NAoMe
National Audit of Metastatic Breast Cancer

NATCAN
National Cancer Audit Collaborating Centre

National Audit of Metastatic Breast Cancer State of the Nation Report 2026

An audit of care received by people diagnosed with metastatic breast cancer between 1 January 2021 and 31 December 2023 in England and Wales.

Published September 2026

NAoMe

National Audit of
Metastatic Breast Cancer

Citation for this document:

National Audit of Metastatic Breast Cancer (NAoMe) State of the Nation Report 2026. London:

National Cancer Audit Collaborating Centre, Royal College of Surgeons of England, 2026.

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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 the 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 have been provided by patients and collected by the NHS as part of their care and support. For patients diagnosed in England, the data are 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
Perfformiad a Gwella
Performance and Improvement

NHS Wales recently implemented Cancer Dataset Forms with the latest implementation date being January 2025. These have been designed to improve the data capture and reporting capabilities of NHS Wales. This implementation has impacted the data quality within NHS Wales. 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 2027 onwards that NHS Wales will be able to supply quarterly data using this new integrated, and more accessible digital platform.

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Contents

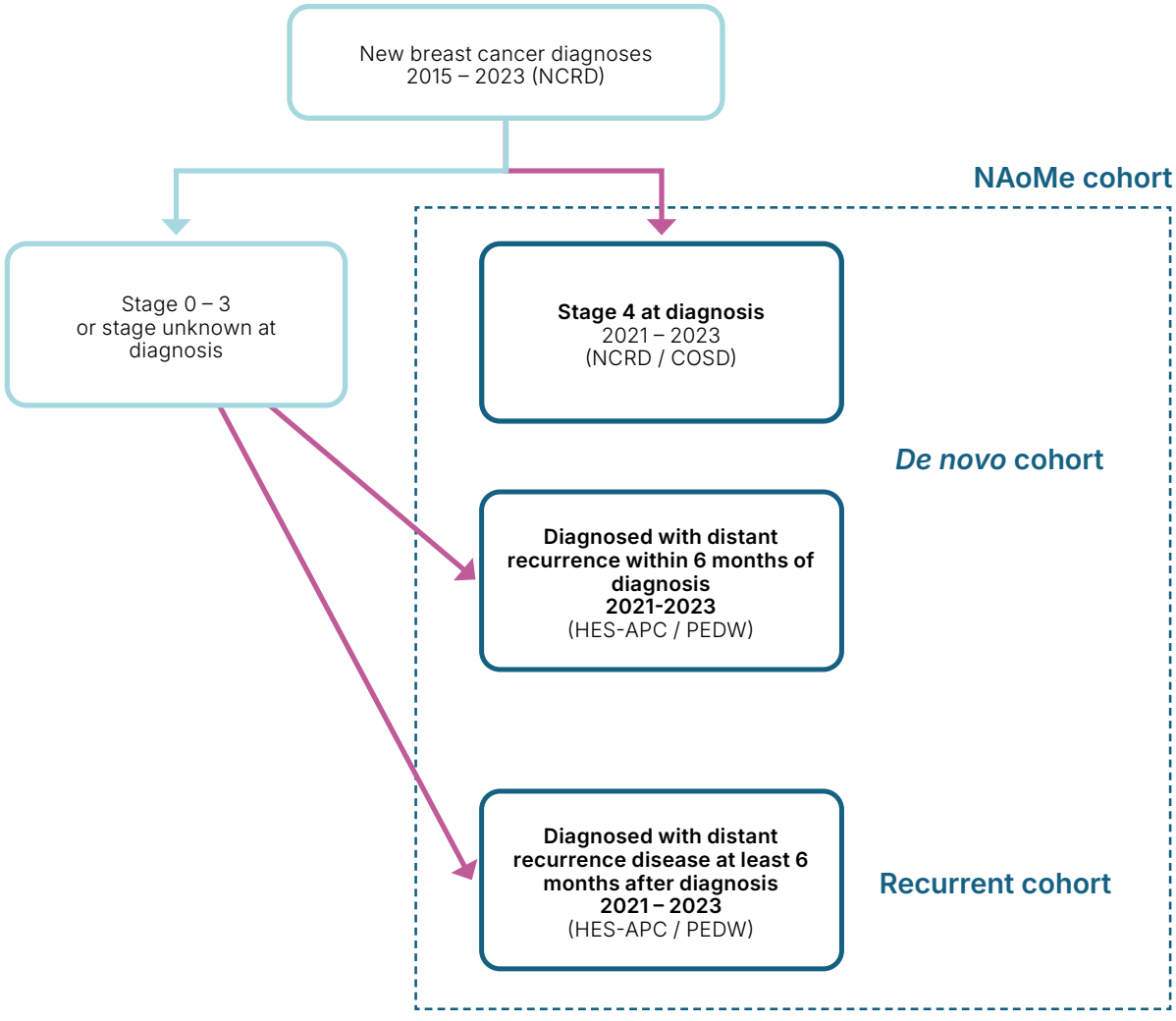
1. Introduction

The National Cancer Audit Collaborating Centre (NATCAN) is the home of ten national cancer audits. These include the National Audit of Metastatic Breast Cancer (NAoMe) and the National Audit of Primary Breast Cancer (NAoPri) which assess the care of people with stage 4 and Stage 0-3C breast cancer respectively.

The National Audit of Metastatic Breast Cancer (NAoMe) aims to evaluate patterns of care and outcomes for people with metastatic breast cancer (MBC). The NAoMe defines MBC as breast cancer that has spread beyond the breast and regional lymph nodes. In the audit, people with MBC have been categorised into those with *de novo* or recurrent disease. The *de novo* cohort comprises patients with metastatic disease identified at the time of, or within 6 months of the initial breast cancer diagnosis. The recurrent cohort are those whose metastatic disease was detected at least 6 months after their initial primary breast cancer diagnosis (Figure 1).

