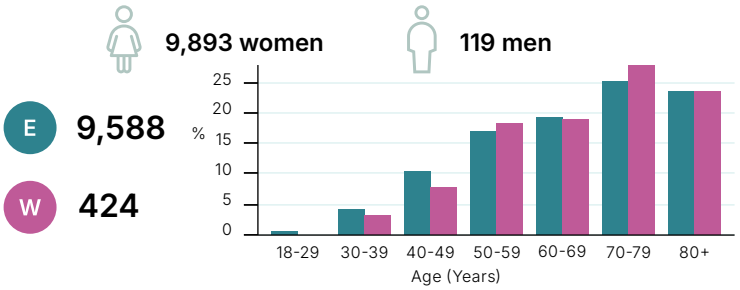
Summary of results for people (women and men) diagnosed with Metastatic Breast Cancer (MBC) in England and Wales between 1st January 2020 and 31st December 2022.

Key: E England W Wales

**Data Completeness** of key routine data items for people with *de novo* MBC in England and Wales




***De novo* disease: 10,012** (individuals whose breast cancer is metastatic at presentation).



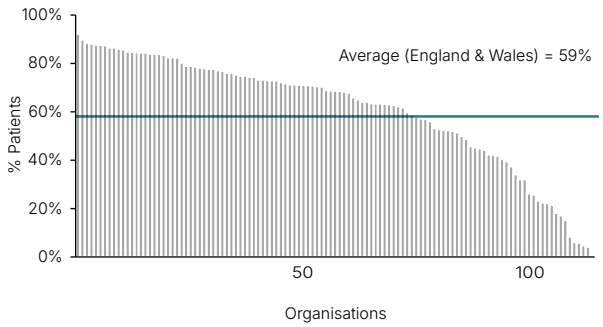

**Recurrent disease*: 12,750** (individuals who are diagnosed with MBC at least six months after an initial non-metastatic breast cancer diagnosis).

E 12,070 W 680

* Information for people with recurrent breast cancer is poorly collected within the data currently available. Information presented here uses methods described in the main report to identify those with recurrent MBC. Collaborative efforts between the NAoMe and NDRS are ongoing to improve recurrence data and optimise identification of people with recurrent breast cancer.

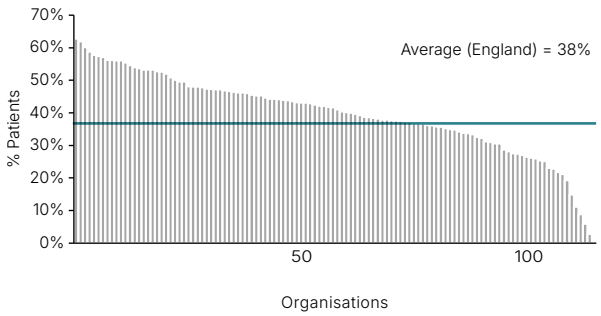
## Multidisciplinary discussion

58% of people in England and 71% in Wales with *de novo* MBC had documented multidisciplinary team discussions, with significant variation between organisations.




## CDK4/6 inhibitor use**

In England, **38%** of people with *de novo* ER positive/ HER2 negative MBC received CDK4/6 inhibitors within the first year, with marked variation between organisations. This information could not be derived for Wales.




## Early death after chemotherapy**

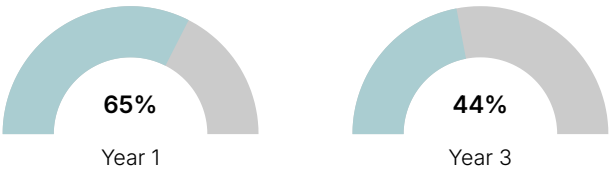
Death within 30 days of chemotherapy was recorded in:

**10%** of people with *de novo* MBC in England.

**19%** of people with recurrent MBC in England.

## Survival for people with *de novo* MBC

Percent of people who survived for at least 1 or 3 years after diagnosis in England and Wales (combined).




Note 1: ER status = oestrogen receptor status, HER2 status = human epidermal growth factor receptor 2 status, Performance Status (scores: 0-4) is a fitness assessment tool used in oncology to stratify people based on their ability to carry out activities of daily living, CNS = Clinical Nurse Specialist
** Indicators not available for Wales due to differences in data availability.

Note that due to differences in data and methodology between reports, direct comparisons between the 2024 report and this 2025 report should not be used to infer about trends over time.

