

Wirral University Teaching Hospital NHS Foundation Trust

CHESHIRE AND MERSEYSIDE N50

The Wirral University Teaching Hospital NHS Foundation Trust incorporates Arrowe Park Hospital in Birkenhead and Clatterbridge Hospital in Wirral <http://www.wuth.nhs.uk/> <<http://www.wuth.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 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.

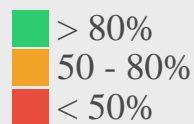
See [FAQs <https://www.nboca.org.uk/about/faq/>](https://www.nboca.org.uk/about/faq/) for more details.

## Data Quality

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<b>All Patients:</b>	<b>Trust</b>	<b>Network</b>	<b>National</b>
Number of patients in Audit	210	1250	28013
Case ascertainment (%)	97	99	93
Data completeness of:			
– Pre-treatment TNM (%)	89	77	71
– Performance status (%)	100	88	77

<b>Patients having major resection:</b>	<b>Trust</b>	<b>Network</b>	<b>National</b>
Number of patients in Audit	96	719	18809
ASA grade 1 (%)	13	14	14
ASA grade 2 (%)	53	55	53
ASA grade 3 (%)	31	24	25
ASA grade 4+ (%)	3	6	3
ASA grade not recorded (%)	N/A	1	5
Data completeness of:			
7 Audit items for risk-adjustment (%)	84	83	82

**Key:**

## Management of all patients

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<b>All Patients:</b>	<b>Trust</b>	<b>Network</b>	<b>National</b>
Number of patients in Audit	210	1250	30122
Seen by Clinical Nurse Specialist (%)	99	97	92

## 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	96	719	18809
Distant metastases (%)	N/A	8	9
Urgent or emergency surgery (%)	11	15	16
Median number of lymph nodes excised	17	17	17
Laparoscopic surgery attempted (%)	63	58	61

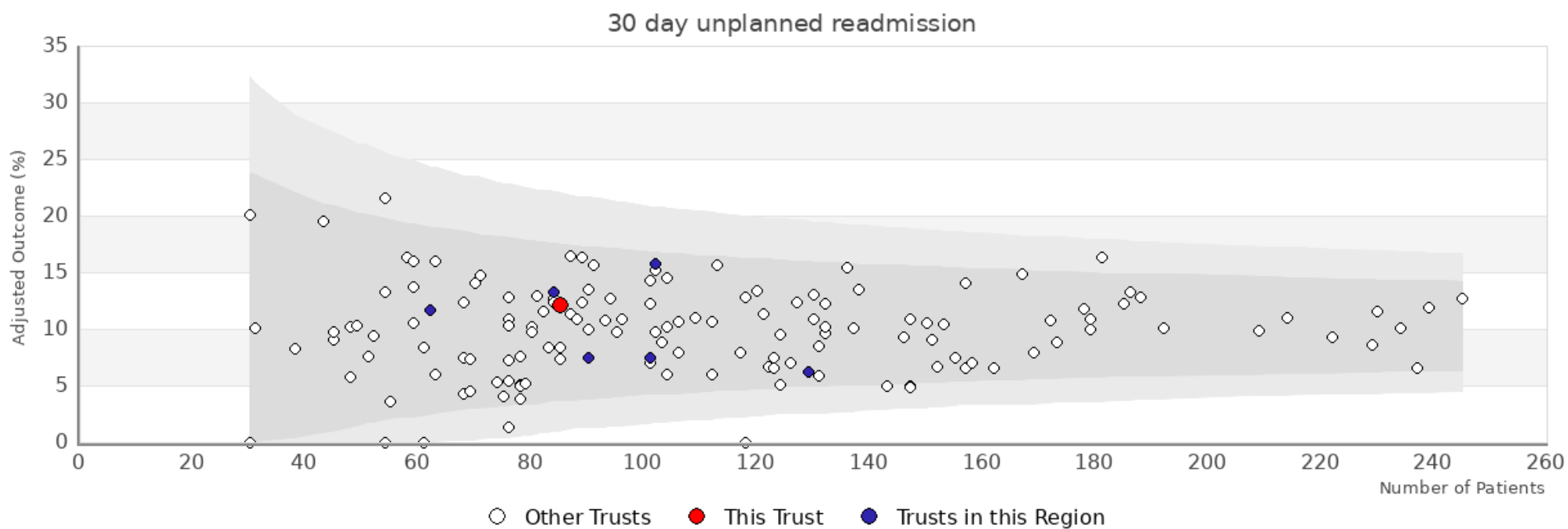
<b>Patients having major resection:</b>	<b>Trust</b>	<b>Network</b>	<b>National</b>
Length of stay > 5 days (%)	65	68	69