This 2026 State of the Nation report relates to care delivered across England and Wales between 2021 and 2023 and includes people diagnosed with primary breast cancer 2015–2023. The aim is to support NHS breast units to deliver high-quality care to their patients. By sharing trust-level data, breast units can assess the strengths of their clinical practice and determine where quality improvement initiatives could be directed, to derive the greatest benefit.

Figure 1. Definition of the *de novo* and recurrent cohorts.



Note: NCRD = National Cancer Registration Dataset; COSD = Cancer Outcomes and Services Dataset; HES-APC = Hospital Episode Statistics – Admitted Patient Care (England); PEDW = Patient Episode Database for Wales.

The management of people with MBC is informed by national and international guidelines[1-2]. From relevant guidelines and consultation with professional and patient advisory groups, five quality improvement goals and a set of related performance indicators were identified. The indicators included in this report and the accompanying Data Dashboard are outlined in Table 1.

Table 1. NAoMe's performance Indicators (PIs) and corresponding reporting periods*

		England^	Wales#
PI 1:	Percentage of people with newly diagnosed *de novo* metastatic breast cancer (MBC) discussed in a multi-disciplinary team (MDT).	Yes (01/21– 12/23)	Yes (01/21– 12/23)
PI 2:	Percentage of people with recurrent MBC who had a biopsy to inform care.	No (in development)	No (data unavailable)
PI 3:	Percentage of people with ER positive *de novo* MBC who received CDK 4/6 inhibitors**.	Yes (01/21– 12/23)	No (data unavailable)
PI 4:	Percentage of people with HER2 positive *de novo* MBC who received anti-HER2 therapy.	Yes (01/21– 12/23)	No (Data Unavailable)
PI 5:	Percentage of people who received chemotherapy.	Yes (01/21– 12/23)	Yes (01/21– 12/23)
PI 6:	Percentage of people with bone metastases who received a bisphosphonate or denosumab.	No (in development)	No (in development)
PI 7:	Percentage of people with MBC who received radiotherapy.	No (in development)	No (in development)
PI 8:	Percentage of people with *de novo* MBC with clinical nurse specialist (CNS) contact recorded as "Yes".	Yes (01/21– 12/23)	Yes (01/21– 12/23)
PI 9:	Percentage of people with death recorded within 30 days of a chemotherapy cycle.	Yes (01/21– 12/23)	No (data unavailable)
PI 10:	Percentage of people with *de novo* MBC who survived for at least 1 or 3 years after diagnosis.	Yes (01/21– 12/23)	Yes (01/21– 12/23)

* See the methodology supplement for the performance indicator definitions.
** The PI 3 cohort have ER positive HER2 negative (or HER2 unknown) disease.
^ England cohort: National Cancer Registration Dataset (NCRD)
# Welsh cohort: Cancer Network Information System Cymru (CaNISC)

Throughout this report:

- The term NHS organisations is used collectively to refer to NHS trusts in England and health boards in Wales.
- We refer to women and men as these correspond to the "gender" 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. Results specifically for men are referred to in the text, where numbers permit and results are clinically relevant.
- Results for England and Wales are presented where possible. In some cases, where Wales data were not available, performance indicators are presented for England only.

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 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/

1.1 Data sources

The audit derives its performance indicators using data that are routinely collected by the NHS as part of the care and support given to people diagnosed with breast cancer. This 2026 State of the Nation Report includes data on people diagnosed with MBC up to the end of 2023.

In England, the data are collated, maintained and quality assured by the National Disease Registration Service (NDRS), part of NHS England. The audit uses the National Cancer Registration Dataset (NCRD). The Rapid Cancer Registration Dataset (RCRD) offers more timely, though less detailed information, and this dataset is used for the quarterly updated results published on the NAoMe Data Dashboard. At present, the RCRD is only available for England. For people diagnosed in Wales, data are provided by NHS Wales Performance and Improvement using the Cancer Network Information System Cymru (CaNISC) or Cancer Dataset Form (CDF). Further information relating to data sources and methods are available on the NATCAN website and the NAoMe Methodology Supplement.

1.2 Identifying people with *de novo* and recurrent metastatic breast cancer

Key message

The audit provides information for people with newly diagnosed metastatic breast cancer. People with *de novo* MBC are well represented but people with recurrent MBC are not captured as completely in the routine national cancer datasets. The audit utilises an algorithm to identify people with recurrent metastatic disease.

The national cancer datasets in England and Wales are comprehensive in the coverage of people diagnosed with breast cancer, and the audit has excellent case-ascertainment of people with *de novo* MBC i.e. stage 4 disease at time (or within 6 months) of initial breast cancer diagnosis. Recurrence of breast cancer remains poorly recorded in routinely collected national cancer data. The audit uses an algorithm based on the ICD-10 diagnostic codes within the Hospital Episode Statistics (HES) dataset to identify the first time a patient is recorded as having metastatic disease during a hospital admission. For people diagnosed with breast cancer in the cancer registry from 2015-2023, the algorithm assesses all hospital records and identifies all people with metastases identified 2021-2023. People who had their initial breast cancer diagnosis prior to 2015 are not captured. Those people who have not had a hospital episode, or whose records mistakenly omit the ICD-10 code for metastases are therefore not captured. The audit has prepared practical guidance on recording MBC for sharing with breast units across England and Wales to assist in the identification of recurrent MBC.

In consideration of the above challenges, most performance indicators in this State of the Nation report relate to people with *de novo* MBC. Indicator values for people with recurrent MBC will be published when the completeness of the data allows. Improving the recording of metastatic cancer in national datasets was identified as a priority in the National Cancer Plan for England.