# 3. Recommendations

**Recommendations developed in collaboration with the NAoMe Audit Advisory Committee based on key findings in this report**

| Recommendation | Audience | Audit Findings | Quality Improvement Goal | National Guidance / Standards / Resources |
|---|---|---|---|---|
| ***Clinical Recommendations*** | | | | |
| 1. Ensure the care for all people newly diagnosed with Metastatic Breast Cancer (MBC) (either *de novo* or recurrent) is discussed within a breast multidisciplinary team (MDT) meeting. | England: Breast care teams and clinical management in NHS trusts<br><br>Wales: Breast care teams and clinical management in NHS health boards | 58% (England) and 71% (Wales) of people with *de novo* MBC had a record that their care was discussed within an MDT. In England, the highest performing trusts discussed at least a four-fold higher proportion of their patients than the lowest performing trusts. | Goal #1 – Improve the movement of patients through the care pathway. | *NICE Quality Standard 12 - Quality Statement 5*.<br><br>Breast cancer outcomes are improved when care is directed by an MDT. |
| 2. Examine rates of treatment with CDK4/6 inhibitors within 12 months of diagnosis in people with ER+ HER2- MBC. Consider variation in care - especially in low-use centres – to try to identify underlying causes and opportunities for improved quality of care. | England: Cancer Alliances working with breast care teams and clinical management (incl. oncology teams) in NHS trusts<br><br>Wales: Breast care teams and clinical management (incl. oncology teams) in NHS health boards | In England, in the breast units where CDK4/6 inhibitors were used most, over 50% of people received them, whereas in the units where they were used least, fewer than 10% did. | Goal #5 – Improve and reduce unwarranted variation in metastatic breast cancer outcomes. | *NICE Technology Appraisal Guidance (TA563), TA836, TA687* recommend use of CDK4/6 inhibitors for metastatic breast cancer. |
| 3. Assess 30-day mortality rates following chemotherapy and, in trusts with rates outside the 95% control limits of the national average, conduct outcome reviews and evaluations of local prescribing practices to ensure appropriate consideration of chemotherapy risks and benefits. | England: Cancer Alliances working with breast care teams and clinical management (incl. oncology teams) in NHS trusts<br><br>Wales: Breast care teams and clinical management (incl. oncology teams) in NHS health boards | In England, 30-day mortality rates for people with *de novo* MBC varied across units from 0-31% (national average: 10%). For people with recurrent MBC 30-day mortality rates ranged from 0-44% (England average: 19%) | Goal #5 – Improve and reduce unwarranted variation in metastatic breast cancer outcomes. | NICE Guideline NG101 Early and locally advanced breast cancer: diagnosis and management recommends assessment of the prognostic and predictive factors, and the possible risks and benefits of chemotherapy treatment. |

| Recommendation | Audience | Audit Findings | Quality Improvement Goal | National Guidance / Standards / Resources |
|---|---|---|---|---|
| ***Data Quality Recommendations*** | | | | |
| 4. Ensure accurate recording of date and type of breast cancer recurrence by: (a) Education, sharing the NAoMe Guide to collecting COSD data for breast cancer recurrence with NHS organisations in England; (b) Review and optimise the process of capturing and uploading to COSD (England) and the Cancer Data Form (CDF, Wales). | England: Breast care teams and clinical management in NHS trusts<br><br>Wales: Breast care teams and clinical management in NHS health boards | The NAoMe recurrent MBC cohort is smaller than expected. Improvements in data quality for recurrence are vital for progress in the NAoMe. | Goals #1-5, as will facilitate identification of the correct cohort of people for the NAoMe. | The COSD is the main source for the rapid cancer registration dataset and an important component of the National Cancer Registration Dataset (NCRD). Improved completeness of this dataset is required to ensure accurate reporting.<br><br>The Welsh Health Circular mandates high quality data submissions. |
| 5. Confirm breast MDTs have a data lead responsible for ensuring the quality of national data submissions. Reviews of data completeness should include full tumour characterisation (i.e., stage, grade, histology), ER and HER2, performance status, the NABCOP fitness assessment data items (for people aged 70+ years) and contact with clinical nurse specialists (CNS). | England: Cancer Alliances working with breast care teams and clinical management (incl. oncology teams) in NHS trusts<br><br>Wales: Breast care teams and clinical management (incl. oncology teams) in NHS health boards | In England, performance status and CNS contact were less than 70% complete. In Wales, performance status was less than 35% complete. Improvements in the quality of these key data items should be a priority. | Goals #1-5. | The COSD is the main source for the rapid cancer registration dataset and an important component of the (NCRD). Improved completeness of this dataset is required to ensure accurate quarterly reporting.<br><br>The Welsh Health Circular mandates high quality data submissions. |
| Note that due to differences in data and methodology between reports, direct comparisons between the 2024 and 2025 reports should not be used to infer about trends over time. | | | | |

