

University Hospitals of North Midlands NHS Trust - Royal Stoke University Hospital

WEST MIDLANDS N56

Patient inclusion and data sources

The majority of these results are for patients in England and Wales diagnosed with bowel cancer 1 Apr 2014 – 31 Mar 2015. 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 2012 and 31 March 2013. 18-month stoma rates include rectal cancer patients undergoing a major resection between 1 April 2012 and 31 March 2015. The Audit dataset is linked to Hospital Episode Statistics (HES) at the patient level to obtain further information on patient care and follow-up such as stoma reversal and emergency readmissions in England, and to the National Radiotherapy Dataset (RTDS) for information on radiotherapy treatment in England.

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. This can be larger than 100 if more patients are reported to the Audit than identified in HES.

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.

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.

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, 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 record with relevant code is identified with 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
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Number of patients in Audit	279	3058	28013
Case ascertainment (%)	75	96	93
Data completeness of:			
– Pre-treatment TNM (%)	78	72	71
– Performance status (%)	95	78	77

Patients having major resection:	Trust	Network	National
Number of patients in Audit	193	1920	18809
ASA grade 1 (%)	7	13	14
ASA grade 2 (%)	44	52	53
ASA grade 3 (%)	16	25	25
ASA grade 4+ (%)	3	3	3
ASA grade not recorded (%)	30	7	5
Data completeness of:			
7 Audit items for risk-adjustment (%)	31	74	82

Key:

 > 80%

50 - 80%
■ < 50%

Management of all patients

All Patients:	Trust	Network	National
Number of patients in Audit	279	3058	30122
Seen by Clinical Nurse Specialist (%)	100	94	92

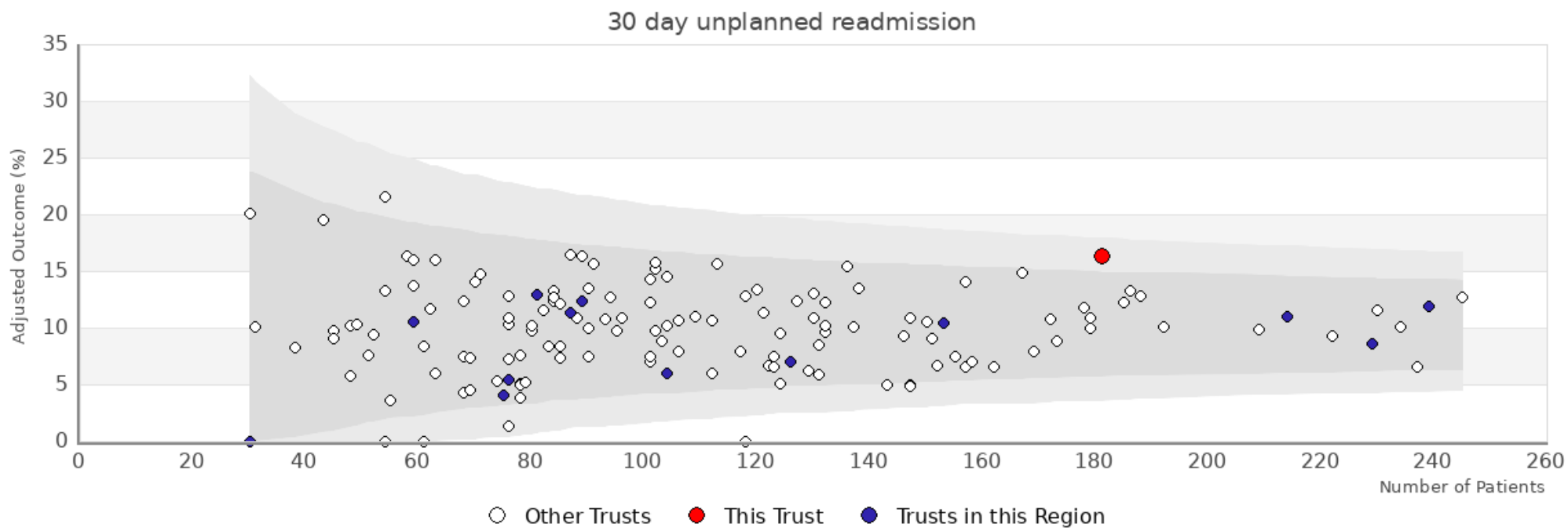
Management of patients having major resection

