

## Royal Berkshire NHS Foundation Trust

Thames Valley A15

The Royal Berkshire NHS Foundation Trust incorporates Royal Berkshire Hospital in Reading  
<http://www.royalberkshire.nhs.uk/> <<http://www.royalberkshire.nhs.uk/>>

## Patient inclusion and data sources

The majority of these results are for patients in England and Wales diagnosed with bowel cancer 1 Apr 2016 – 31 Mar 2017. The exceptions are for 2-year mortality and 18-month stoma rate. Two-year mortality estimates include patients undergoing a major resection between 1 April 2014 and 31 March 2015. 18-month stoma rates include rectal cancer patients undergoing a major resection between 1 April 2013 and 31 March 2016.

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. In addition, the audit linked to the National Emergency Laparotomy Audit (NELA) for the first time this year. This provides information on emergency bowel cancer operations.

## Data Quality

### Data completeness

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

### 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/PEDW. 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.

## 7 audit items for risk-adjustment

The per cent of patients with complete data items on all of age, sex, ASA grade, pathological T-stage, pathological N-stage, distant metastases and site of cancer.

### 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

### **No major resection: too little cancer**

Those undergoing a local resection of polypectomy.

### **No major resection: too much cancer**

No excision and reason for no treatment includes advanced stage cancer OR no excision and non-curative intent and metastatic disease.

### **No major resection: too frail**

not in too much cancer group AND no excision and reason for no treatment includes significant co-morbidity OR no excision and performance status 3 or 4.

### **No major resection: unknown/other reason:**

no excision and does not meet any of the above criteria.

## **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.

## **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: Present (%)**

% 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.

## **Compare trust outcomes**

Funnel plots display trust risk-adjusted outcomes for 90-day mortality, 30-day unplanned readmission, 2-year mortality and, for rectal cancer patients, 18-month stoma rate. 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.

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.

A stoma is considered to be reversed if a HES/PEDW record with relevant code is identified within 18 months of the initial surgical procedure.

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	264	1119	30541
Case ascertainment (%)	104	108	93
Data completeness of:			
– Pre-treatment TNM (%)	94	78	78
– Performance status (%)	100	79	85

Patients having major resection:	Trust	Network	National
Number of patients in Audit	160	656	19183
ASA grade 1 (%)	8	18	12
ASA grade 2 (%)	61	44	52
ASA grade 3 (%)	29	20	27
ASA grade 4+ (%)	1	2	2
ASA grade not recorded (%)	N/A	16	7
Data completeness of:			
7 Audit items for risk-adjustment (%)	100	81	83

### Key:

	> 80%
	50 - 80%
	< 50%

## Management of all patients

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All Patients:	Trust	Network	National
Number of patients in Audit	264	1119	30424
Seen by Clinical Nurse Specialist (%)	100	95	93

## Management of patients having major resection

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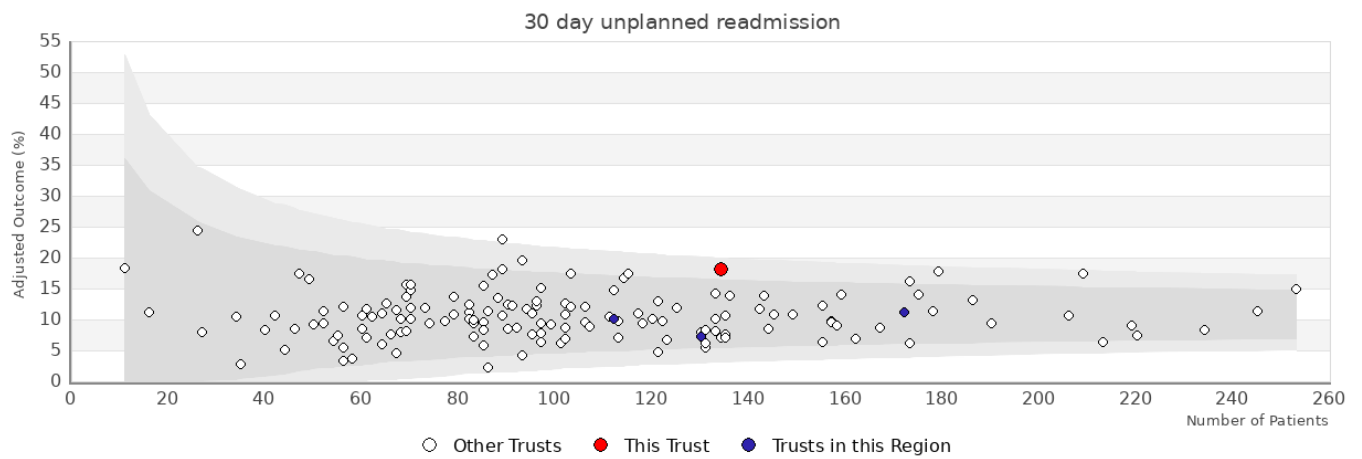
<b>Patients having major resection:</b>	<b>Trust</b>	<b>Network</b>	<b>National</b>
Number of patients in Audit	160	656	19222
Distant metastases (%)	8	8	8
Urgent or emergency surgery (%)	13	17	17
At least 12 lymph nodes excised (%)	92	93	87
Laparoscopic surgery attempted (%)	85	76	66
Risk-adjusted length of stay > 5 days (%)	53	58	64