# 4. Results for England and Wales

## 4.1 Data completeness

### Recurrence

**Key Message**
(Aligns with Recommendation #4 - Recording recurrence)

The NAoMe recurrent metastatic breast cancer (MBC) cohort is considerably smaller than expected due to incomplete collection of key data items for recurrence.

As noted in section 1.1, complete information about the date and type of recurrent disease is fundamental to this Audit. High quality recurrence indicators are not available for 2020-2022 in English and Welsh cancer registration datasets.

A sustained effort is required to remove barriers that prevent the flow of accurate data from NHS breast multidisciplinary teams (MDT) to the National Disease Registration Service in England and the Welsh Cancer Network. This includes identifying a data lead responsible for checking the accuracy and completeness of data being entered, as well as efforts to improve understanding of how to enter recurrence information correctly. To support improvements in data quality on recurrence, the NAoMe, in collaboration with the NDRS, has produced a guide to collecting COSD recurrence data. The guide emphasises the importance of accurately recording both the date and type of cancer recurrence. For the forthcoming year the improvement of recording of recurrence is a strategic Quality Improvement target for NAoMe.

For several performance indicators in this report, we focus on the *de novo* cohort because we are confident in the identification of this cohort. In contrast, the number of people in the recurrent cohort are not representative of the true number of people with recurrent metastatic breast cancer. The use of hospital admitted patient care records to identify recurrent cases will be more likely to capture more advanced/later recurrent disease. The majority of patients with a recurrent breast cancer diagnosis do not require hospital admission for investigation or treatment. As a result, for those indicators provided for the recurrent population, we encourage readers to interpret findings cautiously.

### Patient and Tumour Characteristics

**Key Message**
(Aligns with Recommendation #5 - Data completeness)

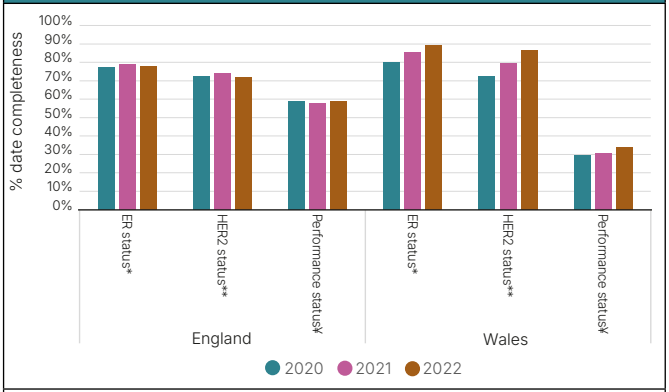
Improvements are required in the completeness of oestrogen receptor (ER) and human epidermal growth factor receptor 2 (HER2) status, and performance status at the time of diagnosis.

There were 10,012 people with a *de novo* MBC diagnosis (England: n=9,588; Wales: n=424), of whom 9,893 were women and 119 were men. There were 12,750 people with a date of diagnosis for recurrent MBC (individuals who are diagnosed with MBC at least six months after an initial non-metastatic breast cancer diagnosis) between 2020 and 2022 (England: n=12,070; Wales: n=680).

Various patient and tumour characteristics will inform treatment options for people with MBC, alongside personal preferences. These characteristics include tumour biology, stage, and the individual's fitness for treatment. The recording of this clinical information in national cancer datasets is vital to understand patterns of care within the NHS.

In relation to the *de novo* cohort, none of the clinical factors reached the target threshold of 90% data completeness expected (Figure 2). Completion of performance status (an assessment score of a person's ability to perform daily activities; more information available in the Methodology Supplement) was particularly poor for England and Wales, although with an improvement demonstrated over time for Wales.

**Figure 2.** Percentage of records with complete data for selected items for people diagnosed with de-novo MBC cancer in England and Wales, 2020-2022




**Notes**: ER status = oestrogen receptor status, **HER2 status = human epidermal growth factor receptor 2 status, ¥ Performance Status (score: 0-5) is a fitness assessment tool used in oncology to stratify people based on their ability to conduct activities of daily living, more details refer to the methodology supplement. Data were impacted by the COVID-19 pandemic and so will be atypical to some degree during 2020-2021. Note that due to differences in data and methodology between reports, direct comparisons between the 2024 and 2025 reports should not be used to infer about trends over time.

