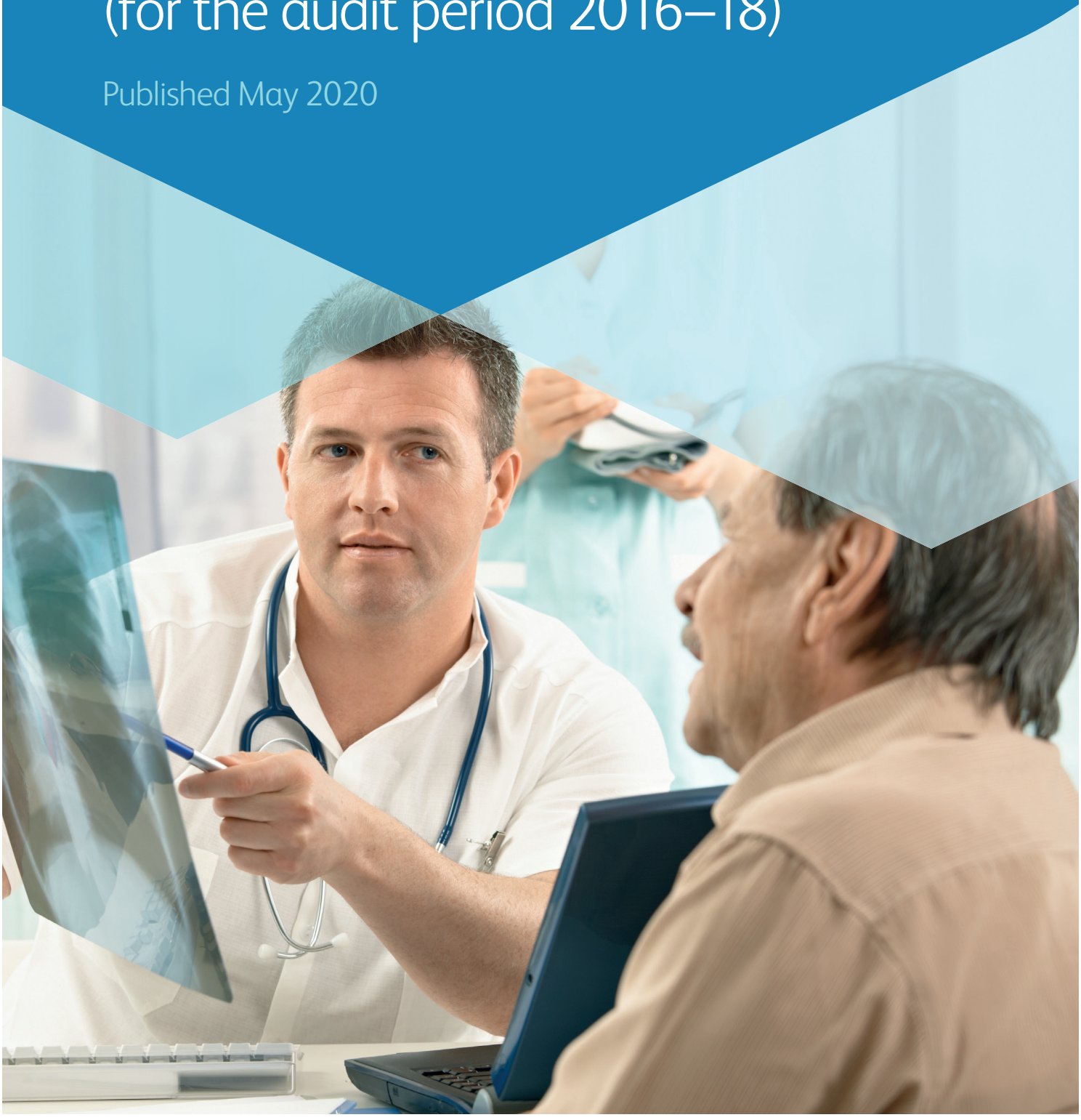
Royal College of Physicians | National Mesothelioma Audit | MESOTHELIOMA UK Supporting People With This Asbestos Cancer

National Mesothelioma Audit report 2020

(for the audit period 2016–18)

Published May 2020



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Public Health England

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 (NCRAS), which is part of Public Health England (PHE). Access to the data was facilitated by the PHE Office for Data Release.
www.ndrs.nhs.uk/

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Foreword

We are very pleased to publish the fourth National Mesothelioma Audit (NMA) report in collaboration with Mesothelioma UK.

Results are presented for over 7,000 people diagnosed with mesothelioma (pleural and peritoneal) across England, Wales, Northern Ireland and Guernsey. Unfortunately, we were not able to include detailed data from Scotland and Jersey, although we anticipate including this in the next report.

Highlights to celebrate include improvements in survival, clinical nurse specialist assessment, pathologic subtyping and multidisciplinary team (MDT) discussion, with particular note of a doubling of referrals to the national peritoneal mesothelioma MDT since the last report published in 2018. The use of systemic anticancer therapy and radical surgery remains stable for malignant pleural mesothelioma (MPM), although there is a decline in the use of radiotherapy.

Across the UK, at cancer alliance and organisation level, variation in active treatment and outcomes persist, and we hope that data from this report will be used by all those responsible for commissioning and providing mesothelioma services to improve the quality of care for all people diagnosed with this asbestos cancer, moving forwards.

Susan Harden
Clinical Lead for the NMA

1 Executive summary

The National Mesothelioma Audit (NMA) report uses data provided by Public Health England (PHE), the Welsh Cancer Network, the Northern Ireland Cancer Registry (NICR), lung cancer teams in Guernsey and the national peritoneal mesothelioma multidisciplinary team (MDT) at Basingstoke to provide a summary of key findings, national averages and geographical variance across an agreed list of mesothelioma service performance indicators and patient outcomes.

The audit makes nine specific recommendations around quality improvement for the attention of healthcare executives, MDTs and commissioners of mesothelioma services, highlighting where practice deviates from British Thoracic Society (BTS) guidelines.

