

Royal Cornwall Hospitals NHS Trust

Peninsula A10

The Royal Cornwall Hospitals NHS Trust incorporates Royal Cornwall Hospital in Treliske, Truro <http://www.royalcornwall.nhs.uk/> <<http://www.royalcornwall.nhs.uk/>>

Patient inclusion and data sources

The 2022 Annual Report includes results for patients in England and Wales diagnosed with bowel cancer 1 April 2020 – 31 March 2021, and patients diagnosed between 01 April 2019 and 31 March 2020 who underwent a major resection after 31 March 2020.

30-day unplanned readmission, 30-day unplanned return to theatre and 90-day mortality are further restricted to patients undergoing surgery up to 31 October 2021. Two-year mortality estimates include patients undergoing a major resection between 1 April 2018 and 31 March 2019. Adjuvant chemotherapy estimates include patients undergoing major resection for pathological stage III colon cancer between 01 December 2017 and 31 August 2020. APER/Hartmann's and unclosed ileostomy estimates include patients undergoing rectal cancer surgery between 01 April 2015 and 31 March 2020. Annual rectal cancer resection volume includes major resections for rectal cancer performed between 01 April 2020 and 31 March 2021.

The Audit dataset is linked to Hospital Episode Statistics (HES) and Patient Episode Database for Wales (PEDW) at the patient level to obtain further information on patient care and follow-up such as stoma reversal and emergency readmissions in England/Wales. The dataset also links to Office of National Statistics records. These provide information about date, place and cause of death.

NBOCA also links to the National Radiotherapy Dataset (RTDS) for information on radiotherapy treatment in England, and the Systemic Anti-Cancer Therapy database (SACT) for information on chemotherapy treatment in England.

Data Quality

Case ascertainment

Number of patients reported to the Audit as a percentage of the number of patients admitted for the first time to the trust/network with a diagnosis of bowel cancer within the audit period according to HES in England and PEDW in Wales. This can be larger than 100 if more patients are reported to the Audit than identified in HES/PEDW.

Data completeness

% of relevant patient group with useable value of data item.

ASA grade

% of patients recorded as having a major resection who have a particular ASA grade recorded, or no ASA recorded.

Management of all patients

Potentially curative patients

Patients electively diagnosed with colon cancer with pre-treatment staging of T2-T4 and no evidence of metastatic disease.

Management of patients having major resection

At least 12 lymph nodes excised (%)

% of colon cancer patients undergoing major resection with a recorded number of lymph nodes, who had at least 12 lymph nodes examined.

Adjuvant chemotherapy

% of adjuvant chemotherapy in patients undergoing major resection for pathological stage III colon cancer between 01 June 2017 and 31 August 2020. These are unadjusted chemotherapy rates. SACT and HES data are used for patients treated in England and PEDW data are used for patients treated in Wales.

Rectal cancer patients

Neo-adjuvant therapy (%)

% of rectal cancer patients having short- or long-course radiotherapy prior to major resection.

Circumferential resection margin: Negative (%)

% of rectal cancer patients undergoing major resection whose CRM is reported to be negative.

Circumferential resection margin: Recorded (%)

% of rectal cancer patients undergoing a major resection who have a recorded CRM.

APER rate (%)

% of patients with rectal cancer undergoing abdominoperineal excision of the rectum and therefore having a permanent stoma this audit year.

APER/Hartmann's (%)

% of patients whose rectal cancer resection is an abdomino-perineal excision of rectum (APER)/pelvic exenteration/Hartmann's 1 April 2015 to 30 September 2020.

Compare trust outcomes

Funnel plots display trust risk-adjusted outcomes only for 2-year mortality this year. Other outcomes are not outlier-reported this year because they are measured on patients diagnosed and/or treated during the COVID-19 pandemic. The funnel regions represent the 95 per cent limit and the 99.8 per cent limit for trusts compared to the national average. Those trusts with results outside the outer (99.8 per cent) limit are considered potential outliers. Previous years of results show funnel plots for all five trust outcomes.

Risk adjustment is performed using the seven items listed under Data Quality as well as mode of admission (elective/emergency) and number of co-morbidities according to HES/PEDW, and an interaction between age and distant metastases. Missing values are imputed using Multiple Imputation. The model for two-year mortality additionally includes interactions between follow-up time (0-3 months after surgery vs. 3-24 months after surgery) and all of the risk factors.

See [FAQs <https://www.nboca.org.uk/about/faq/>](https://www.nboca.org.uk/about/faq/) for more details.