### Process measures: Clinical Nurse Specialist (CNS)

**Key Message**
(Aligns with Recommendation #5 - Data completeness)

Wales have good completion of Clinical Nurse Specialist (CNS) data (91%). England require improvement with less than two thirds data completion (64%).

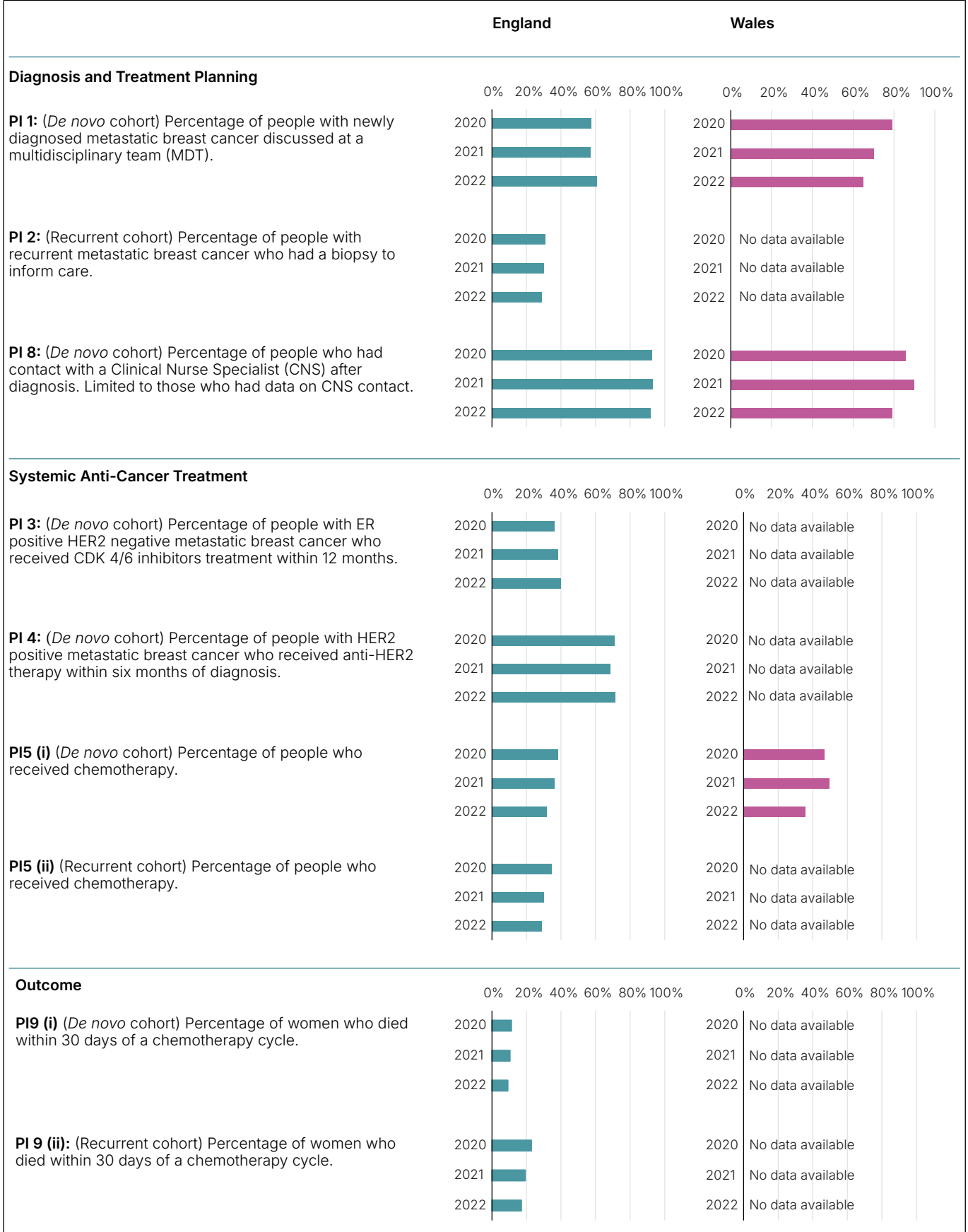
This process measure should be collected routinely in national datasets (formerly CaNISC in Wales, now replaced by the Cancer Data Form [CDF] and COSD in England). Overall, for England and Wales, data completion was 65% for the data item relating to contact with a Clinical Nurse Specialist (CNS). The CNS data item was 64% complete for England and 91% complete for Wales. Any inference on the extent to which these processes are being completed is limited by insufficient information.