Key findings are reported as follows:

- There were 7,210 new cases of mesothelioma (6,950 with malignant pleural mesothelioma (MPM) and 260 with peritoneal mesothelioma (PM)) diagnosed between 1 January 2016 and 31 December 2018.

- Data completeness for MPM has improved since the previous audit (2014–16)[1] for performance status (PS) (increased to 81% from 69%), stage (increased to 65% from 54%) and clinical nurse specialist (CNS) data completeness (increased to 78% from 67%), and data completeness for all measures were improved for PM. This is due to improvements in data completeness for England with data completeness for Wales remaining excellent.

- Diagnostic and support measures have improved since the previous audit: the proportion of MPM mesothelioma patients discussed by a multidisciplinary team (MDT) has increased (89% from 81%), CNS assessment has increased (70% from 54%), and the proportion of pathologically diagnosed cases with non-specific histologic subtyping has reduced (31% from 36%). The proportion of English PM patients referred to the national peritoneal MDT has doubled (28% from 14%).

- Use of systemic anticancer therapy (SACT) and radical debulking surgery for MPM remains stable at 40% and 5% respectively. There is a reduction in use of radiotherapy to 15% (from 22%). Use of SACT for PM has increased to 44% (from 41%).

- Long-term 3-year overall survival is increased for both MPM (10% from 7%) and PM (18% from 15%) compared with the previous audit report.

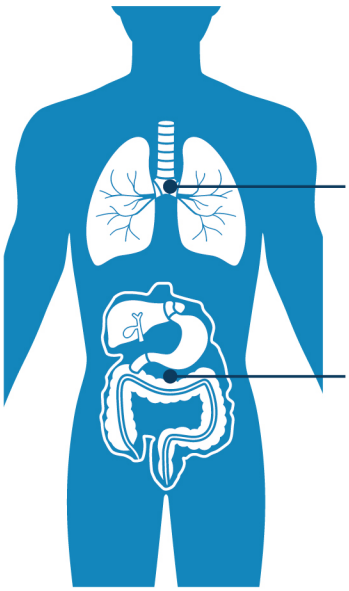
National Mesothelioma Audit – key results for patients diagnosed between 2016–18*

Demographics

160 organisations took part in the audit

7,210 patients were diagnosed with mesothelioma

♂ = male ♀ = female



Pleural mesothelioma
6,950 cases

83% ♂ 17% ♀

Median age **76**

10% (7%) 3-year survival

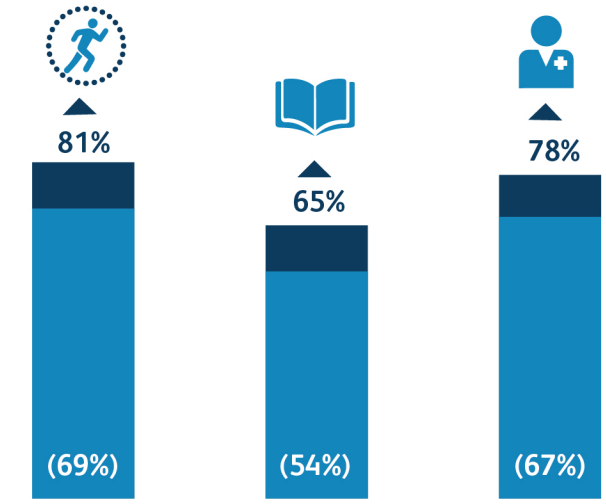
Peritoneal mesothelioma
260 cases

64% ♂ 36% ♀

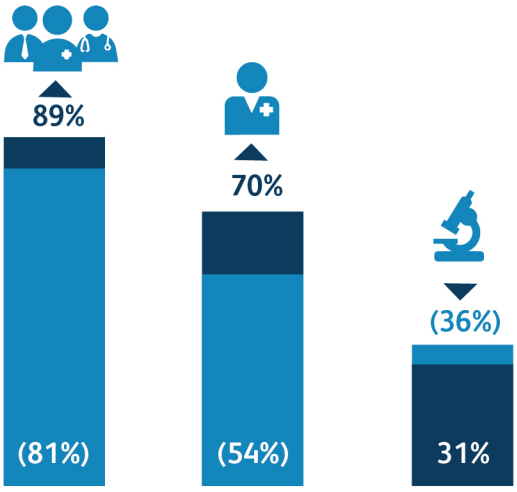
Median age **71**

18% (15%) 3-year survival

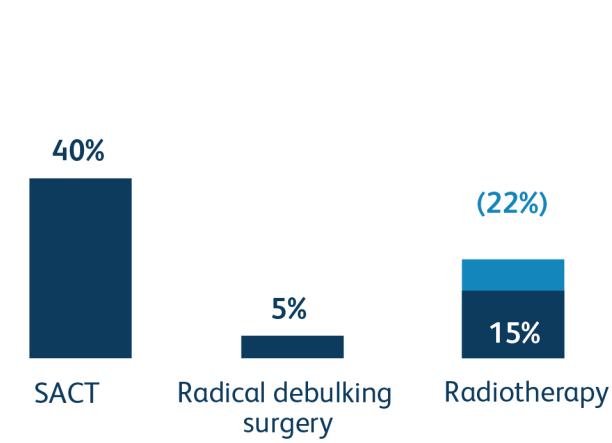
Data completeness (pleural only)



Diagnostic and support measures (pleural only)



Treatment (pleural only)



* diagnoses between 1 January 2016 and 31 December 2018 compared with diagnoses between 1 January 2014 and 31 December 2016 (shown in brackets; arrows/symbols after bar graphs show change from 2014–16 audit data)

† CNS = clinical nurse specialist data completion includes 'patients assessed' and 'not assessed')