## 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	25	165	4769
Neoadjuvant therapy (%)	71	52	37
Circumferential resection margin: Recorded (%)	44	48	25
Circumferential resection margin: Positive (%)	4	8	7
Rectal volume	N/A	N/A	N/A

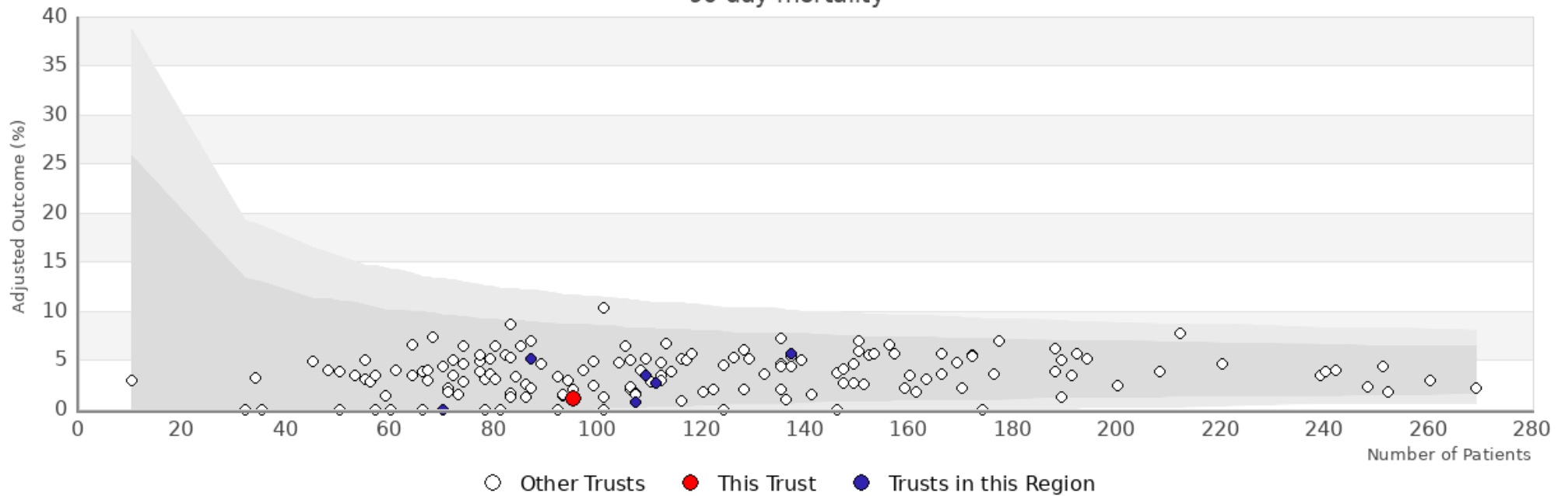
<b>Patients in APER/Hartmanns estimate:</b>	<b>Trust</b>	<b>Network</b>	<b>National</b>
Number of patients in APER/Hartmanns estimate	N/A	N/A	N/A
APER/Hartmanns (%)	N/A	N/A	N/A



Trust	Number	Adjusted	Observed
Wirral University Teaching Hospital NHS Foundation Trust	85	12.1%	11.8%
Other trusts within the region: CHESHIRE AND MERSEYSIDE			
Aintree University Hospital NHS Foundation Trust	102	15.8%	15.7%
Countess of Chester Hospital NHS Foundation Trust	101	7.5%	6.9%