## 4.2 Patterns of care in England and Wales

Figure 3 shows the national performance indicator values for England and Wales, based on the year in which people were diagnosed. See the NAoMe methodology supplement for further information.

In England, most indicators appear to have remained stable or declined between 2020 and 2022. Notable declines were evident in the proportion of people receiving chemotherapy and for the percent of people dying within 30 days of a systemic anti-cancer therapy (SACT) cycle. An increasing trend was evident in England for the proportion of people treated with CDK4/6 inhibitors. The decrease in chemotherapy may be explained in part by the increasing uptake of CDK4/6 inhibitors. Fewer indicators are available for Wales due to differences in data availability: the absence of treatment data for the recurrent cohort and missing data on CDK4/6 inhibitor use.

**Figure 3.** Indicator values for people with breast cancer diagnosed in England and Wales, by year of diagnosis




**Notes**: CDK 4/6 = Cyclin-dependent kinase 4 and 6. HER2 = human epidermal growth factor receptor 2. Data were impacted by the COVID-19 pandemic and so will be atypical to some degree during 2020-2021. Fewer indicators are available for Wales due to differences in data availability. Note that due to differences in data and methodology between reports, direct comparisons between the 2024 report and this 2025 report should not be used to infer about trends over time.

## Diagnosis and treatment planning

**Key Message**
(Align with recommendation #1 - MDT)

- In England, fewer than two thirds (58%) of people with newly diagnosed *de novo* metastatic breast cancer are recorded as having been discussed at a multidisciplinary team (MDT) meeting.
- In Wales, 71% of people with newly diagnosed *de novo* metastatic breast cancer are recorded as having been discussed at an MDT.

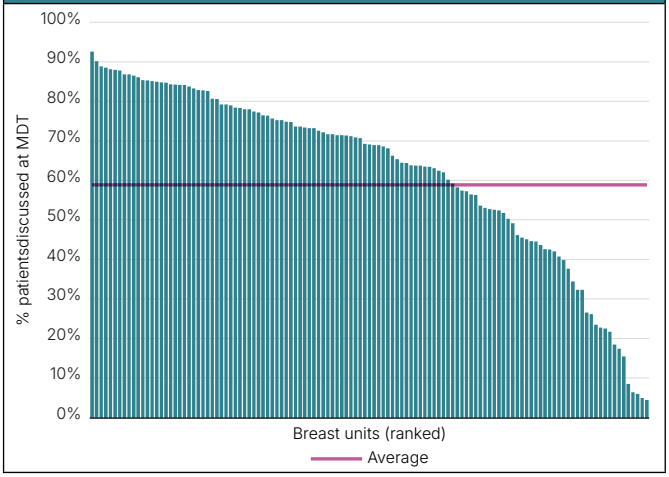
Evidence suggests that patient outcomes are improved when care is directed by an MDT. As such, the audit reports on those people with *de novo* MBC who have their care discussed by an MDT. It has not been possible to report on MDT discussions for those with recurrent MBC. This is because persons included in the recurrent cohort are identified using diagnostic information from hospital records (HES or PEDW) and do not have a linked record in COSD, where MDT information is recorded for each new diagnosis.

Overall, among 10,012 people with *de novo* MBC in England and Wales, 59% had a record that their care was discussed at an MDT meeting within 30 days of diagnosis (Figure 4). The percentage fell from 64% for persons aged 18-49 years to 55% for people aged 80 years & over. 62% of the 119 men with *de novo* MBC had a record of a discussion at an MDT meeting. There was wide variation by trust in the proportion of people discussed at an MDT (Figure 4). Approximately 1 in 4 trusts discussed 80% of their patients or more, whereas approximately 1 in 8 trusts discussed fewer than 30% of their patients in an MDT.

For the 9,588 people with *de novo* MBC treated in England, 58% were reported as having their care discussed at an MDT meeting. For the 424 people with *de novo* MBC treated in Wales, 71% were reported as having their care discussed at an MDT meeting. As the fact of a timely MDT discussion taking place relies on the recording of an MDT date, some MDT discussions may have been held with missing dates, or outside of the 30-day diagnostic window. We encourage NHS breast cancer units to ensure MDT discussion and dates are recorded accurately, and once this has been achieved to use the figures for assessing whether all patients are discussed at MDT meetings.