‡ Pathologically confirmed diagnoses with non-specific histologic subtyping

MDT = multidisciplinary team; SACT = systemic anticancer therapy

2 Recommendations

Recommendation	Result / page in the report	Standard/guidance	Key audience
1. Data completeness for PS and stage should each exceed 90%.	11 and 22	BTS guideline section 3	**MDT**
2. All MDTs should appoint a 'clinical data lead' with protected time to allow promotion of data quality, governance and quality improvement.	11 and 22	NMA recommendation	**MDT, managers**
3. All mesothelioma cases should be discussed in a timely fashion by an MDT that reviews a sufficient number of cases to maintain expertise and competence in the diagnosis and treatment of MPM.	13	BTS guideline section 14	**MDT, managers**
4. At least 80% of patients should have a CNS present at the time of diagnosis and 90% should be signposted to MesoUK resources including the mesothelioma CNS helpline if there is not a locally available mesothelioma CNS.	13	NMA recommendation	**MDT, managers**
5. Pathological confirmation should be over 95%, and where the proportion of cases of unspecified MPM is above 10%, review of diagnostic procedures and pathological processing is recommended.	14	BTS guideline section 6	**MDT, managers**
6. Patients with adequate PS should be offered active anticancer treatment, including palliative chemotherapy.	15	NMA recommendation	**MDT**
7. MDTs with chemotherapy rates (patients with PS of 0 or 1) below 60% should perform detailed case note review to ascertain why. High-quality patient information should be available to guide treatment decisions.	15	BTS guideline section 11	**MDT, managers**
8. Palliative radiotherapy should be considered for symptom control, including localised pain in MPM, where the pain distribution matches areas of underlying disease.	17	NMA recommendation	**MDT**
9. All PM patients should be referred for discussion at a mesothelioma MDT and signposted to MesoUK resources; patients with good PS should be considered for treatment with palliative chemotherapy; for patients with good PS consider referral to the national peritoneal mesothelioma MDT.	21–23	NMA recommendation	**MDT**

BTS = British Thoracic Society; CNS = clinical nurse specialist; MDT = multidisciplinary team; MPM = malignant pleural mesothelioma; NMA = National Mesothelioma Audit; PM = peritoneal mesothelioma; PS = performance status

3 Introduction

Malignant mesothelioma (MM) is a type of cancer that develops over a long period of time and commonly originates in mesothelial cells found in the thin membrane (pleura) that lines the lungs and the inside of the chest wall (malignant pleural mesothelioma – MPM). Mesothelioma can also affect the similar peritoneal membrane within the abdominal cavity (peritoneal mesothelioma – PM).

Since 2014, Mesothelioma UK have funded the National Mesothelioma Audit (NMA) delivered by the Royal College of Physicians (RCP) to produce a 2-yearly audit report for patients diagnosed with mesothelioma with the ultimate goal of reporting on mesothelioma outcomes for the whole UK.

In 2018, the NMA included PM cases for the first time and in this audit cycle, for the first time, the NMA includes data from Northern Ireland and Guernsey. Although cases from Scotland could not be included in this audit, the recently established national Scottish mesothelioma MDT are committed to including data for Scotland in future national audit work.

4 Methods

Data collection

This report covers patients with a diagnosis of mesothelioma classified with code C45 of the 10th edition of the World Health Organization International Classification of Disease (ICD-10) or morphology M905 diagnosed between 1 January 2016 and 31 December 2018.

Since the numbers of annual cases of mesothelioma are relatively small (approximately 2,300), this report includes cases diagnosed over a 3-year period to ensure reliability of reporting activity and performance.

The number of cases for each individual provider of care over 3 years were small and so the report itself does not include any detail at this level. A more granular analysis down to provider level is available online* but should be interpreted with caution. A copy of the NMA small number policy is available on request.

For England, NHS hospitals submitted mesothelioma patient data from their hospital system databases via the Cancer Outcomes and Services Dataset (COSD) to the National Cancer Registration and Analysis Service (NCRAS) at Public Health England (PHE). This data was then linked to a number of other datasets, including Hospital Episode Statistics (HES), the National Radiotherapy Dataset (RTDS), the Systemic Anti-Cancer Therapy (SACT) Dataset, pathology reports and death certificate data; before being forwarded for audit-related analysis. Any English cases of PM (ICD-10 C45 and D484) confirmed as having been discussed by the national peritoneal mesothelioma MDT at Basingstoke, or having received surgery at Basingstoke, were flagged as such.

* www.rcplondon.ac.uk/projects/outputs/national-mesothelioma-audit-report-2020-audit-period-2016-18

Similar processes were in place for Wales, with the NHS Wales Health Collaborative collecting data from Welsh health authorities, cross-linking to available datasets and submitting a combined dataset for analysis.

For all cancers in Northern Ireland, data are sent to the Northern Ireland Cancer Registry (NICR) for regional data processing and verification from each of the five health and social care trusts. The data are then processed by tumour verification officers who manually input data from relevant patient software systems including the MDM system (Cancer Patient Pathway System), the Regional Information System for Oncology and Haematology, Lab Centre and the Northern Ireland Picture Archiving and Communication System (NI-PACS).

While to date the audit has included data for Wales and mainland England, the team have been committed to engaging all UK regions to enable a fully national picture of mesothelioma care. The inclusion of data from Northern Ireland and Guernsey are a welcome step forwards to providing a fully national picture of mesothelioma care.

Incorporating new regions and new data sets was not without challenge. Data privacy regulation, data collection processes, data completeness and coding variance all contributed to the challenge. One example was found with surgical procedures being recorded as free-text descriptions requiring manual clinical input to ensure correct interpretation for analysis. We would like to acknowledge and thank all the individuals and teams involved in helping us to extend the scope of data that has been included in this audit.

In order to protect patient identification, the RCP audit team only received anonymised data.

Data analyses

Data for patients with pleural mesothelioma were analysed separately to those with peritoneal mesothelioma (C45.1 and D48.4), which was determined by their recorded site ICD-10 code.