Patients having major resection:	Trust	Network	National
Number of patients in Audit	193	1920	18809
Distant metastases (%)	19	11	9
Urgent or emergency surgery (%)	14	18	16
Median number of lymph nodes excised	15	20	17
Laparoscopic surgery attempted (%)	84	61	61
Length of stay > 5 days (%)	60	67	69

Rectal cancer patients

Patients having major resection:	Trust	Network	National
Number of patients in Audit	38	499	4769
Neoadjuvant therapy (%)	63	27	37
Circumferential resection margin: Recorded (%)	95	52	25
Circumferential resection margin: Positive (%)	N/A	4	7
Rectal volume	N/A	N/A	N/A

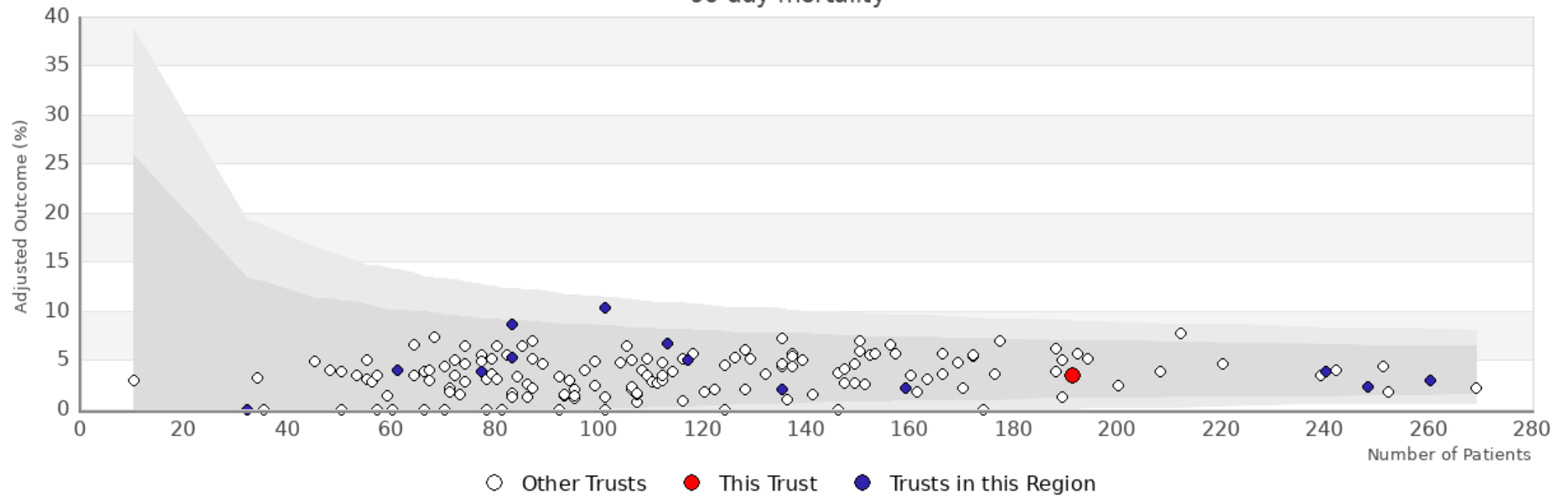
Patients in APER/Hartmanns estimate:	Trust	Network	National
Number of patients in APER/Hartmanns estimate	N/A	N/A	N/A
APER/Hartmanns (%)	N/A	N/A	N/A



Trust	Number	Adjusted	Observed
University Hospitals of North Midlands NHS Trust - Royal Stoke University Hospital	181	16.3%	15.5%
Other trusts within the region: WEST MIDLANDS			
George Eliot Hospital NHS Trust	59	10.5%	10.2%

Trust	Number	Adjusted	Observed
Heart of England NHS Foundation Trust	214	11%	11.2%
Sandwell and West Birmingham Hospitals NHS Trust	89	12.4%	13.5%
Shrewsbury and Telford Hospital NHS Trust	229	8.6%	8.7%
South Warwickshire NHS Foundation Trust	75	4%	4%
The Dudley Group NHS Foundation Trust	104	6%	5.8%
The Royal Wolverhampton NHS Trust	153	10.4%	10.5%
University Hospitals Birmingham NHS Foundation Trust	81	12.9%	12.3%
University Hospitals Coventry and Warwickshire NHS Trust	126	7%	7.1%
Walsall Healthcare NHS Trust	76	5.4%	5.3%
Worcestershire Acute Hospitals NHS Trust	239	11.9%	11.7%
Wye Valley NHS Trust	87	11.3%	11.5%