NAoMe Quality Improvement Intervention: Improving recording of breast cancer recurrence

Formally launched in October 2025, the NAoMe Quality Improvement Intervention aimed to understand challenges in the recording of breast cancer recurrence. This subsequently led to the development of:

1. Practical guidance to facilitate hospital-level data entry through the provision of software-specific instructions.

2. Exploratory work:

    - To identify people between 2015-2022 who received treatments indicative of MBC either via the Systemic Anti-Cancer Therapy (SACT) or Radiotherapy (RTDS) datasets. Employing this approach led to the identification of approximately 6,000 people. 5,068 people from the SACT dataset and 1,200 from RTDS. An estimated 85% of the additional people identified in the SACT database and 90% of the additional people in RTDS were thought to have recurrent rather than *de novo* disease.

    - Preliminary work also suggests that the use of cross-sectional imaging recorded in the Diagnostic Imaging Dataset (DIDS) may be of use in the future to improve accuracy of the recorded date of diagnosis of metastatic disease.

3. A data Improvement group, established to facilitate closer collaboration among the seven UK-based organisations working to improve MBC recurrence detection data.

We recommend each breast unit identifies a local data lead responsible for ensuring:

1. Data submitted locally is accurate, complete and consistent with the guidance available here.

2. Any queries regarding data submission or results are highlighted to NDRS data liaison team for support.

3. NAoMe Data Dashboards and the annual State of the Nation report are reviewed to guide local quality improvement initiatives.

2. Infographic

NAoMe
National Audit of Metastatic Breast Cancer

Summary of results for women and men diagnosed with metastatic breast cancer (MBC) in England and Wales between 1st January 2021 and 31st December 2023.

Key: E **England** W **Wales**

Number of people with metastatic breast cancer at diagnosis *(de novo)*: 10,494

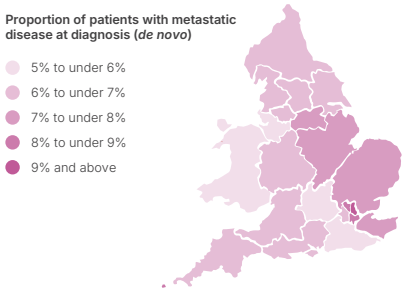
E **10,052**
W **442**

Number of people with metastatic breast cancer occurring after initial primary breast cancer diagnosis (recurrent): 14,250

E **13,650**
W **600**

De novo metastatic breast cancer

The map shows the variation in the percentage of all people with breast cancer who were diagnosed with metastatic disease at diagnosis (*de novo*) between 2021 and 2023 across England and Wales.

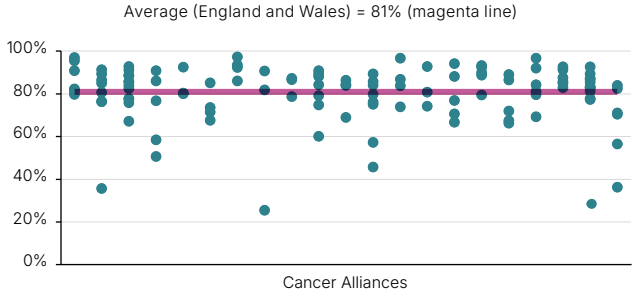


Clinical nurse specialist (CNS)

62% of people in England and 78% in Wales with *de novo* metastatic breast cancer had a recorded contact with a CNS, with significant variation (0%-100%) between NHS organisations.

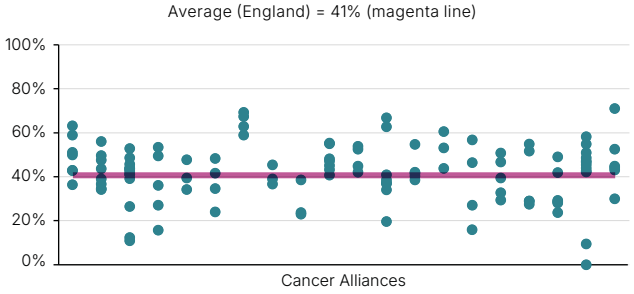
Multidisciplinary team (MDT) discussion

81% of people in England and 68% in Wales with newly diagnosed *de novo* metastatic breast cancer were discussed in a MDT. Variation (25%-97%) was observed between NHS organisations. Each breast unit is represented by a green circle. Cancer Alliances are arranged on the x-axis.



CDK4/6 inhibitor use

In England***, 41% of people with *de novo* ER positive HER2 negative metastatic breast cancer received CDK4/6 inhibitors, with marked variation (0%-71%) between NHS organisations. Each breast unit is represented by a green circle. Cancer Alliances are arranged on the x-axis.



Early death after chemotherapy

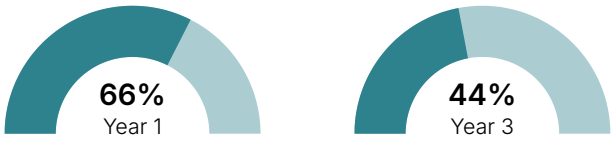
Death within 30 days of chemotherapy was recorded in:

9% of people with metastatic breast cancer at diagnosis (*de novo*) in England.

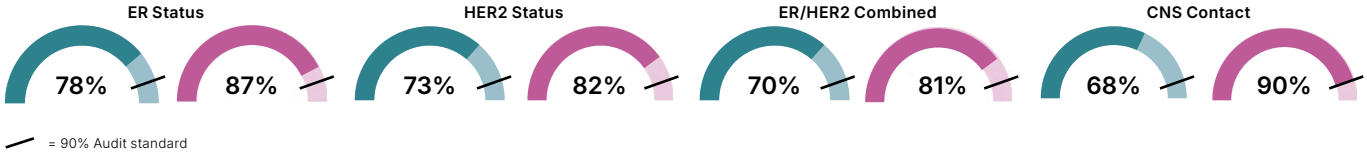
16% of people with recurrent metastatic breast cancer in England.