Surgical procedures were classified as radical based on OPCS-4 codes; T07 for radical pleural surgery and T361 for radical peritoneal surgery.

Morphological type was categorised based on morphology codes into: unspecified (M9050/3), sarcomatoid/desmoplastic (M9051/3), epithelioid (M9052/3) and biphasic (M9053/3).

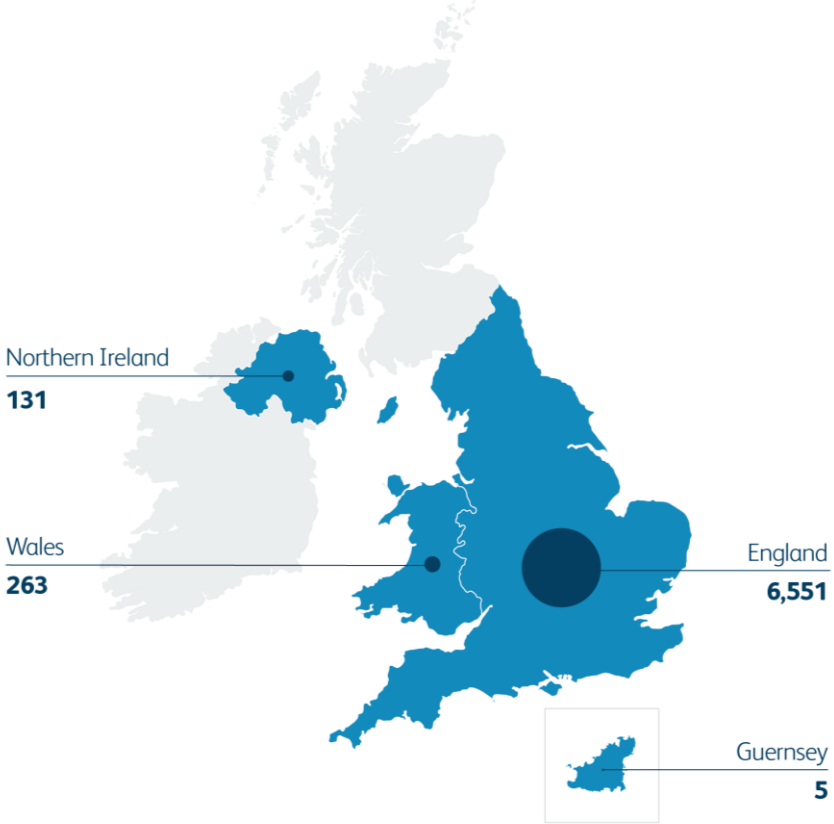
5 Results for malignant pleural mesothelioma

5.1 Demographics

Across the audit period, 6,950 patients were diagnosed with MPM (6,551 in England, 263 in Wales, 131 in Northern Ireland and 5 in Guernsey) (Fig 1).

The number of cases of MPM diagnosed in each English cancer alliance and Welsh health board is shown in Table 2 on page 19 and a more detailed analysis at the level of individual secondary care provider is available on our website.[†]

Fig 1. Incidence across England, Wales, Northern Ireland and Guernsey

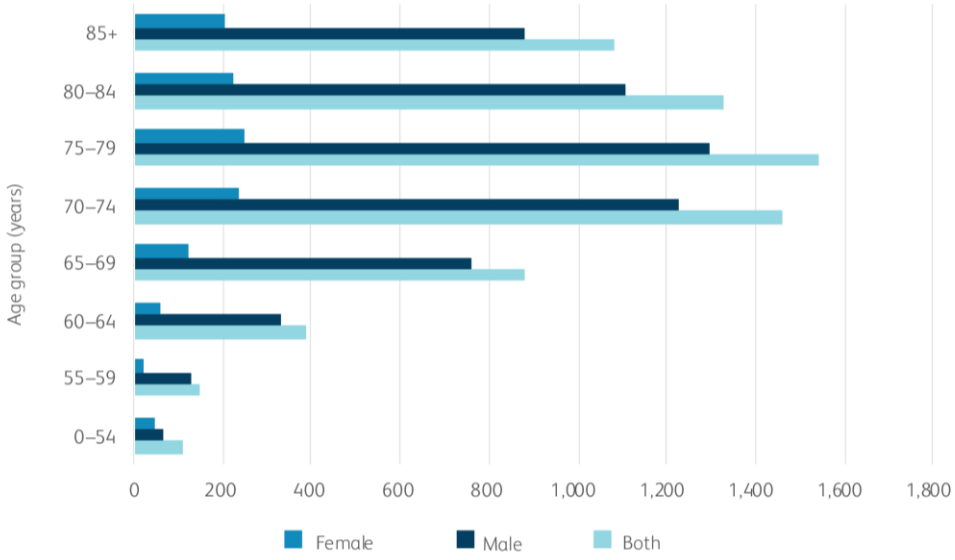


[†] www.rcplondon.ac.uk/projects/outputs/national-mesothelioma-audit-report-2020-audit-period-2016-18

5.2 Age and socioeconomic status

For pleural mesothelioma, the mean age at the time of diagnosis was 75.7 years (median age 76) (Fig 2). 83.3% of cases occurred in males, the majority of which were related to occupational asbestos exposure.