One of the five QI goals adopted by the NAoMe was to "improve the movement of patients through the care pathway" (Goal 1). Various national and international guidelines recommend that an MDT considers the management options for people with MBC (including the NICE Quality Standard 12)[5]. These discussions help to ensure individualised care with discussion of treatment options consistent with clinical guidelines, including NICE guidance.

**Figure 4.** Percent of *de novo* MBC patients discussed at an MDT by unit, where each breast unit is represented by a bar on the graph, England and Wales 2020-2022




## Use of cyclin dependent kinase (CDK) 4/6 inhibitors within one year of diagnosis

**Key Messages:**
(Align with recommendation #2 – CDK4/6)

- There is significant variation in the use of CDK4/6 inhibitors for people with ER positive/HER2 negative *de novo* metastatic breast cancer in England.
- Breast units that are providing CDK4/6 inhibitors to fewer than a third of eligible people, may want to consider if barriers to prescribing exist and, if so, how they should be addressed.

For people with ER positive/HER2 negative disease, endocrine therapy is recommended as first-line therapy. The addition of a CDK4/6 inhibitor to endocrine therapy was shown to substantially improve progression free survival and overall survival in the first- and second-line treatment of MBC compared to endocrine therapy alone[6].

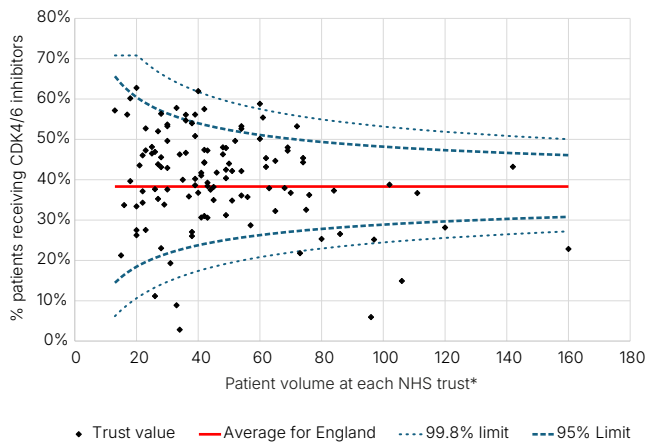
Among 5,440 people with a *de novo* diagnosis of ER positive/HER2 negative MBC in England, 38% had a CDK4/6 inhibitor prescribed. The percentage varied

5 National Institute for Health and Care Excellence. *Breast Cancer. Quality Standard [QS12].* 2011 (updated 2016). *Available from:* https://www.nice.org.uk/Guidance/QS12

6 National Institute for Health and Care Excellence. Technology appraisal guidance *[TA563].* 2019. *Available from:* https://www.nice.org.uk/guidance/ta563/chapter/1-Recommendations

greatly with age, with CDK4/6 inhibitors prescribed in 46% of people aged 18-79 years, compared to 15% for people aged 80 years and over. After risk adjustment, in the breast units where CDK4/6 inhibitors were used most often, over 50% of people received them, whereas in the units where they were used least often, fewer than 10% of people received them (Figure 5). This indicator could not be derived for Wales from the data items available.

**Figure 5.** Risk adjusted percent of people with a *de novo* diagnosis of ER positive/HER2 negative MBC in England who received CDK4/6 inhibitors within one year of diagnosis, where each breast unit is represented by a black diamond. This indicator could not be derived for Wales from the data available.




* Patient volume at each trust (x-axis) refers to the size of the population eligible for the indicator. Here, the number of people with a *de novo* diagnosis of ER positive/HER2 negative MBC.

The wide variation in CDK4/6 inhibitor use by trust is unlikely to be fully explained by data quality issues. However, the relatively low usage of CDK4/6 inhibitors may be in part due to challenges in full ascertainment of their use from routine datasets. The audit is exploring additional ways to ensure all use of CDK4/6 inhibitors is captured. If reflective of true practice, low use may may reflect a belief that the increased toxicity and monitoring requirements compared to use of endocrine therapy alone, justifies use of endocrine monotherapy in the first line treatment of these patients, with the CDK4/6 inhibitor reserved for second line therapy. This indicator begins to address Goal 2 of the NAoMe QI Plan to "reduce unwarranted variation in access and timeliness to systemic anti-cancer treatment".