Survival for people with metastatic breast cancer at diagnosis (*de novo*)

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



Data completeness of key routine data items for people with *de novo* metastatic breast cancer in England and Wales.



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.

Note 2: * *De novo* breast cancer is MBC diagnosed at initial presentation. ** Recurrent breast cancer is MBC that occurs at least six months after an initial non-metastatic breast cancer diagnosis. Information for people with recurrent breast cancer is poorly collected in data currently available. Information presented here uses methods described in the main report to identify those with recurrent MBC. *** Indicators not available for Wales due to differences in data availability.

Note 3: **** For separate figures for England and Wales please see the supplementary data tables that accompany this report.

3. Recommendations

Recommendations were developed in collaboration with the NAoMe Audit Advisory Committee and based on key findings in this report. The recommendations are intended for healthcare providers and commissioners in England and Wales, including trusts, Cancer Alliances, and health boards. The NAoMe local quality improvement action plan contains suggested actions to address the recommendations described below.

Recommendation	Audience	Audit Findings	Quality Improvement Goal	National Guidance/Standards/ Resources
Clinical Recommendations				
1. Ensure that all people newly diagnosed with MBC are discussed at a specialist breast MDT meeting, in line with NICE guidance. Cancer Alliances should work with their constituent units to remove local barriers to MDT discussion and use the NAoMe Quarterly Reports to monitor when MDT discussion did not occur (and ensure data are complete).	England: Cancer Alliances working with breast care teams and clinical management in NHS trusts Wales: Breast care teams and clinical management in health boards	81% (England) and 68% (Wales) of people with de novo MBC had a record that their care was discussed within an MDT.	Goal # 1: Improve the movement of patients through the care pathway.	NICE Quality Standard 12 - Quality Statement 5. Breast cancer outcomes are improved when care is directed by an MDT.
2. Breast units with low reported use of CDK4/6 inhibitors for people with de novo ER-positive, HER2-negative MBC should identify the underlying causes and implement actions to improve equitable access to guideline-recommended treatment. This may include ensuring the completeness of systemic anti-cancer therapy (SACT) recording for oral therapies in the SACT dataset.	England: Cancer Alliances working with breast care teams and clinical management (incl. oncology teams) in NHS trusts Wales: Breast care teams and clinical management (incl. oncology teams) in health boards	In England, 41% of people with de novo ER positive HER2 negative MBC received a CDK 4/6 inhibitor.	Goal #5: Improve and reduce unwarranted variation in MBC outcomes.	NICE Technology Appraisal Guidance recommend use of CDK4/6 inhibitors for the treatment of ER+ve HER2- metastatic breast cancer.
3. Breast units should monitor rates of 30-day mortality following cytotoxic chemotherapy for metastatic breast cancer and consider outcome reviews and/or an evaluation of local prescribing practices, peer-discussion, and the use of prognostic information 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 Wales: Breast care teams and clinical management (incl. oncology teams) in health boards	In England, 30-day mortality rates following cytotoxic chemotherapy was 9% for people with de novo MBC compared to 16% among people with recurrent MBC.	Goal #5: Improve and reduce unwarranted variation in MBC outcomes.	NICE Guidelines NG101 & CG81 for Early and Advanced breast cancer recommends assessment of the prognostic and predictive factors, and the possible risks and benefits of cytotoxic chemotherapy treatment.

Recommendation	Audience	Audit Findings	Quality Improvement Goal	National Guidance/Standards/ Resources
Data Quality Recommendations				
4. Confirm breast MDTs have a data lead responsible for ensuring the accurate recording of data and type of breast cancer recurrence. Reviews of data completeness should ensure that full tumour characterisation (i.e., stage, grade, histology), ER and HER2 and contact with clinical nurse specialists (CNS) are recorded.	England: Cancer Alliances working with breast care teams and clinical management (incl. oncology teams) in NHS trusts Wales: Breast care teams and clinical management (incl. oncology teams) in health boards	The NAoMe recurrent MBC cohort is smaller than expected. Improvements in data quality are needed. In England, molecular status* among people with de novo MBC were 70% complete in the cancer registry and in Wales 81% complete.	Goals #1–5.	National Cancer Plan for England, Action 3 commits to improving data on recurrent cancers, starting with metastatic breast cancer. The Welsh Health Circular mandates high quality data submissions.

Note that due to differences in data and methodology between reports, direct comparisons between the 2025 and 2026 reports should not be used to infer about trends over time.

* ER and HER2 status combined.

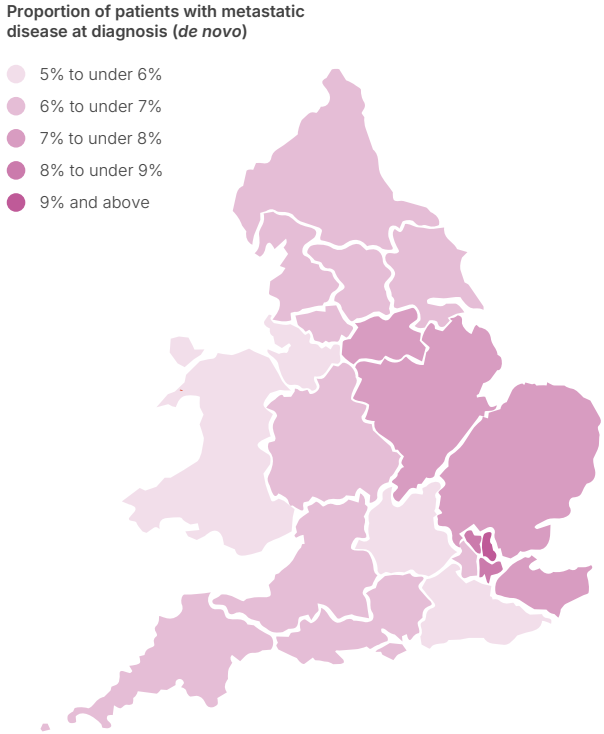
4. Results for England and Wales

4.1 Patient and tumour characteristics

There were 10,494 people with a *de novo* MBC diagnosis (England: n= 10,052; Wales: n= 442), of whom 99% were women. We identified 14,250 people who received a diagnosis of recurrent MBC between 2021 and 2023 (England: n= 13,650; Wales: n= 600), of whom 99% were women.