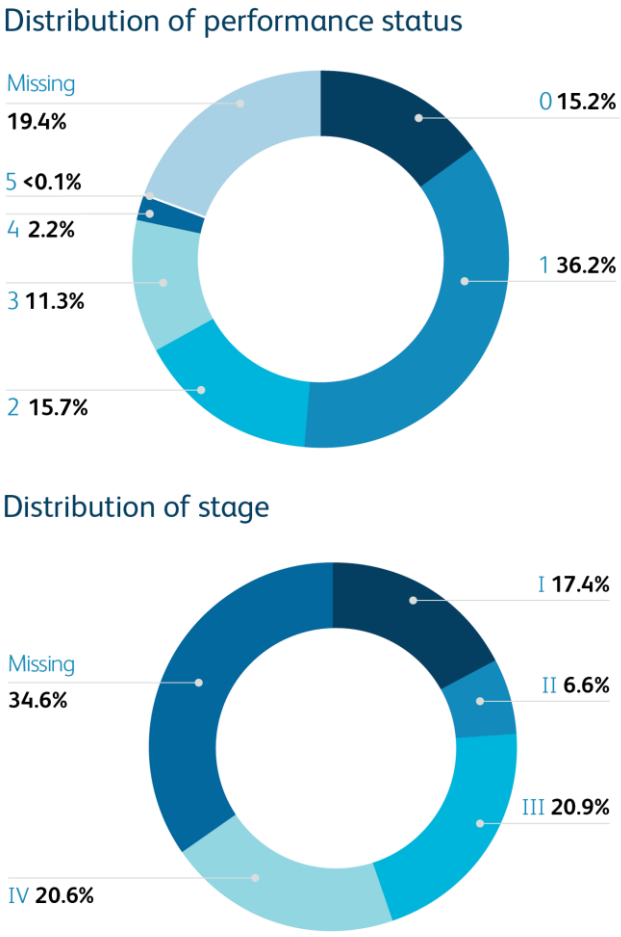
Fig 2. Distribution of age at pleural mesothelioma diagnosis



5.3 Data completeness

Data completeness for PS has increased, measured overall at 81% (80% England, 100% Guernsey, 62% Northern Ireland and 99% Wales) compared with 69% in the 2018 audit. Completeness of stage has also increased to 65% (66% England, 20% Guernsey, 43% Northern Ireland and 64% Wales) compared with 54% in the previous 2018 report. Figure 3 shows the distribution for PS and stage in patients diagnosed with pleural mesothelioma.

Fig 3. Distribution for performance status and stage in patients with pleural mesothelioma



Commentary

PS describes a patient's level of functioning in terms of their ability to care for themselves, daily activity and physical ability. Stage refers to the extent of the cancer, such as how large the tumour is and whether it has spread. The audit reports on data completeness against these two data items because of their importance in diagnostics and treatment decision making but also to drive a focus of data completeness overall.

The British Thoracic Society (BTS) mesothelioma guidelines recommend that the IASCLC / IMIG TNM8 clinical staging system is used and all hospital MDTs are encouraged to include staging as a standard part of the case discussion. Note that the TNM classification was revised in 2016 with the publication of the 8th edition of the TNM Classification of Malignant Tumours. This was implemented for use in the UK from 1 January 2018, hence staging for this patient cohort includes both TNM7 and TNM8 staging.

It is important to maintain and improve the quality of data submitted to the NMA, including detailed clinical data, to allow the most accurate risk adjustment to be carried out.

Data completeness has remained excellent in Wales and was also seen to be excellent in Guernsey. Baseline Northern Ireland data completeness for stage and PS is low compared with other devolved nations. It is further encouraging to see the continued improvements in data completeness in English hospitals.

Recommendations

1 Data completeness for PS and stage should each exceed 90%.
2 All MDTs should appoint a 'clinical data lead' with protected time to allow promotion of data quality, governance and quality improvement.

5.4 Multidisciplinary team discussion and clinical nurse specialist contact

The proportion of MPM patients discussed at an MDT has improved with 89% of patients being discussed (88% England, 100% Guernsey, Northern Ireland and Wales) compared with 81% in the previous audit.

Data completeness for CNS assessment has also improved, with 78% cases having this data available (78% England, 100% Guernsey, 58% Northern Ireland and 90% Wales).

Similarly, CNS assessment has also improved, with 70% of patients being assessed by a CNS (70% England, 0% Guernsey, 58% Northern Ireland, 88% Wales) and 57% of patients in England having had a CNS present at their diagnosis. The CNS assessment data for Northern Ireland is a likely underestimate, with the percentage assessed identical to the percentage for which there was complete data.

Variation by English cancer alliance and Welsh health board is shown in Table 2 (page 19).

Commentary

Improvements are seen in the MDT discussion measure and across the CNS involvement measures. In particular, improvements are observed for English providers, where results are now approaching the consistently high quality seen for Wales. Guernsey patients do not currently appear to have local access to a CNS.

Mesothelioma is an uncommon cancer, and in view of this national guidelines suggest that, in addition to local MDT discussion and CNS support, MPM cases are also referred for discussion to a regional specialist mesothelioma MDT with signposting of patients to the mesothelioma CNS helpline.

In this audit it was not possible to determine whether the MDT discussion took place at a local or regional level, nor was it possible to determine the precise role of the CNS, for example whether the CNS was a lung cancer or mesothelioma specialist nurse. More detailed findings around MDTs and specialist roles are reported in the NMA mesothelioma organisational audit.[2]

Recommendations

3 All mesothelioma cases should be discussed in a timely fashion by an MDT that reviews a sufficient number of cases to maintain expertise and competence in the diagnosis and treatment of MPM.

4 At least 90% of patients should be seen by a CNS and signposted to MesoUK resources including the mesothelioma CNS helpline if there is not a locally available mesothelioma CNS. At least 80% of patients should have a CNS present at the time of diagnosis.

5.5 Pathologic confirmation and subtyping

A high proportion of cases, 6,098/6,950 (88%), were recorded as having a pathologic confirmation of MPM.

The proportion of pathologically confirmed cases with an unspecified subtyping (M9050/3) was 31% (Table 1), which has reduced from 36.3% reported in 2018.

Variation by English cancer alliance and Welsh health board is shown in Table 2 on page 19.

Table 1. MPM-confirmed pathology and subtyping by pathological subtype

Pathology	Number of pathologically confirmed cases	% of cases subtyped
M9050/3 unspecified	1,906	31
M9051/3 sarcomatoid	664	11
M9052/3 epithelioid	2,930	48
M9053/3 biphasic	595	10

Commentary

Pathologic confirmation and histologic subtyping of mesothelioma has important prognostic value and may also influence treatment decisions and influence stratification into clinical trials.