## Rectal cancer patients

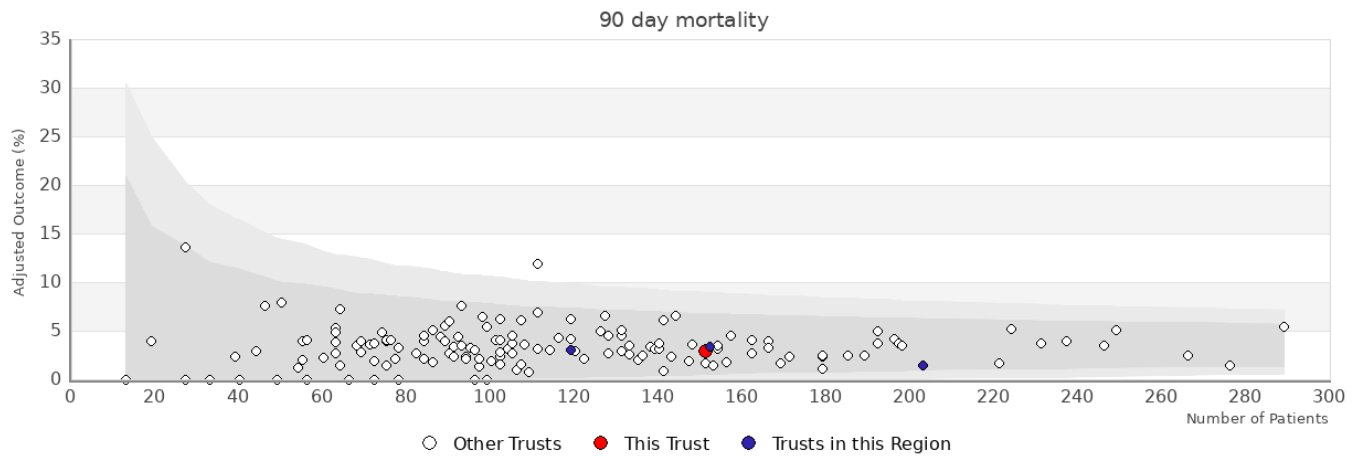
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<b>Patients having major resection:</b>	<b>Trust</b>	<b>Network</b>	<b>National</b>
Number of patients in Audit	33	137	4503
Neoadjuvant therapy (%)	19	19	36
Circumferential resection margin: Present (%)	100	90	84
Circumferential resection margin: Negative (%)	94	85	77
Rectal volume	N/A	N/A	N/A

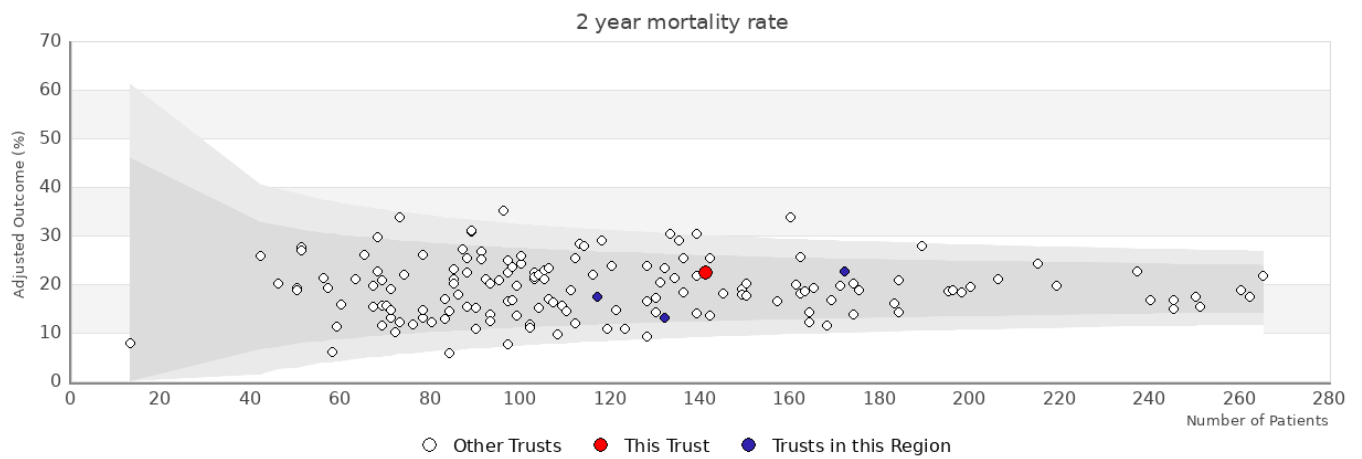
<b>Patients in APER/Hartmanns estimate:</b>	<b>Trust</b>	<b>Network</b>	<b>National</b>
Number of patients in APER/Hartmanns estimate	N/A	N/A	N/A
APER/Hartmanns (%)	N/A	N/A	N/A