Map 1 shows the proportion of all people with breast cancer who had *de novo* MBC at diagnosis. The map shows regional variation across England and Wales, which may reflect differences in access to timely imaging (e.g. CT scans) and clinical decision making regarding which people with early breast cancer are assessed for metastatic disease[3]. The NAoMe team plan to explore the reasons for this variation.

Map 1. Percentage of all people with breast cancer who were diagnosed with metastatic disease at diagnosis (*de novo*) between 2021 and 2023 across England and Wales.



3 Slade E, Luckham K, Heath A, Owen L. Health Inequalities in Breast Cancer in England: A Pragmatic Review to Inform National Institute for Care and Excellence (NICE) Recommendations. Cancer Control. 2024; 31: 10732748241293976.

5. Diagnosis and treatment planning in England and Wales

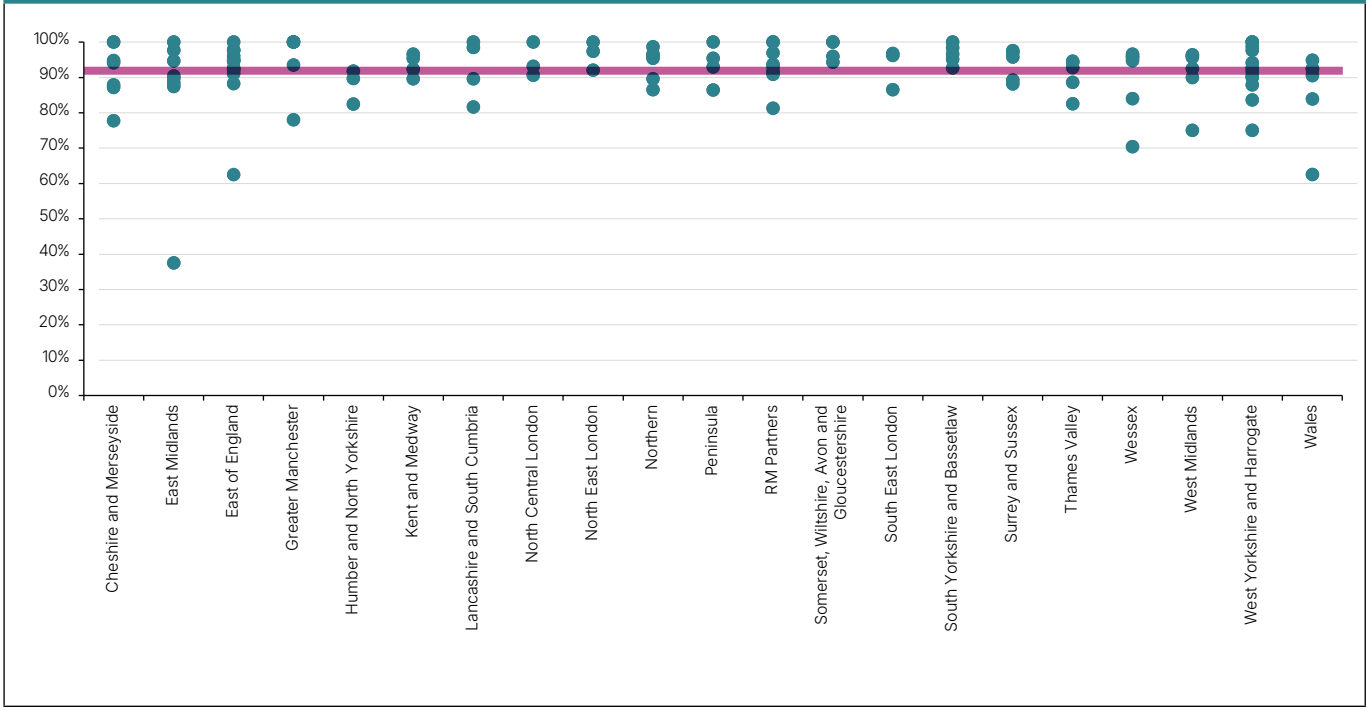
5.1 Clinical nurse specialist (CNS)

Key message

Among people with data recorded for this data item, 92% of people with *de novo* MBC saw a Clinical Nurse Specialist around the time of diagnosis, however actual levels of performance are uncertain due to poor data completeness.

Amongst those for whom data are available, an average of 92% of people with *de novo* MBC had a recorded contact with a CNS within 30 days of diagnosis, in England and Wales. Overall rates of CNS contact increased from last year's average of 90%, however in 8 NHS breast units, fewer than 80% of people with *de novo* MBC had a recorded contact with a CNS (Figure 2). When estimates are based on all people with MBC (irrespective of data completeness), the proportion of people who had contact with a CNS within 30 days of diagnosis is 63% (England = 62%; Wales = 78%).

Figure 2. Percentage of people with *de novo* MBC who have had a contact with a clinical nurse specialist (CNS). Each breast unit is represented by a green circle. Cancer Alliances are arranged across the x-axis. The magenta line indicates the percentage average across England and Wales, 2021–2023.