The BTS guidelines recommend that pathologists should report the histological subtype of MPM in all cases.

For this audit period, there has been an improvement in pathologic confirmation and a reduction in non-specified mesothelioma subtype reporting. However, both measures still fell below the audit recommendations of 95% and 10% respectively.

Recommendation

5 Pathological confirmation should be over 95%, and where the proportion of cases of unspecified MPM is above 10%, review of diagnostic procedures and pathological processing is recommended.

5.6 Anticancer treatment

In total, 48% of patients received active anticancer treatment (48% England, 60% Guernsey, 34% Northern Ireland and 52% Wales) which is slightly lower than in the previous audit (published in 2018) where active treatment was measured at 51%.

Variation by English cancer alliance and Welsh health board is shown in Table 2 (on page 19).

Commentary

Palliative chemotherapy, radical debulking surgery and palliative radiotherapy are commonly included as active anticancer treatments for MPM and are reported in combination here and separately below.

Since the last audit, the proportion of patients receiving active treatment has increased in Wales but decreased in England, and is low for Northern Ireland compared with England and Wales, which may have contributed to the overall small decrease. The decline in the routine use of prophylactic intervention site radiotherapy (discussed in Section 5.9) is also likely to have contributed to this overall decrease.

It is challenging to collect data on other palliative treatment measures such as fluid management and pain control which may also impact on quality of life and patient outcome.

Local anaesthetic thoroscopy (LAT) and medical insertion of indwelling pleural catheters (IPCs) are increasingly used with some variation in availability but, unlike equivalent surgical procedures, this information is not currently collected. However, pleural fluid control is viewed as a standard of care within BTS MPM guidelines, and local access to LAT and IPC were recommendations in the recent organisational audit.

Pain control is also essential for optimising quality of life. However, data on the use of opiates, nerve blocks and cordotomies are also not currently collected.

5.7 Systemic anticancer therapy

In this patient cohort, 40% of patients with MPM received chemotherapy (40% England, 60% Guernsey, 24% Northern Ireland and 44% Wales), which is unchanged compared with the previous audit in 2018. For patients with PS 0–1, the use of chemotherapy also remained similar to the previous audit, with 58% receiving chemotherapy (58% England, 75% Guernsey, 43% Northern Ireland and 64% Wales), but there was an English cancer alliance / Welsh health board variation ranging from 41% up to 90% as shown in Table 2 (on page 19).

Pemetrexed carboplatin (48%) was the most common SACT regimen followed by pemetrexed cisplatin (20%). For the MPM patients receiving chemotherapy, 25% went on to receive more than one line of treatment.

Commentary

The BTS MPM guidelines recommend the use of first-line pemetrexed platinum chemotherapy in patients with good PS based on high-quality randomised controlled trials and recommend the addition of bevacizumab where funded. Immunotherapy trials are ongoing.

After first-line chemotherapy, there is still no established second-line treatment for MPM, and BTS guidelines recommend second-line clinical trials for all patients with good PS above any other option.

Fit patients should be offered referral to specialist centres if they wish, for consideration of systemic treatment within clinical trials, even if this involves travelling.

Recommendation

6 Patients with adequate PS should be offered active anticancer treatment, including palliative chemotherapy.

7 MDTs with chemotherapy rates (patients with a PS of 0 or 1) below 60% should perform detailed case note review to explore any possible themes linking cases not receiving SACT. Consider reviewing how the pros and cons of treatments are discussed with patients and their carers, and ensure high-quality patient information is available to guide treatment decisions.

5.8 Radical debulking surgery

For MPM, 346 patients (5%) received radical debulking surgery (5.1% England, 0% Guernsey and Wales, 7.6% Northern Ireland) although many people received other palliative or diagnostic surgical procedures – primarily pleurodesis. This proportion was similar to that of 4.3% in the previous 2018 audit.

In view of the debate as to the clinical benefit of radical debulking surgery, variation across cancer alliances and health boards should be interpreted with caution. Variations can be viewed in Table 2 (page 19).

Commentary

The role of radical debulking surgery for MPM remains controversial and is only offered to a small subgroup of selected patients.

During the financial years (April–March) in 2015–16, 2016–17 and 2017–18, the Society of Cardiothoracic Surgeons (SCTS) registry for England, Wales and Northern Ireland recorded two patients who underwent extrapleural pneumonectomy (EPP – resection of pleura, lung, diaphragm and pericardium) while 239 underwent radical/extended decortication (EPD –

resection of pleura, diaphragm and/or pericardium) and 114 underwent pleurectomy decortication (PD – pleura).

This audit used surgical procedure OPCS-4 codes (T07) for English cases that correlated with the SCTS data for reporting radical debulking surgical treatments but which cannot distinguish between the three SCTS definitions of radical surgical extent above. However, surgical descriptors rather than OPCS-4 codes were used for identifying surgical cases from Northern Ireland.

BTS guidelines recommend that EPD is not offered outside of a clinical trial (current ongoing trial at publication, MARS2), and based on previous reported trials, do not advise either EPP or VATS-partial pleurectomy over talc pleurodesis.

5.9 Radiotherapy

For MPM, 14.8% of patients received radiotherapy (15% England, 0% Guernsey, 7.6% Northern Ireland and 15% Wales), which has reduced since the previous audit (22% in 2014–16 data). The most commonly used dose/fractionation was 20Gy/5# followed by 8Gy/1#, a change to the previous audit when the prophylactic intervention site radiotherapy 21Gy/3# was the most often used.

Commentary

Following trials that showed no benefit in using intervention site prophylactic radiotherapy and no benefit to EPP with adjuvant radiotherapy, the main role for radiotherapy in mesothelioma is now for palliation of symptoms. The current use of radiotherapy for mesothelioma, however, is much lower than use reported across all cancers combined with 27% of cancer patients in England reported to have receiving curative or palliative radiotherapy, during 2013–14, as part of their primary cancer treatment.[‡]

Recommendation

8 Palliative radiotherapy should be considered for symptom control, including localised pain in MPM, where the pain distribution matches areas of underlying disease.