Trust	Number	Adjusted	Observed
Royal Liverpool and Broadgreen University Hospitals NHS Trust	90	7.5%	7.8%
Southport and Ormskirk Hospital NHS Trust	62	11.7%	11.3%
St Helens and Knowsley Hospitals NHS Trust	129	6.2%	6.2%
Warrington and Halton Hospitals NHS Foundation Trust	84	13.3%	13.1%

90 day mortality

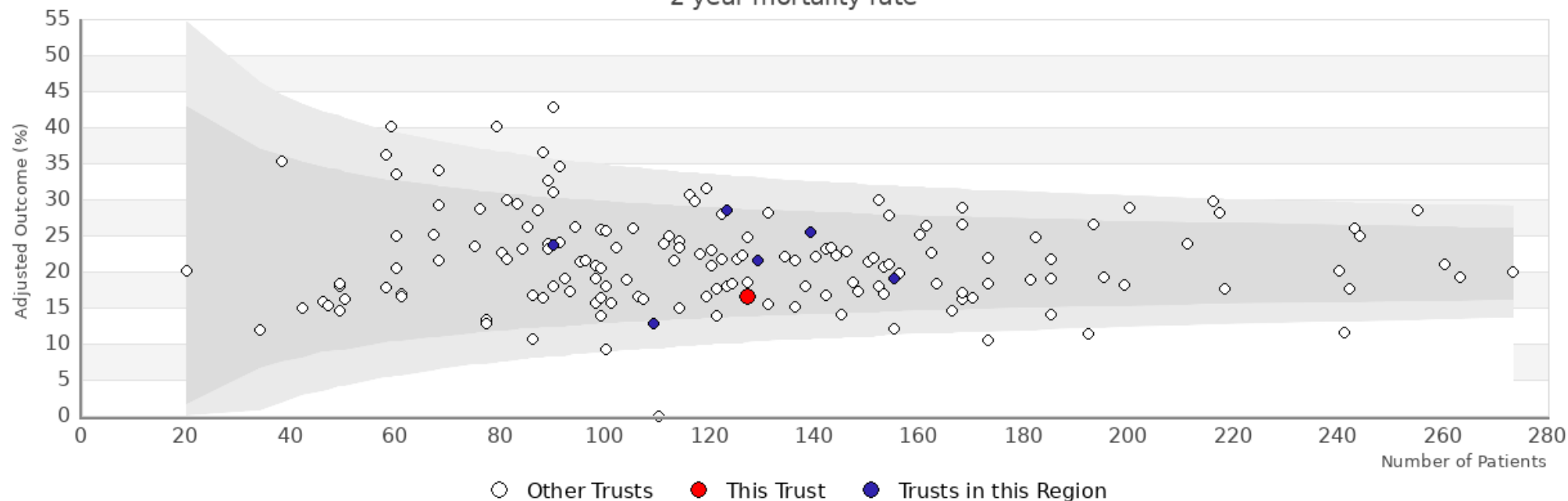


Trust	Number	Adjusted	Observed
Wirral University Teaching Hospital NHS Foundation Trust	95	1.1%	1.1%
Other trusts within the region: CHESHIRE AND MERSEYSIDE			
Aintree University Hospital NHS Foundation Trust	109	3.4%	2.8%
Countess of Chester Hospital NHS Foundation Trust	107	0.7%	0.9%