## 4.3 Outcomes

### Death recorded within 30 days of the start of a chemotherapy cycle

**Key Messages**
(Aligns with recommendation #3 – Chemotherapy 30-day mortality)

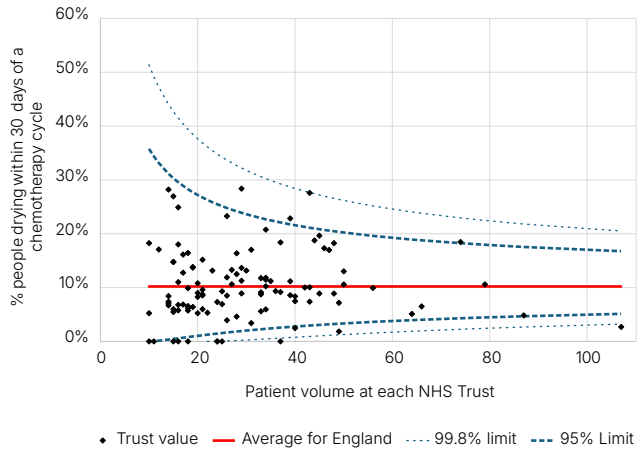
- There is significant variation in 30-day mortality rates following chemotherapy for people with *de novo* and recurrent metastatic breast cancer in England.
- Breast units should conduct outcome reviews at the unit level alongside evaluations of local prescribing practices to ensure appropriate consideration of chemotherapy risks and benefits.

In the palliative setting, variation in rates of 30-day mortality might reflect differences in the assessment and selection of patients regarding fitness or appropriateness of treatment (leading to potential under or over-treatment). Higher rates of death after chemotherapy might be explained, for example, by inappropriate regimen use or dosing, insufficient monitoring, or failure to recognise and address early signs of toxicity. Conversely, persistently low rates of death after chemotherapy might indicate risk-averse behaviours and also warrant review[7].

Among people diagnosed with metastatic breast cancer in England (2020-2022), 30-day mortality rates following the start of a cycle of chemotherapy were 10% for people with a *de novo* diagnosis (Figure 6) and 19% for people with recurrent disease. The equivalent statistics could not be estimated for patients in Wales. If a trust only treats a small number of patients and one patient dies within 30 days, the trust's mortality post-SACT rate will be high. However, the funnel plot structure accounts for this as the control limits will be wider for trusts treating a smaller number of patients.

7 https://digital.nhs.uk/ndrs/data/data-outputs/cancer-data-hub/30-day-mortality-after-sact

**Figure 6.** Percent of people with *de novo* MBC dying within 30 days of a chemotherapy cycle, by trust, England only 2020-2022.




* Patient volume at each trust (x-axis) refers to the size of the population eligible for the indicator. Here, the number of people with a *de novo* MBC who received chemotherapy.

For people with *de novo* MBC, there was little difference in mortality by age, but for people with recurrent MBC, 30-day mortality was significantly higher in those aged under 70, potentially reflecting more aggressive treatment in younger patients. These numbers are not directly comparable to those published by other studies since our cohort definitions differ from those that are used for other publications[8].

In the future, it will be important for this performance indicator to provide greater granularity. For example, it will be important to differentiate between people based on where they are in their treatment pathway (e.g., first-line[9] or second-line treatment). This will help to examine the appropriate use of treatments.

## Survival

One of the five QI goals adopted by the NAoMe was to "improve and reduce variation in MBC outcomes" (Goal 5). Currently, we report overall survival at one and three years by nation, for the *de novo* population.

Case ascertainment for recurrent MBC must be improved for survival statistics to be meaningful. Moreover, it will be important to have accurate information about the date of metastatic recurrence; currently, the date of recurrence is based on the date of a hospital admission.

The percent of people who survived at least 1 year and 3 years after diagnosis were 65% and 44% respectively for people with a *de novo* diagnosis of MBC between 2020 and 2022 in England and Wales (Figure 7). Within these figures, there are differences according to molecular phenotype; people diagnosed with triple negative disease (ER-ve, HER2 -ve) had poorer survival compared to people with ER positive and HER2 positive tumours. Going forward, the audit will develop a risk-adjusted indicator to monitor the percentage of people who survived at least 1 or 3 years from the date of metastatic breast cancer diagnosis across trusts. Many factors can influence a person's survival, and we will undertake work to ensure the indicator provides a fair reflection of outcomes at an organisational level. More detailed figures will be provided in subsequent reports.