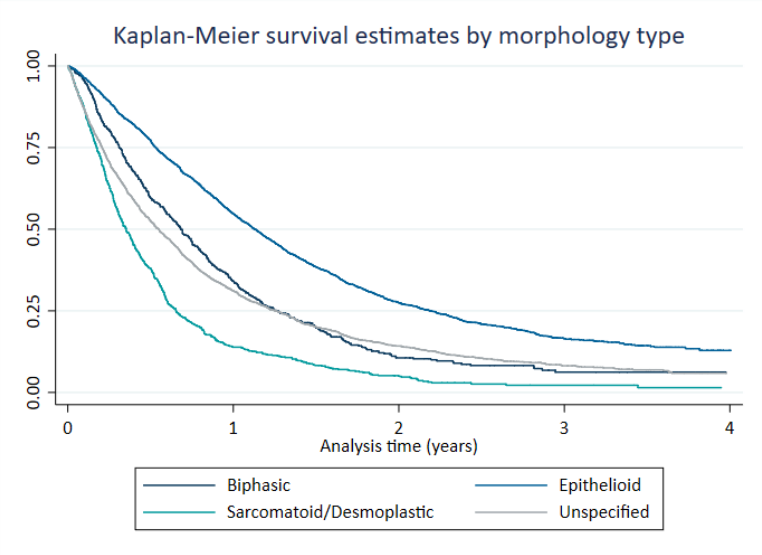
5.10. Survival including by subtype

For this audit period the percentage of patients surviving to 1 year after diagnosis was 40% and the percentage of patients surviving to 3 years after diagnosis was 10%. These both showed slight improvement compared with the previous audit cohort (38% and 7% respectively).

[‡] Cancer Research UK. Cancer diagnosis and treatment statistics. www.cancerresearchuk.org/health-professional/cancer-statistics/diagnosis-and-treatment#heading-Four) [Accessed 15 May 2020].

The prognostic importance of histologic subtyping is reflected in the Kaplan–Meier survival curves (Fig 4). Variation by English cancer alliance and Welsh health board is shown in Table 2 (page 19).

Fig 4. Survival estimates by morphology type



Commentary

Survival of patients has been calculated from the date of diagnosis to the date of death.

It is encouraging to see that survival is slightly improved for this audit cohort despite an increase in mean and median age.

Table 2. Variation by English cancer alliance and Welsh health board, including Northern Ireland for reference

Regions	Number	MDT, %	CNS, %	Unspecified histologic subtype, %	Anticancer treatment, %	Chemo. PS 0–1, %	Radical surgery, %	RT, %	1-year survival, %
English cancer alliance									
Cheshire and Merseyside	321	94	81	33	51	64	2	18	38
East Midlands	470	89	50	20	48	58	13	10	42
East of England	876	88	67	26	47	60	4	11	41
Greater Manchester	354	90	83	52	58	76	2	18	38
Humber Coast and Vale	204	95	63	27	42	46	3	19	41
Kent and Medway	304	77	67	19	47	59	9	14	37
Lancashire and South Cumbria	189	94	83	59	42	51	*	10	35
UCLH Cancer Collaborative Cancer Alliance	255	78	44	24	51	56	4	16	45
North East and Cumbria	465	94	82	26	54	70	2	17	40
Northern Ireland	131	100	58	54	34	43	8	8	35
RM Partners Cancer Alliance	261	64	40	33	54	71	5	17	40
Peninsula	276	90	76	30	43	45	*	22	45
Somerset Wiltshire Avon and Gloucester	358	93	79	18	45	48	1	17	40
South East London	149	80	48	14	59	70	6	18	41
South Yorkshire, Bassetlaw, North Derbyshire and Hardwick Cancer Alliance	227	87	65	55	50	63	4	11	40
Surrey and Sussex	378	94	73	35	51	62	2	17	37
Thames Valley	212	72	63	35	43	55	3	15	37
Wessex	463	92	76	24	40	47	2	14	43
West Midlands	467	90	70	34	48	61	4	16	35
West Yorkshire and Harrogate Cancer Alliance	322	93	89	51	38	51	1	10	39

Welsh health board									
Betsi Cadwaladr University Health Board (7A1)	52	100	90	32	27	41	0	7	37
Hywel Dda University Health Board (7A2)	32	100	81	13	63	68	0	*	41
Swansea Bay University Health Board (7A3)	35	100	83	18	71	*	0	9	37
Cardiff and Vale University Health Board (7A4)	45	100	91	*	51	46	0	20	36
Cwm Taf Morgannwg University Health Board (7A5)	32	100	*	60	53	68	0	19	31
Aneurin Bevan University Health Board (7A6)	67	100	88	27	55	74	0	21	49
Northern Ireland									
Northern Ireland	131	100	58	54	34	43	8	8	35

CNS = clinical nurse specialist; MDT = multidisciplinary team; PS = performance status; RT = radiotherapy
Note: Guernsey are not represented in the table because of small numbers (a copy of the NMA small number policy is available on request).
Some small and high percentages have been suppressed in line with the NMA small number policy (noted as '*').