Data Quality

All Patients:	Trust	Network	National
Number of patients in Audit	320	1001	28523

All Patients:	Trust	Network	National
Case ascertainment (%)	Good	Good	Good
Data completeness of:			
– Pre-treatment TNM (%)	90	89	86
– Performance status (%)	100	100	88

Patients having major resection:	Trust	Network	National
Number of patients in Audit	197	611	15891
ASA grade 1 (%)	6	6	8
ASA grade 2 (%)	56	54	52
ASA grade 3 (%)	35	37	31
ASA grade 4+ (%)	3	2	2
ASA grade not recorded (%)	N/A	N/A	7
Data completeness of:			
7 Audit items for risk-adjustment (%)	100	98	87

Key:

- > 80%
- 50 - 80%
- < 50%

Management of all patients

All Patients:	Trust	Network	National
Number of patients in Audit	320	1001	28523
Seen by Clinical Nurse Specialist (%)	97	94	85
All patients deemed potentially curative			
Number of potentially curative patients	112	318	7393
Undergoing major resection (%)	82	83	82

Management of patients having major resection

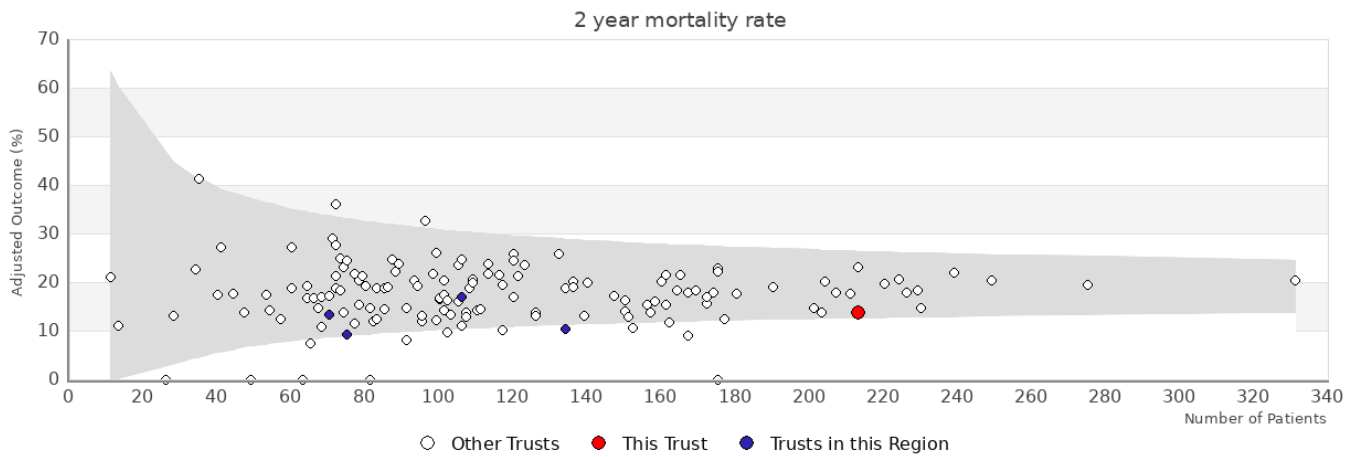
Patients having major resection:	Trust	Network	National
Number of patients in Audit	197	611	15855
Distant metastases (%)	13	7	7
Urgent or emergency surgery (%)	11	15	20
At least 12 lymph nodes excised (%)	92	91	86
Laparoscopic surgery attempted (%)	84	74	67
Risk-adjusted length of stay > 5 days (%)	39	49	56

Patients having major resection for stage III colon cancer:	Trust	Network	National
Number of patients in audit	128	396	10794
Adjuvant chemotherapy (%)	70	58	60

Rectal cancer patients

Patients having major resection:	Trust	Network	National
Number of patients in Audit	45	138	3481
Neoadjuvant therapy (%)	11	35	38
Circumferential resection margin: Recorded (%)	100	99	89
Circumferential resection margin: Negative (%)	93	94	82
Rectal volume	42	135	3374

Patients in APER/Hartmanns estimate:	Trust	Network	National
Number of patients in APER/Hartmanns estimate	236	752	19595
APER/Hartmanns (%)	40	39	36



Trust	Number	Adjusted	Observed
Royal Cornwall Hospitals NHS Trust	213	13.8%	13.8%
Other trusts within the region: Peninsula			
Plymouth Hospitals NHS Trust	75	9.2%	9.6%
Royal Devon University Healthcare NHS Foundation Trust - North Devon District Hospital	70	13.4%	15%
Royal Devon University Healthcare NHS Foundation Trust - Royal Devon and Exeter Hospital	134	10.3%	11%
Torbay and South Devon Healthcare NHS Foundation Trust	106	16.9%	18.7%