**Figure 7.** Percent of people who survive at least 1 or 3 years after diagnosis with *de novo* metastatic disease, England and Wales 2020-2022


8 https://nhsd-ndrs.shinyapps.io/sact_cmar_ndrs_site/

9 Defined in Glossary of terms; available from: https://www.natcan.org.uk/reports/naome-state-of-the-nation-report-2025

# 5. Commentary

This second NAoMe State of the Nation (SotN) report provides a description of the care delivered in NHS hospitals across England and Wales to people diagnosed with metastatic breast cancer between 2020 and 2022. It has focused on the patterns of care at a national level, in England and Wales, as they relate to five key recommendations. Each recommendation links to at least one of the 5 NAoMe Quality Improvement goals, outlined in the Quality Improvement Plan.

The Audit has analysed individuals' care based on their place of diagnosis (either at an English or Welsh breast unit). Information about the performance of NHS organisations is available on the NAoMe website and it is important that NHS trusts and cancer alliances in England, and NHS hospitals and health boards in Wales, use the additional online materials to review their performance and, where indicated, initiate local QI activities. The NAoMe will not be implementing an outlier process for the findings of this report due to two key limitations: a) the *de novo* population is too small when indicators are produced at a trust level and b) the recurrent population is incomplete and we do not have information to know how representative this sample is.

Lack of a robust mechanism to detect recurrence after a previous primary breast cancer diagnosis within national cancer datasets is the greatest challenge faced by the NAoMe. Data quality is therefore a key focus for the NAoMe team. We urge NHS organisations to prioritise recording new non-primary breast cancer as a new COSD episode, rather than continuation of an existing primary breast cancer record, to enable accurate analysis of this population. Due to low levels of recorded data on recurrent MBC, the cohort of recurrent MBC analysed for this report was constructed using diagnostic information in routine hospital data (HES and PEDW) for people who had a primary breast cancer diagnosis from 2015 to 2022. People who had a first breast cancer diagnosis prior to 2015, or who did not have an admission, are therefore excluded. The numbers of patients available for the report should not be used for activities such as resource planning that require estimates of demand.

A priority for the NAoMe is working with the relevant parties to improve the capture of data on recurrence. This work has already begun. The NAoMe, in collaboration with NDRS, has designed a guide to collecting COSD data on breast cancer recurrence, and we are publicising this guide and other resources[10]. Similar work to improve recording of recurrence in Wales is in development. In the Spring 2024, the audit held its first Data Quality Working Group meeting on the topic of identifying people with recurrence. In Autumn 2025, the NAoMe will launch a Quality Improvement intervention with the primary aim of improving recording of recurrence. We are working with partners across trusts and cancer alliances and including a range of stakeholders such as patients, providers, data stewards, and charities. While that work is ongoing, we encourage trusts in England to work with NDRS and their regional Data Liaison Manager to improve their capture of data on recurrence

Understanding the use of various systemic anti-cancer treatments and their appropriateness requires information about people and their tumours. In England, information on performance status, ER, and HER2 status were all less than 80% complete. In Wales, performance status and stage were less than 80% complete. Improvements in the quality of these key data items should be a priority. Organisation-level data completeness for a subset of factors is published in the NAoMe quarterly reports.

Despite limitations in cohort capture and data completeness, the SotN results highlight several areas where attention is required. Discussion of the care of people with MBC by an MDT is a recognised standard which is reported to improve patient outcomes. During 2020-22, 58% (England) and 71% (Wales) of people with *de novo* MBC had a record that their care was discussed within an MDT. There were no data available to report the rate of MDT discussion within the recurrent MBC cohort. Ensuring patients are discussed at MDT meetings should be an important focus for NHS breast MDTs across England and Wales.

In England, there was significant variation in the use of CDK4/6 inhibitors in the *de novo* ER positive HER2 negative group. We would encourage units to look at their local results and, if rates are substantially lower or higher than the national average, explore reasons why this might be the case (e.g., processes for identification and discussion of eligible patients, resources for monitoring of use). Finally, for England, we demonstrated variation in the rates of 30-day mortality following chemotherapy for both the *de novo* and recurrent cohorts. Units should review their local rates and those with rates substantially higher or lower than the national average should examine their palliative chemotherapy practices (e.g., assessment and selection of patients, monitoring and early detection of acute toxicity).

10 https://digital.nhs.uk/ndrs/data/data-sets/cosd/cosd-user-guide-V10/introduction---how-to-record-recurrence-progression-and-transformations