6 Results for peritoneal mesothelioma

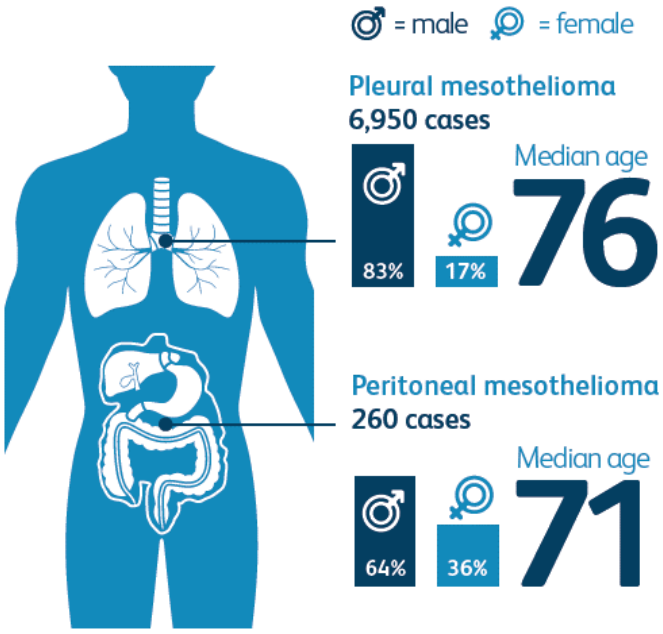
6.1 Cases

Across the audit period, 260 cases of PM were diagnosed (249 in England and 11 in Northern Ireland) constituting 3.6% (260/7,210) of all mesothelioma. It was not possible to collect PM cases in Wales and there were none in Guernsey.

6.2 Age and socioeconomic status

Mean age at diagnosis was 68 (median age, 71), lower than the mean and median ages at MPM diagnosis (Fig 5). Although PM is also more common in males, the proportion of 64% is less striking than for MPM (83%).

Fig 5. Demographics comparison between pleural and peritoneal mesothelioma



6.3 MDT discussion

MDT discussion was reported for 72% cases (71% England, 91% Northern Ireland), an improvement on the previous audit for England (65%). 28.5% (71/249) of English PM cases were also discussed at the national peritoneal MDT based at Basingstoke, a doubling of referrals compared with the previous audit (14%). The national peritoneal MDT also discusses cases from the Republic of Ireland and cases of benign mesothelioma (multicystic and well-differentiated papillary).[3]

6.4 Data completeness

Overall, PS was less well documented for peritoneal cases than for MPM, with 51% completeness (48% England and 82% Northern Ireland), however this was improved for England from the previous audit (43%).

Data completeness for assessment by a CNS was low at 52%, with 41% of PM patients (in England) reported as being assessed by a CNS; however, this was much improved from the previous audit when just 29% PM cases were recorded as having CNS assessment.

6.5 Pathological confirmation

Pathologic confirmation was very high for PM (98%). The unspecified morphology code (M9050/3) was used in 47% of PM cases with pathologic confirmation, reduced from 56% in the previous audit, but higher than for MPM cases.

6.6 Treatment

Active treatment for PM, including systemic therapy, radical debulking surgery and radiotherapy, was received in 47% of cases including 3% who received radiotherapy.

SACT was given in 44% PM cases (45% England, 36% Northern Ireland) and in 71% of patients with PS 0–1 (71% England and 50% Northern Ireland), compared with 41% and 65%, respectively, in the previous audit. The most commonly used SACT regime was pemetrexed carboplatin (52%), followed by pemetrexed cisplatin (23%).

6.7 Radical cytoreductive surgery

As for radical pleural surgery, surgical OPCS codes do not accurately describe the often very extensive and time-consuming peritoneal debulking surgery carried out for PM, for a subset of patients with good PS and epithelioid histology in whom complete tumour removal can be achieved, combined with hyperthermic intraperitoneal chemotherapy (HIPEC). The national peritoneal mesothelioma MDT at Basingstoke code their highly complex peritoneal cytoreductive procedures as ‘omentectomy’ T361 and so the audit uses this OPCS code to distinguish debulking surgery from other ’non-radical’ surgical codes used for diagnostic and palliative peritoneal procedures, with the caveat that more detailed surgical descriptors are only available from Basingstoke.

Debulking peritoneal surgery, including the omentectomy OPCS code, was undertaken in 6.9% (18/260) of PM cases. Eleven patients received cytoreductive surgery at Basingstoke and seven patients received peritoneal surgery (including omentectomy) at other surgical hospitals in England and Northern Ireland.

6.8 Survival

For PM, survival at 1 year and 3 years is 40% and 18% respectively, which showed slight improvement compared with the previous audit (38% and 15% respectively). Comparing these results with MPM 3-year survival (Section 5.10), the results seem to indicate that PM may be a more indolent disease with extended long-term survival, however further research would be needed to confirm this.

Recommendation

9 All PM patients should be referred for discussion at a mesothelioma MDT and signposted to MesoUK resources; PM patients with good PS should be considered for treatment with palliative chemotherapy; and PM patients with good PS should be considered for referral to the national peritoneal mesothelioma MDT.

7 References

1 Royal College of Physicians. National Mesothelioma Audit report 2018 (for the audit period 2014–16). London: RCP, 2018.

2 Royal College of Physicians. National Mesothelioma Audit organisational audit report 2019. London: RCP: 2020.

3 Brandl A, Westbrook S, Nunn S et al. Clinical and surgical outcomes of patients with peritoneal mesothelioma discussed at a monthly national multidisciplinary team video-conference meeting. *BJS Open* 2020:4(2);260–7.

Document purpose

Document purpose	To disseminate results on the quality of care for patients diagnosed with malignant mesothelioma in England, Wales, Northern Ireland and Guernsey
Title	National Mesothelioma Audit report 2020 (for the audit period 2016–18)
Author	Royal College of Physicians, Care Quality Improvement Department
Publication date	May 2020
Target audience	NHS staff in mesothelioma cancer multidisciplinary teams; hospital managers and chief executives; commissioners; mesothelioma researchers; patients and their carers.
Description	This is the fourth publication on malignant mesothelioma from the NLCA. It publishes organisational, national and English cancer alliance / Welsh health board level results on the quality of mesothelioma care for patients diagnosed between 1 January 2016 and 31 December 2018.
Related publications	Royal College of Physicians. *National Mesothelioma Audit organisational audit report 2019*. London: RCP, 2020 Royal College of Physicians. *National Mesothelioma Audit report 2018 (for the audit period 2014–16).* London: RCP, 2018
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