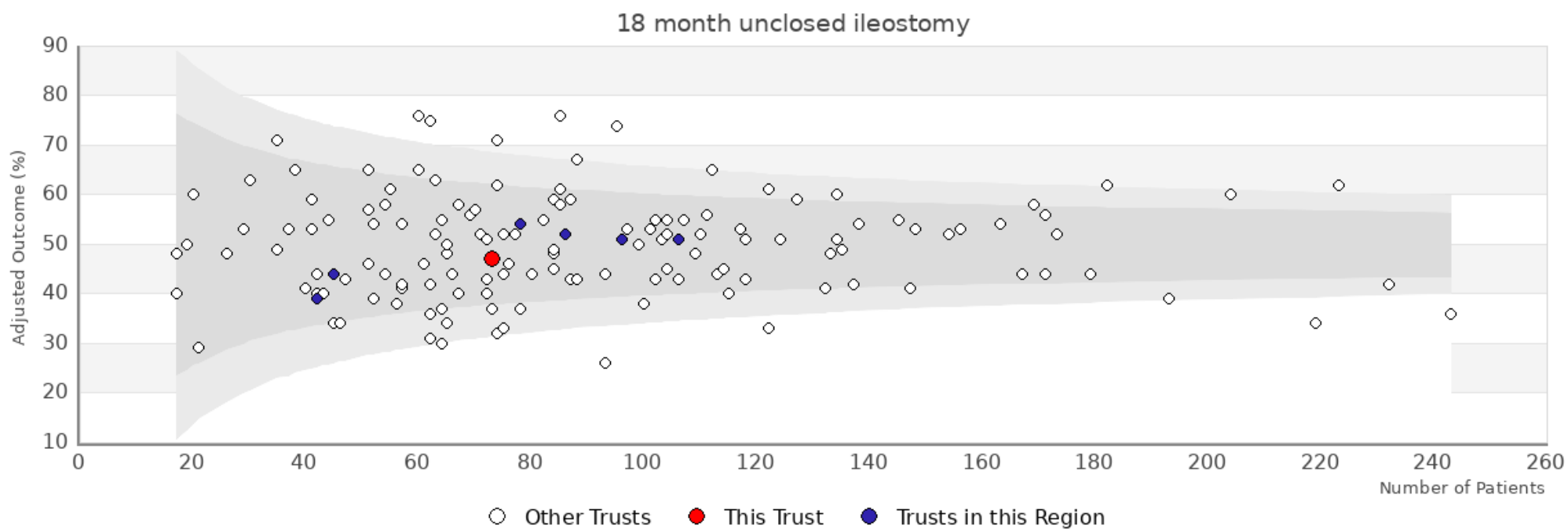
Trust	Number	Adjusted	Observed
Royal Liverpool and Broadgreen University Hospitals NHS Trust	111	2.7%	1.8%
St Helens and Knowsley Hospitals NHS Trust	137	5.6%	7.3%
Warrington and Halton Hospitals NHS Foundation Trust	87	5.2%	3.4%

2 year mortality rate



Trust	Number	Adjusted	Observed
Wirral University Teaching Hospital NHS Foundation Trust	127	16.6%	14.5%
Other trusts within the region: CHESHIRE AND MERSEYSIDE			
Aintree University Hospital NHS Foundation Trust	129	21.6%	22.6%
Countess of Chester Hospital NHS Foundation Trust	109	12.7%	17.7%

Trust	Number	Adjusted	Observed
Royal Liverpool and Broadgreen University Hospitals NHS Trust	139	25.4%	17.4%
Southport and Ormskirk Hospital NHS Trust	90	23.7%	21.4%
St Helens and Knowsley Hospitals NHS Trust	155	19%	23.5%
Warrington and Halton Hospitals NHS Foundation Trust	123	28.6%	19.1%



Trust	Number	Adjusted	Observed
Wirral University Teaching Hospital NHS Foundation Trust	73	47%	48%
Other trusts within the region: CHESHIRE AND MERSEYSIDE			
Aintree University Hospital NHS Foundation Trust	45	44%	42%
Countess of Chester Hospital NHS Foundation Trust	78	54%	51%

Trust	Number	Adjusted	Observed
Royal Liverpool and Broadgreen University Hospitals NHS Trust	86	52%	49%
Southport and Ormskirk Hospital NHS Trust	42	39%	38%
St Helens and Knowsley Hospitals NHS Trust	106	51%	53%
Warrington and Halton Hospitals NHS Foundation Trust	96	51%	51%