5.2 Multidisciplinary team (MDT) directed care

Key message

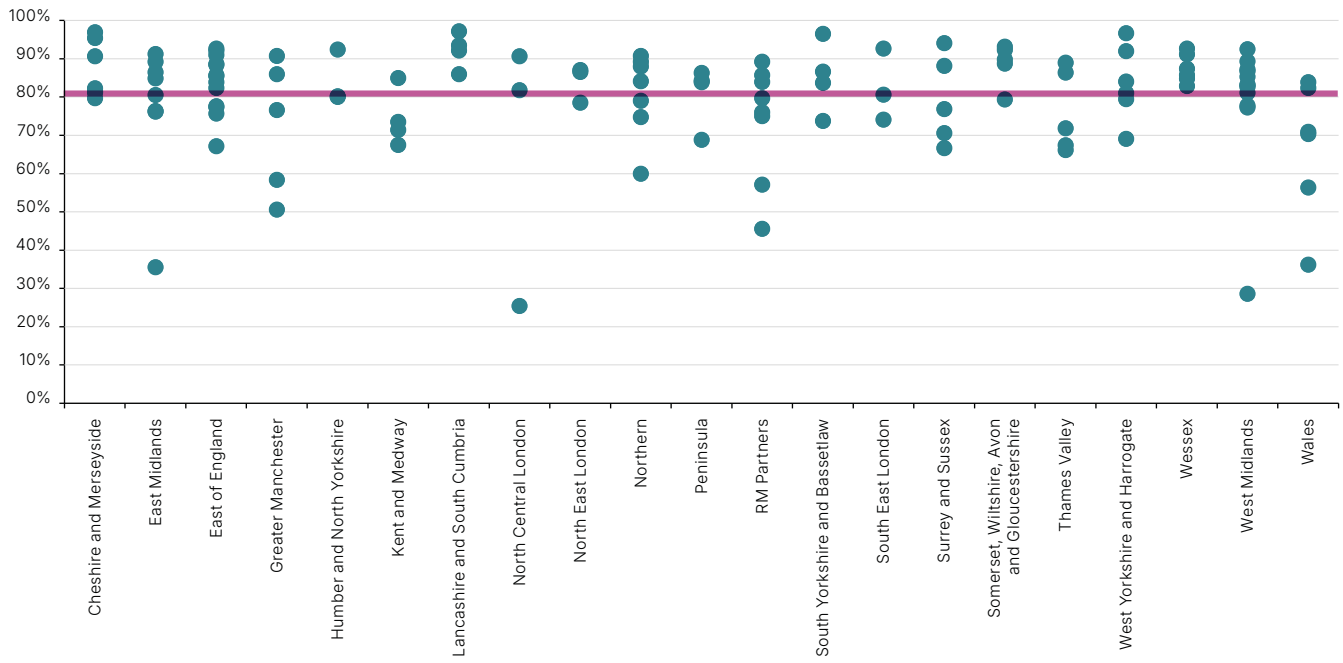
The percentage of people with *de novo* MBC recorded as having care discussed by an MDT fell below the 90% target in 97 breast units across England and Wales.

One of the five QI goals adopted by the NAoMe is to "improve the movement of patients through the care pathway" (Goal#1). National and international guidelines recommend that an MDT considers the management options for people with MBC[4]. These discussions help to ensure individualised care with discussion of treatment options consistent with clinical guidelines, including NICE guidance. MDT directed care is recognised to improve patient outcomes.

To reflect the importance of MDT involvement, NAoMe reports the percent of people with *de novo* MBC who had care discussed at a Breast Cancer MDT (Figure 3). Overall, 81% (England = 81%; Wales = 68%) of people had a record that their care was discussed at an MDT meeting within 30 days of diagnosis. The percentage decreased from 86% for people aged 18-49 years to 77% for people aged 80 years and over. 80% of the men with *de novo* MBC in England and Wales had a record of a discussion at an MDT meeting. There was wide variation between breast units. The majority of units discussed 70-90% of people with *de novo* MBC at an MDT, but for five it was below 50%.

Failure to achieve MDT discussion within the 30-day target may reflect pressures in pathology departments (delaying time to biopsy results) and radiology (with prolonged waiting times for cross sectional imaging availability and reporting). Recording of the MDT date is important and we ask NHS breast cancer units to ensure MDT discussion and dates are recorded accurately.

Figure 3. Percentage of people with newly diagnosed *de novo* metastatic breast cancer (MBC) whose case has been discussed by a multidisciplinary team (MDT). Each breast unit is represented by a green circle. Cancer Alliances are arranged across the x-axis. The magenta line indicates the percentage average across England and Wales, 2021–2023.