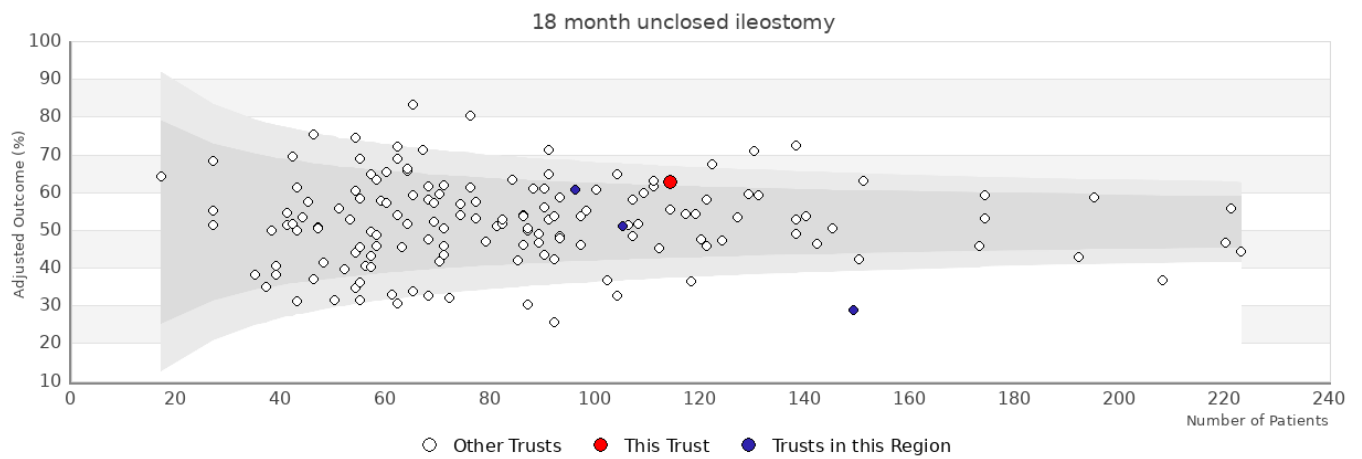
Trust	Number	Adjusted	Observed
Royal Berkshire NHS Foundation Trust	134	18.1%	17.9%
Other trusts within the region: Thames Valley			
Buckinghamshire Healthcare NHS Trust	130	7.2%	6.9%
Great Western Hospitals NHS Foundation Trust	112	10%	9.8%
Oxford University Hospitals NHS Trust	172	11.2%	10.5%



Trust	Number	Adjusted	Observed
Royal Berkshire NHS Foundation Trust	151	2.9%	2.7%
Other trusts within the region: Thames Valley			
Buckinghamshire Healthcare NHS Trust	152	3.4%	2.6%
Great Western Hospitals NHS Foundation Trust	119	3%	4.2%
Oxford University Hospitals NHS Trust	203	1.4%	1%



Trust	Number	Adjusted	Observed
Royal Berkshire NHS Foundation Trust	141	22.4%	17.8%
Other trusts within the region: Thames Valley			
Buckinghamshire Healthcare NHS Trust	172	22.6%	21.6%
Great Western Hospitals NHS Foundation Trust	117	17.4%	18.7%
Oxford University Hospitals NHS Trust	132	13.1%	10.3%



Trust	Number	Adjusted	Observed
Royal Berkshire NHS Foundation Trust	114	62.8%	60.5%
Other trusts within the region: Thames Valley			
Buckinghamshire Healthcare NHS Trust	105	51.1%	49.5%
Great Western Hospitals NHS Foundation Trust	96	60.9%	64.6%
Oxford University Hospitals NHS Trust	149	28.8%	26.9%