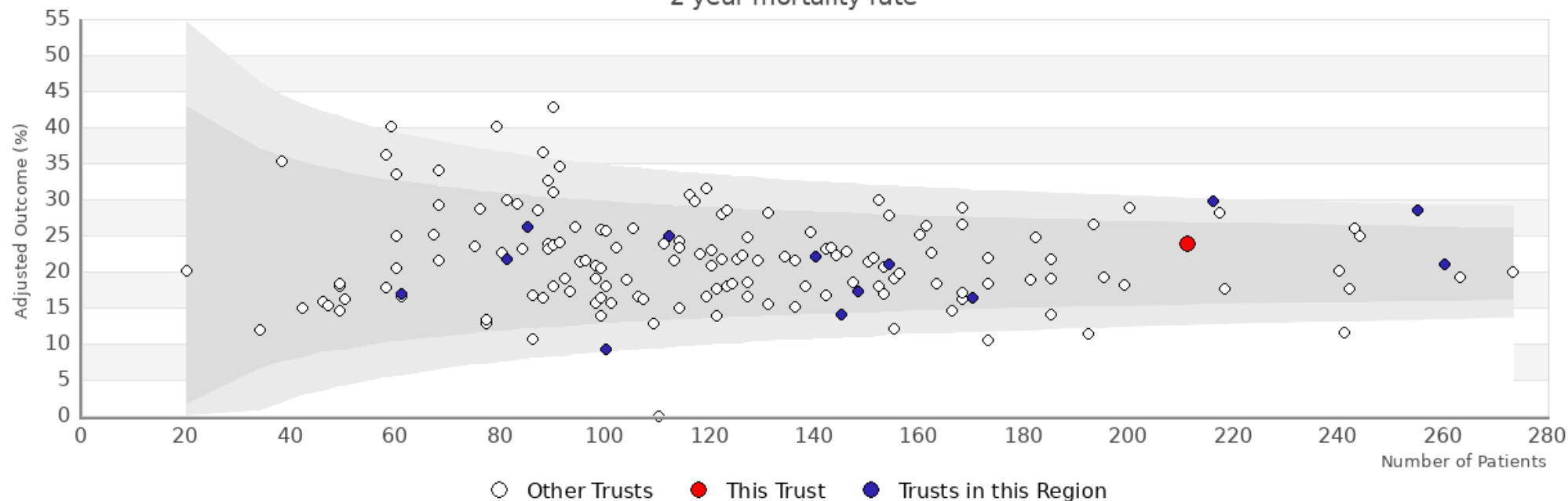
90 day mortality



Trust	Number	Adjusted	Observed
University Hospitals of North Midlands NHS Trust - Royal Stoke University Hospital	191	3.4%	3.1%
Other trusts within the region: WEST MIDLANDS			
George Eliot Hospital NHS Trust	61	4%	4.9%