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

Key message

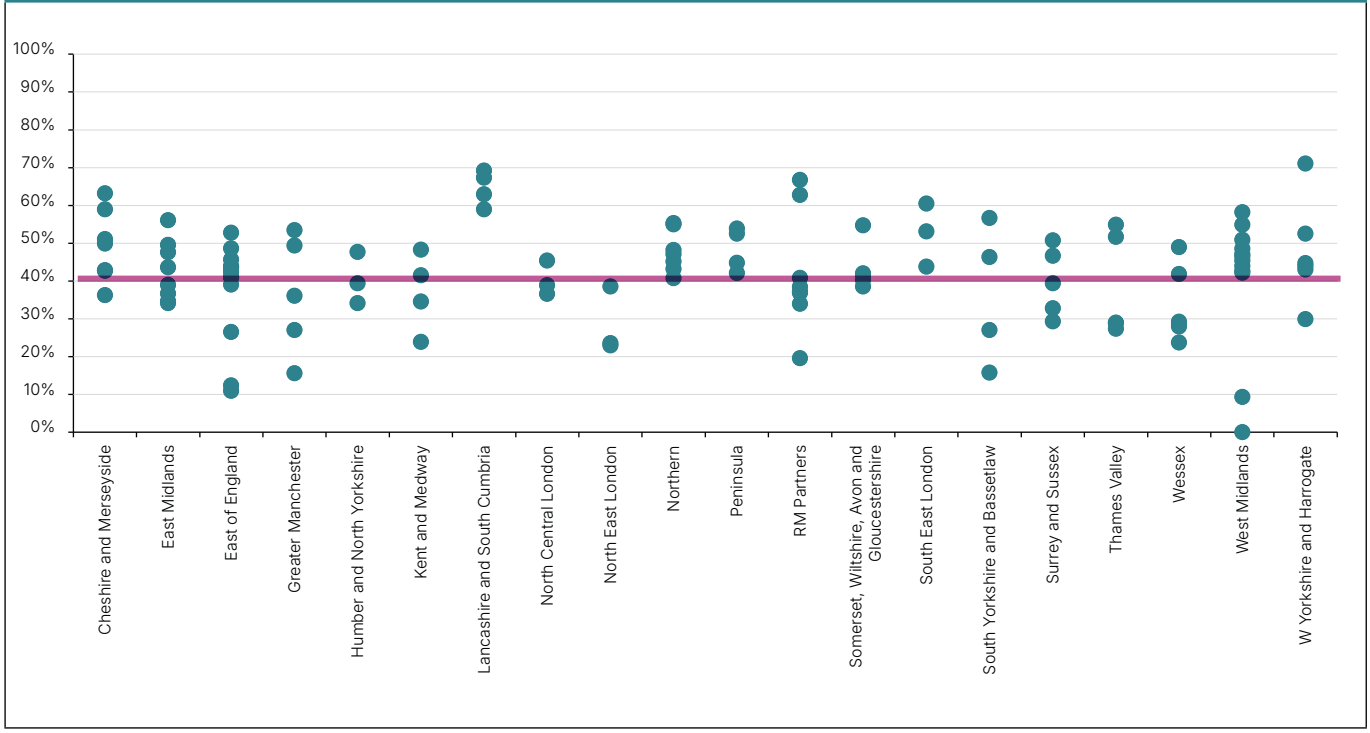
Significant variation exists in the use of CDK4/6 inhibitors for MBC in England and use differed according to patient age. 48% of people with ER +ve HER2 -ve *de novo* MBC aged under 80 years were treated with a CDK 4/6 inhibitor compared to 17% for people aged 80 years and over.

Addition of CDK 4/6 inhibitors to endocrine therapy has been shown to substantially improve progression free and overall survival, compared to endocrine therapy alone, among people with metastatic ER positive HER2 negative/ unknown MBC[5]. Given the effectiveness and tolerability of CDK 4/6 inhibitors this treatment has become the recognised first line therapy for ER positive HER2 negative MBC.

Marked national variation exists however in the percentage of people with ER positive HER2 negative *de novo* MBC receiving CDK 4/6 inhibitor treatment. Among 5,803 people with *de novo* ER positive HER2 negative MBC in England, 41% had a CDK4/6 inhibitor prescribed (Figure 4). The percentage varied greatly with age, with CDK4/6 inhibitors prescribed in 57% in 18–49 years, 50% in 50–69 years, 40% in 70–79 years and 17% for people aged 80 years and over.

The relatively low usage of CDK4/6 inhibitors may be in part due to challenges in full ascertainment of their use from routine datasets and may also reflect missing receptor status and stage data for some people. However, there is no reason to believe that the usage of CDK 4/6 inhibitors in people with missing data would be different. Breast units are encouraged to review the completeness of data returns in the SACT dataset from their NHS trust to aid interpretation of these results. Low use may also 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 setting, with the CDK4/6 inhibitor reserved for second line use. 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".

Figure 4. Percentage of people with a *de novo* diagnosis of ER positive HER2 negative MBC in England who received CDK4/6 inhibitor treatment. Each breast unit is represented by a green circle. Cancer Alliances are arranged across the x-axis. The magenta line indicates the percentage average across England, 2021–2023. Data for Wales unavailable.



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

6. Outcomes

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

Key message

30-day mortality rates following chemotherapy are higher among people with recurrent compared to *de novo* MBC in England, 16% vs 9% respectively.

Among people diagnosed with metastatic breast cancer in England (2021–2023), 30-day mortality rates following a chemotherapy cycle were 9% for people with *de novo* (Figure 5) and 16% for people with recurrent MBC (Figure 6). The figures for providers are shown using a funnel plot to account for statistical uncertainty. For people with *de novo* MBC, there was little difference in mortality by age, but for people with recurrent MBC, 30-day mortality was higher in those aged under 70, potentially reflecting more aggressive treatment in younger people. It is worth noting that these numbers are not directly comparable to those published by other studies due to different cohort definitions[6].

Figure 5. 30-day mortality following chemotherapy among people with *de novo* MBC, by trust in England only, 2021–2023. Wales is excluded from this analysis as only first-course chemotherapy data are available within the dataset.

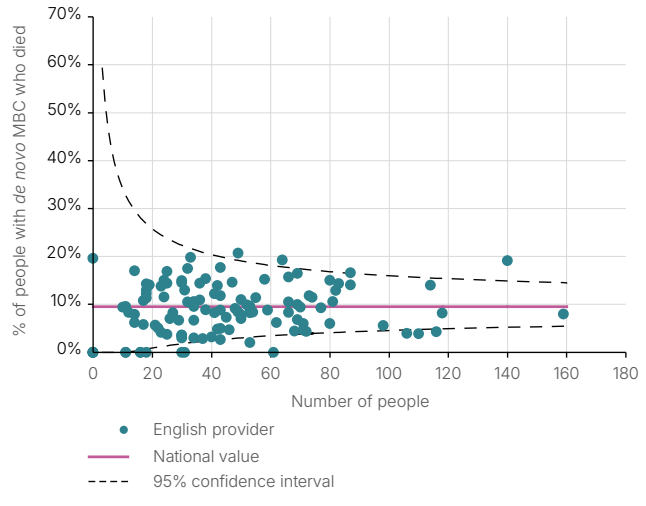
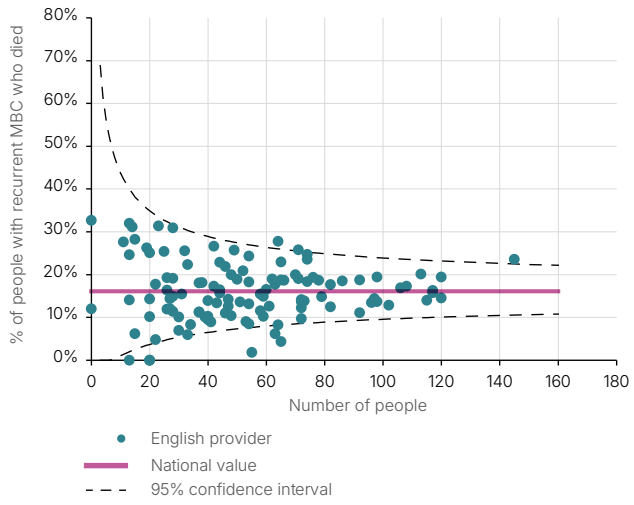


Figure 6. 30-day mortality following chemotherapy among people with recurrent MBC, by trust in England only, 2021–2023. Wales is excluded from this analysis as only first-course chemotherapy data are available within the dataset.



In the palliative setting, variation in rates of 30-day mortality might reflect differences in the assessment of people's fitness and appropriate treatment selection (leading to potential under- or over-treatment). Higher rates of death after chemotherapy may, for example, be explained by inappropriate regimen use or dosing, insufficient monitoring, or failure to recognise and treat early signs of toxicity. Conversely, persistently low rates of death after chemotherapy might indicate risk-averse behaviours and warrant review[7]. Breast units with outlying values are encouraged to review their results and their local prescribing practices.

The higher 30-day mortality rate seen in the recurrent vs *de novo* cohort may reflect that people with recurrent MBC have previously received cancer treatment and are consequently at higher risk because of diminished organ reserve. Differentiating between people based on where they are in their treatment pathway (e.g., first-line or second-line treatment) as part of future audit developments will help us assess the appropriate use of treatments and the influence of age, frailty and treatment history on chemotherapy outcomes.

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

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

6.2 Survival

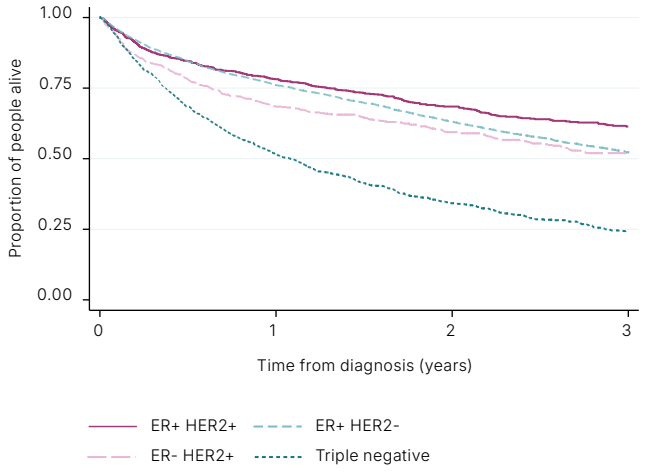
One of the five QI goals adopted by the NAoMe was to "improve and reduce variation in MBC outcomes" (Goal 5). Currently, we report overall survival at one and three years by nation, for the *de novo* population.

The percent of people who survived at least 1 year and 3 years after diagnosis were 66% and 44% respectively for people with a *de novo* MBC diagnosis between 2021–2023 in England and Wales (Figure 7).

A diagnosis of *de novo* MBC may occur in relatively asymptomatic patients when staging is requested due to a new breast cancer diagnosis. In contrast many people with recurrent MBC may present late with extensive visceral disease and have a higher mortality. Survival varied considerably between molecular subtypes (Figure 8). 1- and 3-year survival was highest among people with ER+ve, HER2+ve *de novo* MBC at 78% and 61% respectively. Poorer outcomes were observed among people with Triple Negative (ER-ve, HER2-ve) MBC with 1 and 3-year survival at 52% and 24% respectively.

Figure 7. Percentage of people who survived at least 1 or 3 years after diagnosis with *de novo* metastatic disease, England and Wales, 2021–2023.

Figure 8. Survival among people with *de novo* metastatic breast cancer (MBC) in the three years following diagnosis, by molecular phenotype. Wales is excluded from this analysis as only first-course chemotherapy data are available within the dataset.



7. Commentary

This third NAoMe State of the Nation report describes the care delivered to people with MBC in NHS hospitals (2021–2023). Our report highlights various areas of unwarranted variation in MBC care across England and Wales. We recommend the results are shared with breast units, Cancer Alliances and related NHS institutions to enhance the care provided to people and help resources and quality improvement activities to be focused where they are needed most. It focuses on the patterns of care across England and Wales as they relate to five key recommendations. Lack of a robust mechanism to detect MBC recurrence within national cancer datasets is the greatest challenge faced by the NAoMe. The National Cancer Plan for England and the Cancer Improvement Plan for NHS Wales have outlined a commitment to improve the collection of these data as part of their strategy to improve cancer outcomes.

Both plans embrace a data-driven approach to benchmarking clinical practice and ensuring this supports the improvement of cancer services. The strategic use of routine cancer datasets is highlighted as a cornerstone for evaluating progress and informing future interventions. We welcome the commitment in the National Cancer Plan for England to provide reliable data on the incidence and prevalence of metastatic breast cancer and its target implementation timeframe of the end of 2026.

There is also a strong emphasis on reducing variation in care in both National Cancer Plans and translating evidence into practice. The NAoMe team will continue with our Patient and Public Involvement Forum, patient charities, professional medical associations, and wider stakeholders to facilitate this.