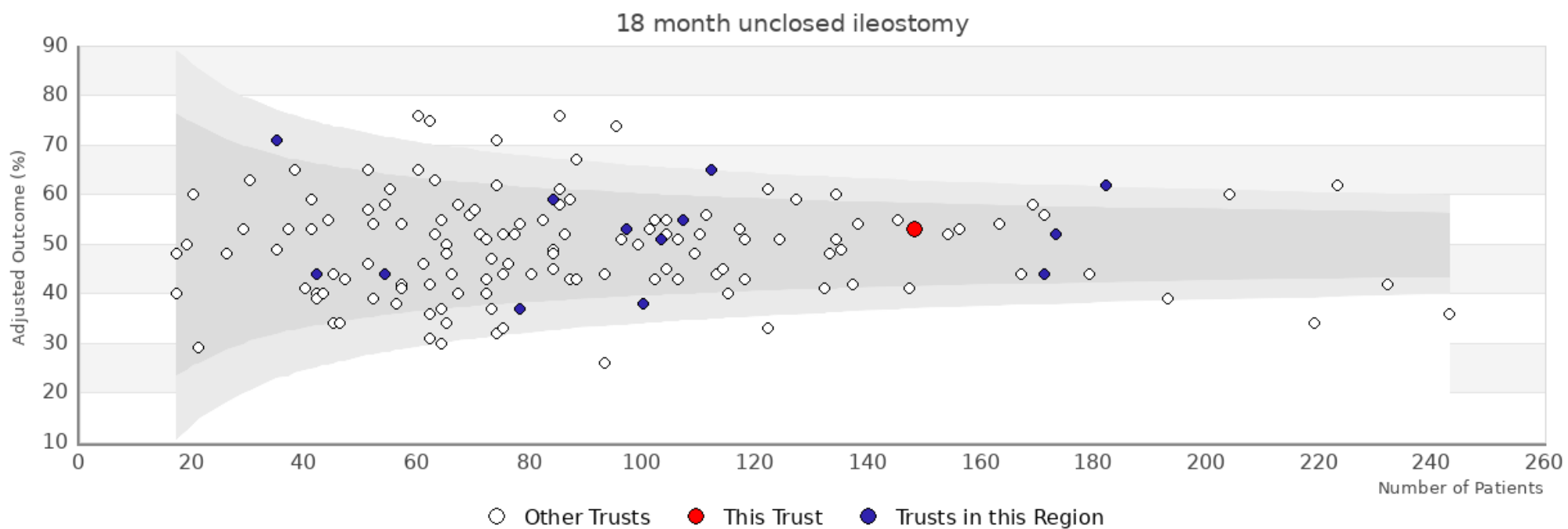
Trust	Number	Adjusted	Observed
Heart of England NHS Foundation Trust	248	2.3%	2%
Sandwell and West Birmingham Hospitals NHS Trust	113	6.7%	10.6%
Shrewsbury and Telford Hospital NHS Trust	240	3.8%	3.3%
South Warwickshire NHS Foundation Trust	77	3.9%	5.2%
The Dudley Group NHS Foundation Trust	117	5%	6%
The Royal Wolverhampton NHS Trust	159	2.2%	2.5%
University Hospitals Birmingham NHS Foundation Trust	83	8.6%	4.8%
University Hospitals Coventry and Warwickshire NHS Trust	135	2%	2.2%
Walsall Healthcare NHS Trust	83	5.3%	8.4%
Worcestershire Acute Hospitals NHS Trust	260	2.9%	2.3%
Wye Valley NHS Trust	101	10.3%	10.9%

2 year mortality rate



Trust	Number	Adjusted	Observed
University Hospitals of North Midlands NHS Trust - Royal Stoke University Hospital	211	23.8%	24.3%
Other trusts within the region: WEST MIDLANDS			
George Eliot Hospital NHS Trust	61	16.9%	17.9%

Trust	Number	Adjusted	Observed
Heart of England NHS Foundation Trust	260	21.1%	23%
Sandwell and West Birmingham Hospitals NHS Trust	154	21.1%	25.7%
Shrewsbury and Telford Hospital NHS Trust	216	29.7%	23.5%
South Warwickshire NHS Foundation Trust	100	9.2%	10.6%
The Dudley Group NHS Foundation Trust	140	22.1%	20.9%
The Royal Wolverhampton NHS Trust	145	14.1%	20.7%
University Hospitals Birmingham NHS Foundation Trust	170	16.4%	16.9%
University Hospitals Coventry and Warwickshire NHS Trust	148	17.2%	18.8%
University Hospitals of North Midlands NHS Trust - County Hospital	81	21.8%	27.2%
Walsall Healthcare NHS Trust	85	26.2%	34.2%
Worcestershire Acute Hospitals NHS Trust	255	28.6%	28.2%
Wye Valley NHS Trust	112	24.9%	24.5%



Trust	Number	Adjusted	Observed
University Hospitals of North Midlands NHS Trust - Royal Stoke University Hospital	148	53%	52%
Other trusts within the region: WEST MIDLANDS			
George Eliot Hospital NHS Trust	42	44%	43%

Trust	Number	Adjusted	Observed
Heart of England NHS Foundation Trust	171	44%	43%
Sandwell and West Birmingham Hospitals NHS Trust	100	38%	40%
Shrewsbury and Telford Hospital NHS Trust	173	52%	52%
South Warwickshire NHS Foundation Trust	78	37%	38%
The Dudley Group NHS Foundation Trust	84	59%	61%
The Royal Wolverhampton NHS Trust	103	51%	54%
University Hospitals Birmingham NHS Foundation Trust	112	65%	63%
University Hospitals Coventry and Warwickshire NHS Trust	107	55%	56%
University Hospitals of North Midlands NHS Trust - County Hospital	35	71%	74%
Walsall Healthcare NHS Trust	54	44%	46%
Worcestershire Acute Hospitals NHS Trust	182	62%	62%
Wye Valley NHS Trust	97	53%	56%